



CITY OF ALAMEDA  
CALIFORNIA

**PROJECT MANUAL**  
(SPECIFICATIONS AND PLANS)

FOR

**KRUSI PARK RENOVATIONS**  
**SITWORK & UTILITIES**

**900 MOUND STREET**  
**ALAMEDA, CA 94501**

**No. P.W. 02-19-06, CIP#: 91003**

---

**MANDATORY**

**PRE-BID MEETING:**  
**LOCATION:**

**Thursday, July 18, 2019 at 10:00 a.m.**  
City Hall West  
950 W. Mall Square – Conference Room **117**  
Alameda, CA 94501

**NON-MANDATORY**  
**SITE WALK:**  
**LOCATION:**

**No Sitewalks are scheduled for any of the Bid Packages.**  
**Site is open for all Bidders to visit as they wish;**  
**Krusi Park, Calhoun St. & Court St., next to Otis Elementary**  
**School, Alameda, CA 94501**

**BIDDING BEGINS:**  
**BID DUE DATE:**  
**BID OPENING:**  
**LOCATION:**

**Thursday, July 11, 2019, 8:00 am.**  
**Thursday, August 1, 2019 by 2 p.m.**  
2:01 p.m.  
**City Hall West**  
Public Works Department  
950 W. Mall Square, **Bids Delivered to Room 110, Bids Opened in**  
**Room 156.**  
Alameda, CA 94501

---

*Shahram Aghamir*

Shahram Aghamir, P.E.  
City Engineer, City of Alameda, CA

# KRUSI PARK RENOVATIONS

## DOCUMENT 00 00 10

### TABLE OF CONTENTS

#### **PROJECT MANUAL** **INTRODUCTORY INFORMATION**

Document	00 00 01	Project Title Page
" "	00 00 10	Table of Contents

#### **BIDDING REQUIREMENTS**

##### **NOTICE INVITING BIDS**

##### **INFORMATION FOR BIDDERS** (~~including reference to PROJECT STABILIZATION AGREEMENT~~)

BASE BID SCHEDULE (not used)

##### **BIDDER'S PROPOSAL FORMS**

~~AGREEMENT TO BE BOUND TO PSA~~

##### **BIDDER'S BOND FORM**

**ESCROW AGREEMENT** FOR SECURITY DEPOSITS IN LIEU OF RETENTION

#### **CONTRACTING REQUIREMENTS**

ATTACHMENT A **CONTRACTOR AGREEMENT**

ATTACHMENT B **PAYMENT BOND FORM**

ATTACHMENT C **PERFORMANCE BOND FORM**

#### **GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

Section	1	General
" "	2	Bidding
" "	3	Contract Award and Commencement of the Work
" "	4	Bonds and Insurance
" "	5	Drawings and Specifications
" "	6	Construction by City or By Separate Contractors
" "	7	City and Payment
" "	8	Control of the Work
" "	9	Warranties, Guaranty and Inspection of Work
" "	10	Contractor's Organization and Equipment
" "	11	Prosecution and Progress of the Work
" "	12	Claims by Contractor
" "	13	Legal and Miscellaneous
" "	14	Modifications of Contract Documents
" "	15	Time Allowances
" "	16	Working Conditions and Prevailing Wages

## **SPECIFICATIONS**

### **DIVISION 1      GENERAL REQUIREMENTS**

Section	01 10 00	Summary
" "	01 11 04	Contract Documents
" "	01 21 00	Allowances
" "	01 21 50	Mobilization
" "	01 22 00	Unit Prices
" "	01 23 00	Alternates
" "	01 25 00	Substitution Procedures
" "	01 25 00A	Attachment A (Substitution Request Form)
" "	01 26 00	Contract Modification Procedures
" "	01 26 00A	Attachment A (Proposal Request Form)
" "	01 26 00B	Attachment B (Change Order Form)
" "	01 29 00	Payment Procedures
" "	01 29 00A	Attachment A (Application for Payment Form)
" "	01 31 00	Project Management and Coordination
" "	01 31 00A	Attachment A (Request For Information Form)
" "	01 32 00	Construction Progress Documentation
" "	01 33 00	Submittal Procedures
" "	01 40 00	Quality Requirements
" "	01 42 00	Reference Standards
" "	01 45 00	Testing and Inspections
" "	01 50 00	Temporary Facilities and Controls
" "	01 60 00	Product Requirements
" "	01 73 00	Execution
" "	01 74 00	Construction Waste Management
" "	01 77 00	Closeout Procedures
" "	01 78 23	Operation and Maintenance Data
" "	01 78 39	Project Record Documents
" "	01 79 00	Demonstration and Training
" "	01 80 00	Permits and Licenses
" "	01 81 00	Public Convenience and Safety (edited/updated)
" "	01 82 00	Utilities
" "	01 83 00	Sound Control Requirement
" "	01 84 00	Construction Site Controls (edited/updated)
" "	01 85 00	Recycling of Concrete and Asphalt Materials

## **CONSULTANTS' TECHNICAL SPECIFICATIONS**

### **GENERAL REQUIREMENTS**

#### **SECTION 01 81 13    SUSTAINABLE DESIGN REQUIREMENTS**

## **SITE CONSTRUCTION**

SECTION 02 10 00	CLEARING, GRUBBING AND STRIPPING
SECTION 02 20 00	TRENCHING AND BACKFILL
SECTION 02 60 00	PAVEMENTS
SECTION 02 66 00	WATER SYSTEMS
SECTION 02 66 10	CATHODIC PROTECTION
SECTION 02 73 00	SANITARY SEWERS

## **ELECTRICAL**

SECTION 26 01 00	GENERAL ELECTRICAL REQUIREMENTS
SECTION 26 10 00	BASIC MATERIALS AND METHODS
SECTION 26 53 00	SITE LIGHTING
SECTION 26 60 00	SITE ELECTRICAL WORK

## **APPENDICES**

**APPENDIX A:** GEOTECHNICAL INVESTIGATION (Miller Pacific Engineering Group, Nov. 18, 2016)

**APPENDIX C:** ASBESTOS SURVEY and LEAD TESTING REPORT (August 16, 2012)

**END OF TABLE OF CONTENTS**



## NOTICE INVITING BIDS

NOTICE IS HEREBY GIVEN that the City of Alameda will receive sealed bids until 2:00 p.m. on [Thursday, August 1, 2019](#) for the **Krusi Park Renovations - SITEWORK & UTILITIES, No. P.W. 02-19-06**. Bids must be presented to Jack Dybas, Project Manager II, City of Alameda Public Works Department, 950 W. Mall Square, Room 110, Alameda, CA 94501, under sealed cover, plainly marked on the outside as follows: **“CITY OF ALAMEDA - SEALED BID FOR Krusi Park Renovations, NO. P.W. 02-19-06.”** (Bids will be received and stamped in Room 110, and opened in Room 156.)

Any bids received after the scheduled closing time for receipt of bids shall be returned unopened.

The Work for the Krusi Park Renovations – **SITEWORK & UTILITIES** Project includes the following:

Furnishing all labor, materials, equipment, services, testing, permits, temporary controls and construction facilities, and all [General Conditions](#), [General Requirements](#) and incidentals required to complete the **Krusi Park Renovations – SITEWORK & UTILITIES** Project as generally described below:

**1. [SITEWORK & UTILITIES](#)**

[Provide, furnish, install, all sitework and utilities \(except for SITE ELECTRICAL by others\) to within 10 ft. of footprint of new prefab. Recreation building. Work includes – but is not limited to - new ADA curb ramp, accessible path of travel, new underground fire service to new fire hydrant \(deferred submittal\), new ‘grasspaved’ EVA \(Emergency Vehicle Access\) drive, revised and/or new extended stormwater, domestic water and sanitary sewer utilities, new drinking fountain, bike racks, asphalt concrete and/or concrete walkways, curbs, gutters and ramps, site hardscape and/or softscape patchwork as required, minor grading and re-grading ‘conform’ work, and local bldg. fire alarm w/ manual pull stations \(provided by others after new prefab. bldg. installed.\)](#)

**2. [BID ALTERNATE No. 1:](#)**

[Remove and replace \(additional\) damaged and deteriorated asphalt concrete paving and base \(lump sum, includes off-haul, disposal\).](#)

[\(As described in Construction Documents; see Sheet C0.1, BID PACKAGE 1\), BID ALTERNATE 1.\)](#)

**Note 1:** The Permit Application and Statement of Special Inspections will be submitted in a coordinated fashion by the awarded Contractor and the City of Alameda – to the City of Alameda Community Development Department - and will be paid for by the City of Alameda.

**[Contract time:](#)**

[The Contract Time will be approx. twelve \(12\) weeks; sixty \(60\) consecutive working days from the date the work is to commence pursuant to the Notice to Proceed.](#)

## **VIEW / DOWNLOAD THE CONTRACT DOCUMENTS**

Plans and specifications can be obtained from BPXpress Reprographics located at 4903 Central Avenue, Richmond, CA 94804 for a non-refundable cost of **\$50.00** per set. Shipping and handling are extra, depending on the delivery method. Electronic copies of the documents are also available for a non-refundable cost of **\$50** per set. Copies of the documents can be viewed and ordered at [www.blueprintexpress.com/alameda](http://www.blueprintexpress.com/alameda). They can also be ordered by contacting BPXpress Reprographics by phone at (510) 559-8299 or by email at [Richmond@blueprintexpress.com](mailto:Richmond@blueprintexpress.com). For any questions about ordering or downloading process, please contact BPXpress. It is the responsibility of each prospective bidder to confirm his/her firm is on the plan holders list held at BPXpress to ensure receipt of any subsequent communications, such as Addenda.

Any Addenda issued before the time in which to submit Bids expires shall form a part of the Contract Documents and shall be included in and attached to the Bid (cover sheets only, not necessarily all exhibits). Bidders shall acknowledge and confirm receipt of any and all addenda in their Bid proposals.

## **BIDDING QUESTIONS**

Submit all bid questions, by email, no later than **NOON, Tuesday, July 23, 2019**\* to: Jack Dybas, Project Manager, Public Works Department at [jdymas@alamedaca.gov](mailto:jdymas@alamedaca.gov) and to:

Ron Zeiger, Principal, Zeiger (Elect.) Engineers, at [ron@zeigerengineers.com](mailto:ron@zeigerengineers.com) and to:

Craig Overbo, Civil Engineer, Bohley Consulting, Inc., at [craig@BohleyConsulting.com](mailto:craig@BohleyConsulting.com) with a copy to:

Amy Wooldridge, Director, City of Alameda Recreation and Parks Department at [awooldridge@alamedaca.gov](mailto:awooldridge@alamedaca.gov)

(\*Responses to final bid questions available no later than Thursday, July 25, 2019.)

## DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE AND PREVAILING WAGE REQUIREMENTS ON PUBLIC WORKS PROJECTS:

- Effective January 1, 2015, **No Contractor or Subcontractor** may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with the limited exceptions from this requirement for bid purposed only under Labor code Section 1771.1(a)). Register at <https://efiling.dir.ca.gov/PWCR>
- **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 Department of Industrial Relations pursuant to Labor Code Section 1725.5.
- This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
- The Prime Contractor is required to post job site notices prescribed by regulation See 8 Calif. Code Regulation §16451(d).
- **Effective April 1, 2015, All Contractors and Subcontractors** must furnish electronic certified payroll records directly to the Labor Commissioner. <https://apps.dir.ca.gov/ecpr/das/altlogin>

**PREVAILING WAGES.** This project is subject to the requirements of California Labor Code Section 1770 et seq. and Section 2-67 of the Alameda Municipal Code requiring the payment of prevailing wages, the training of apprentices and compliance with other applicable requirements. Contractor and all subcontractors shall pay not less than the prevailing rate of wages to all workers on the Project. If federal funding is included in the project, the higher of the State or Federal wage rates shall be paid.

The State wage rates are available online at the State Department of Industrial Relations; <http://www.dir.ca.gov/dlsr>.

**BID SECURITY.** Each Bid must be accompanied by Bid Security in the form of cash, a certified check, a cashier's check, or a Bid Bond, in the amount of ten percent (10%) of the total of the Bid. Checks shall be made payable to the City of Alameda. Bid Bonds shall be on the form provided in the Bid Forms.

**BONDS.** The successful Bidder shall furnish a Performance Bond in the sum of one hundred percent (100%) of the Contract Bid to guarantee the performance of the Contract, and a Payment Bond in the sum of one hundred percent (100%) of the Contract Price.

Prospective bidders may visit the Site as offered ~~below by the non-mandatory (optional) Site Walk event noted below, or by written (email) request of the Project Manager.~~

The City reserves the right to reject any or all bids; to make any awards or any rejections in what it alone considers to be in the best interest of the City, and waive any informalities or irregularities in the bids. The contract will be awarded, if at all, to the responsible bidder that submits the lowest responsive Base Bid.

The City has determined that the Contractor shall possess a valid **Class A or B** License issued by the California Contractors State License Board at the time it submits its bid.

Pursuant to Public Contract code Section 22300, for monies earned by the Contractor and withheld by the City of Alameda to ensure the performance of the contract, the contractor may, at its option, choose to substitute securities meeting the requirements of Public Contract Code Section 22300.

**AWARD OF CONTRACT.** The award of contract, if it is awarded, will be to the responsible bidder who submits the lowest and best Base Bid and whose proposal complies with all requirements described herein. The lowest bid will be determined on the basis of a lump sum Base Bid. The award, if made, will be made within sixty (60) days after the opening of the bids. All bids will be compared on the basis of the Engineer's estimate of quantities of work to be done. In the event of a delay in funding, the City reserves the right to hold the Bidder to its bid for 90 days from the date the bids are opened.

The Engineer's Estimate for the Base Bid for this project is **\$225,000**.

The City reserves the right to reject any and all bids.

No proposal shall be considered binding upon the City until the execution of the contract. Failure to execute a contract and file acceptable bonds as provided herein within five (5) business days after the Bidder has received notice that the contract has been awarded shall be just cause for the annulment of the award and the forfeiture of the Bidder's guaranty.

**PRE-BID MEETING.** A mandatory Pre-Bid Meeting is scheduled on **Thursday, July 18, 2019** at **10:00 a.m.** at the City Hall West, Public Works Department, 950 W. Mall Square, Conference Room **117**, Alameda, CA 94501.

**SITE WALK** **No Site Walk is scheduled. Site is open for all bidders to visit if and as they wish.**

By: Amy Wooldridge, Director, City of Alameda Recreation & Parks Department  
and  
Jack Dybas, Project Manager II, City of Alameda Public Works Department

**END OF NOTICE INVITING BIDS**

## **INFORMATION FOR BIDDERS**

### **1. AVAILABILITY OF CONTRACT DOCUMENTS**

Bids must be submitted to City on the Bid Forms which are a part of the Bid Package for the Project. Contract Documents may be obtained at the location(s) and at the time(s) indicated in the Notice Inviting Bids. Any applicable charges for the Contract Documents are stated in the Notice Inviting Bids.

Contract documents are available electronically, at (See NOTICE INVITING BIDS, **Page 2** (["VIEW/DOWNLOAD THE CONTRACT DOCUMENTS"](#))).

### **2. EXAMINATION OF CONTRACT DOCUMENTS**

City has made copies of the Contract Documents available as indicated above. Bidders shall be solely responsible for examining the Project Site and the Contract Documents, including any Addenda issued during the bidding period, and for informing itself with respect to local labor availability, means of transportation, necessity for security, laws and codes, local permit requirements, wage scales, local tax structure, contractors' licensing requirements, availability of required insurance, and other factors that could affect the work. Bidders are responsible for consulting the standards referenced in the Contract Documents. Failure of Bidder to investigate and inform itself shall be at its sole risk, and no relief for error or omission will be given except as required under State law.

### **3. INTERPRETATION OF CONTRACT DOCUMENTS**

Discrepancies in, and/or omissions from the Plans, Specifications or other Contract Documents or questions as to their meaning shall be immediately brought to the attention of City and Architect by submission of a written request for an interpretation or correction to City. Such submission, if any must be sent to the City's Project Manager and Architect not later than ten business days before the bid date.

Any interpretation of the Contract Documents will be made only by written addenda duly issued and mailed or delivered to each person or firm who has a set of Contract Documents. City will not be responsible for any explanations or interpretations provided in any other manner. No person is authorized to make any oral interpretation of any provision in the Contract Documents to any bidder, and no bidder should rely on any such oral interpretation.

Bids shall include full compensation for the work.

### **4. INSPECTION OF SITE**

Each prospective bidder is responsible for fully acquainting itself with the conditions of the project Site, as well as those relating to the construction and labor of the Project, to fully understand the facilities, difficulties and restrictions which may impact the cost or effort required to complete the Project. [A mandatory Pre-Bid Meeting is offered for this](#)

project – as noted in the NOTICE INVITING BIDS.

By submitting a Bid, each bidder acknowledges that it has visited the Project Site, has prepared its Bid accordingly, and assumes any and all risk and liabilities arising therefrom.

## 5. ADDENDA

City reserves the right to revise the Contract Documents prior to the bid opening date. Revisions, if any, shall be made by written (electronic) Addenda. All Addenda issued by City shall be included in the bid and made part of the Contract Documents. Pursuant to Public Contract Code Section 4104.5, if City issues an Addendum which makes material changes to the Project less than 72 hours prior to the deadline for submission of bids, City will extend the deadline for submission of bids. City may determine, in its sole discretion, whether an Addendum warrants postponement of the bid submission date. Each prospective bidder shall provide City a name, address and email address to which Addenda may be sent, as well as a telephone number by which City can contact the bidder. Copies of Addenda may be sent, as well as a telephone number by which City can contact the bidder. Copies of Addenda will be furnished by facsimile, first class mail, express mail or other proper means of delivery without charge to all parties who have obtained a copy of the Contract Documents and provided such current information. Please Note: Bidders are responsible for ensuring that they have received any and all addenda. To this end, each bidder should contact the Public Works Department to verify that bidder has received all addenda issued, if any, prior to the bid opening.

## 6. ALTERNATE BID ITEMS

If and when Alternate bid items are called for in the Contract Documents, the lowest responsive bid will be determined on the basis of a total lump sum, equal to the sum of the Base Bid work only, unless otherwise provided in the Notice Inviting Bids. **(Note: Bid Alternates will NOT be part of the determination of lowest responsive Base Bid.)**

City may elect to include one or more of the Alternate bid items in the Project scope of work. Accordingly, the City reserves the right to hold the Awarded Contractor to its Bid Alternate bids for no less than 90 days from the award of Contract, and each bidder must ensure that each bid item (Base Bid or Alternate) is balanced and contains a proportionate share of profit, overhead and other costs or expenses which will be incurred by the Bidder.

The time required for completion of the Alternate bid items has been factored into the Contract Time and no additional time will be allowed for performing any of the alternate bid items.



## **7. COMPLETION OF BID FORMS**

Bids shall be prepared using copies of the Bid Forms which are included in the Contract Documents. The use of substitute bid forms other than clear and correct photocopies of those provided by City will not be permitted. Bids shall be executed by an authorized signatory as described in these Instructions to Bidders. In addition, Bidders shall fill in all blank spaces (including inserting "N/A" where applicable) and initial all interlineations, alterations, or erasures to the Bid Forms. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms nor make substitutions thereon. Deviations in the bid form may result in the bid being deemed non-responsive.

## **8. MODIFICATION OF BIDS**

Each Bidder shall submit its Bid in strict conformity with the requirements of the Contract Documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions or provision attached to a Bid may render it non-responsive and may cause its rejection. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms, nor make substitutions thereon. Oral, telephonic and electronic modifications will not be considered.

## **9. DESIGNATION OF SUBCONTRACTORS**

Pursuant to State law, the Bidders must identify the name, address of business, contractor's license number, and Department of Industrial Relations (DIR) number of each subcontractor who will perform work or render services for the Bidder in an amount that exceeds one half of one percent (1/2%) of the Bidder's Total Bid Price, as well as the portion of work each such subcontractor will perform on the form provided herein by City. No additional time will be provided to bidders to submit any of the requested information in the Designation of Subcontractor form.

## **10. LICENSING REQUIREMENTS**

Pursuant to Section 7028.15 of the Business and Professions Code and Section 3300 of the Public Contract code, all bidders must possess proper licenses for performance of this Contract. Subcontractors must possess the appropriate licenses for each specialty subcontracted. Pursuant to Section 7028.15 of the Business and Professions Code, any bid submitted by a contractor not currently licensed in accordance with state law to be non-responsive, and City shall reject the Bid. City may request, and Bidders shall provide within five (5) calendar days, evidence satisfactory to City of all valid license(s) currently held by that Bidder and each of the Bidder's subcontractors, before awarding the Contract.

## **11. SIGNING OF BIDS**

All Bids submitted shall be executed by the Bidder or its authorized representative. Bidders may be asked to provide evidence in the form of an authenticated resolution of the Board of Directors or a Power of Attorney evidencing the capacity of the person signing the Bid to bind the Bidder to each Bid and to any Contract arising therefrom.

If a Bidder is a joint venture or partnership, it may be asked to submit an authenticated Power of Attorney executed by each joint venturer or partner appointing and designating one of the joint venturers or partners as a management sponsor to execute the Bid on behalf of Bidder. Only that joint venturer or partner shall execute the Bid. The Power of Attorney shall also: (1) authorized that particular joint venturer or partner to act for and bind Bidder in all matters relating to the Bid; and (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of Bidder assumed under the Bid and under any Contract arising therefrom. The Bid shall be executed by the designated joint ventures or partner on behalf of the joint venture or partnership in its legal name.

## **12. BID GUARANTEE**

Each bid shall be accompanied by: (a) a certified check made payable to City; (b) a cashier's check made payable to City; or (c) a bid bond payable to City executed by the bidder as principal and surety as obligor in an amount not less than 10% of the maximum amount of the bid. The surety insurer shall be California admitted surety insurer, as defined in code of Civil Procedure Section 995.120. Personal sureties and unregistered sureties companies are unacceptable. The cash, check or bid bond shall be given as a guarantee that the bidder shall execute the Contract if it be awarded to the bidder, and bidder shall provide insurance certificates and endorsements before the City Council meeting at which the contract is to be awarded, and furnish the required payment and performance bonds within ten (10) calendar days after notification of the award of the Contract to the bidder. Failure to provide the required documents may result in forfeiture of the bidder's bid security to City and City may award the Contract to the next lowest responsible bidder, or may call for new bids.

## **13. PROJECT STABILIZATION AGREEMENT (Not Applicable)**

~~This project is subject to and shall be performed under the Project Stabilization Agreement (aka PSA) between the City of Alameda and the Building and Construction Trades Council of Alameda County and its affiliated local unions. Contractors submitting bids must provide evidence of acceptance of the terms and conditions of the PSA at the time of bid. Specifically, contractor must submit the completed and signed "Agreement to be Bound" found in the Bid Form. Additionally, all contractors and subcontractors of any tier on this project will be required to execute the Agreement to be Bound and be subject to the PSA prior to contract award.~~

## **14. SUBMISSION OF SEALED BIDS**

Bid documents shall be submitted in a sealed, addressed envelope and delivered or mailed, postage prepaid to City, at the place and to the attention of the person indicated in the Notice Inviting Bids. No oral or telephonic bids will be considered. No forms transmitted via the Internet, e-mail, facsimile, or any other electronic means will be considered unless specifically authorized by City.



## **15. DELIVERY AND OPENING OF BIDS**

Bids will be received by City at the address shown in the Notice Inviting Bids up to the date and time shown therein. City will leave unopened any Bid received after the specified date and time, and any such unopened Bid will be returned to the Bidder. It is the Bidder's sole responsibility to ensure that its Bid is received as specified. Bids may be submitted earlier than the dates(s) and time(s) indicated.

Bids will be opened at the date and time stated in the Notice Inviting Bids, and the amount of each Bid will be read aloud and recorded. All Bidders may, if they desire, attend the opening of Bids. City may in its sole discretion, elect to postpone the opening of the submitted Bids. City reserves the right to reject any or all Bids and to waive any informality or irregularity in any Bid. In the event of a discrepancy between the written amount of the Bid Price and the numerical amount of the Bid Price, the written amount shall govern.

## **16. WITHDRAWAL OF BID**

Prior to bid opening, a Bid may be withdrawn by the Bidder only by means of a written request signed by the Bidder or its properly authorized representative.

## **17. BASIS OF AWARD; BALANCED BIDS**

The quantities (if any) given in the proposal and contract forms (i.e.; Base Bid Schedule, if used) are approximate only, and are being given as a basis for a) the comparison of bids submitted (pre-award), AND b) for the development, review, approval or rejection of Change Orders, Change Order Requests and/or any modifications to the Contract scope, quantities or unit costs (post-award). The City does not, expressly or by implication, agree that the actual amount of work, or quantities listed, will correspond therewith, but reserves the right to increase or decrease the amounts of any portion of the Work, or to omit portions of the Work, as may be deemed necessary or advisable by the Project Manager.

City shall award the Contract to the lowest responsible Bidder submitting a responsive Base Bid. (Note: The lowest responsive bidder will be determined based upon a lump sum Base Bid proposal.) City may reject any Bid that in its opinion when compared to other bids received or to City's internal estimates, does not accurately reflect the cost to perform the work. City may reject as non-responsive any bid which unevenly weighs or allocates costs, including but not limited to overhead and profit, to one or more particular bid items.

## **18. DISQUALIFICATION OF BIDDERS; INTEREST IN MORE THAN ONE BID**

No bidder shall be allowed to make, submit or be interested in more than one bid. However, a person, firm, corporation or other entity that has submitted a sub bid to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub bid or quoting prices to other bidders submitting a bid to City. No person, firm, corporation, or other entity may submit sub proposal to a bidder, or quote prices of materials to a bidder, when also submitting a prime bid on the same Project.

## **19. INSURANCE REQUIREMENTS**

The successful bidder shall procure the insurance in the form and in the amount specified in the Contract Documents.

## **20. AWARD PROCESS**

Once all Bids are opened and reviewed to determine the lowest responsive and responsible Bidder, City Council may award the contract. The apparent successful Bidder should begin to prepare the following documents: (1) the Performance Bond; (2) the Payment Bond; and (3) the required insurance certificates and endorsements. At least 25 Calendar Days before the date the City Council considers the award of the contract, bidder shall furnish City with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of insurance coverage, and bonds in compliance with the contract requirements. Once City notifies the Bidder of the award, the Bidder will have ten (10) consecutive calendar days from the date of this notification to execute the Contract and supply City with all the required documents and certifications. Regardless whether the Bidder supplies the required documents and certifications in a timely manner, the contract Time will begin to run ten (10) calendar days from the date of the date the City gives notice of the award. Once City receives all of the properly drafted and executed documents and certifications from the Bidder, City shall issue a Notice to Proceed to that Bidder.

## **21. BID PROTESTS**

Any bid protest relating to the form or content of the bidding or Contract Documents must be submitted in writing to the City's Project Manager at least five (5) business days before the original date set for the bid opening. Any bidder who submits a bid without making a protest shall be deemed to have waived any objection to the form or content of the bidding or Contract Documents not previously stated in writing.

Any bid protest relating to a bid received by the City or any City procedure or action related to the bid opening or proposed contract award must be submitted in writing to the City's Project Manager before 2:00 p.m. on the fifth (5<sup>th</sup>) working day following Bid opening.

- A. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation.
- B. The party filing the protest must have actually submitted a Bid for the Work. A subcontractor of a party submitting a Bid for the Work may not submit a Bid protest. A party may not rely on the Bid protest submitted by another Bidder, but must timely pursue its own protest.
- C. The protest must refer to the specific portion of the Bid Document which forms the basis for the protest.

- D. The protest must include the name, address and telephone number of the person representing the protesting party.
- E. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- F. The City will give the protested Bidder five (5) working days after the receipt of the protest to submit a written response. The responding Bidder shall transmit the response to the protesting Bidder concurrent with delivery to the City.
- G. The procedure and time limits set forth in this paragraph are mandatory and are the Bidder's sole and exclusive remedy in the event of Bid protest. The Bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings
- H. If the City determines that a protest is frivolous, the protesting Bidder may be determined to be non-responsible and that Bidder may be determined to be ineligible for future contract awards.

## **22. CERTIFICATE REGARDING WORKERS COMPENSATION**

Each bidder shall submit the Contractor's Certificate regarding Workers Compensation Insurance form with its bid.

## **23. SUBSTITUTION OF SECURITY**

The Contract Documents call for monthly progress payments based upon the amount of work completed. The City will retain five percent (5%) of each progress payment unless otherwise provided by the Contract Documents. At the Contractor's request and expense, the Contractor may substitute securities for the amount so retained in accordance with Public Contract Code Section 22300.

## **24. PREVAILING WAGES**

The Director of the Department of Industrial Relations defines the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute the Contract. These rates may be obtained online at <http://www.dir.ca.gov/dlsr>. Bidders are advised that a copy of these rates must be posted at the job site(s).

## **25. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS**

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the Labor Code. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for the Project shall be returned to City. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

## **26. PERFORMANCE BOND AND PAYMENT BOND REQUIREMENTS**

Within the time specified in the Contract Documents, the Bidder to whom a Contract is awarded shall deliver to City two identical counterparts of the Performance Bond and Payment Bond in the form supplied by City and included in the Contract Documents. Failure to do so may, in the sole discretion of City, result in the forfeiture of the Bid Guarantee. The surety supplying the bond must be an admitted surety insurer, as defined in Code of Civil Procedure Section 995.120, authorized to do business as such in the State of California and satisfactory to City. The Performance Bond and the Payment Bond shall each be for one hundred percent (100%) of the Contract Price.

## **27. REQUEST FOR SUBSTITUTION**

The successful bidder shall comply with the substitution request provisions set forth in Division I of the specification, including any deadlines for substitution requests up to 35-days after the construction contract has been awarded.

## **28. SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES AND FEES**

Contractor and its subcontractors performing work under this Contract will be required to pay California sales tax and other applicable taxes, and to pay for permits, licenses, and fees required by the agencies with authority in the jurisdiction in which the work will be located, unless otherwise expressly provided by the Contract Documents.

## **29. EXECUTION OF CONTRACT**

As required herein the Bidder to whom an award is made shall execute the Contract in the amount determined by the Contract Documents. City may require appropriate evidence that the persons executing the Contract are duly empowered to do so.

The contract shall be executed by the successful bidder and shall be returned, together with the contract bonds, to the City so that it is received within ten (10) days, not including Saturdays, Sundays and legal holidays, after the bidder has received the contract for execution. Failure to do so shall be just cause for forfeiture of the proposal guaranty.

Upon execution of the contract by the Contractor and the City, the Contractor shall furnish the City (1) a Certificate of Consent to self-insure issued by the Director of Industrial Relations, or (2) a Certificate of Workers' Compensation Insurance issued by an admitted insurer, or (3) an exact copy or duplicate thereof certified by the Director or the insurer.

**30. DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE AND PREVAILING WAGE REQUIREMENTS ON PUBLIC WORKS PROJECTS**

Effective January 1, 2015, No Contractor or Subcontractor may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with the limited exceptions from this requirement for bid purposed only under Labor code Section 1771.1(a)). Register at <https://efiling.dir.ca.gov/PWCR>

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 Department of Industrial Relations pursuant to Labor Code Section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The Prime Contractor is required to post job site notices prescribed by regulation. See 8 Calif. Code Regulation §16451(d).

Effective April 1, 2015, All Contractors and Subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner.  
<https://apps.dir.ca.gov/ecpr/das/altlogin>

**END OF INFORMATION FOR BIDDERS**

## BIDDER'S PROPOSAL FORMS

### Krusi Park Renovations

#### BASE BID PROPOSAL:

<b>Base Bid Total (numbers):</b>	
<b>Base Bid Total (in words):</b>	

AWARD OF CONTRACT. The award of contract, if/when awarded, will be to the responsible bidder who submits the lowest and best lump sum BASE BID PROPOSAL and who's PROPOSAL complies with all requirements described herein. The award, if/when made, will be made within sixty (60) days after the opening of the bids. All bids will be compared on the basis of the Engineer's estimate of cost of work to be done. In the event of a delay in funding, the City reserves the right to hold the Bidder to its bid for 90 days from the date the bids are opened.

#### BID ALTERNATES PROPOSAL:

<b>1</b>	Remove and replace (additional) damaged and deteriorated asphalt concrete paving and base (lump sum, includes off-haul, disposal).
----------	--

<b>Bid Alternate No. 1 Total (numbers):</b>	
<b>Bid Alternate No. 1 Total (in words):</b>	

The City reserves the right to hold the Awarded Contractor to its BID ALTERNATES PROPOSAL for no less than 90 days from the award of Contract. If applicable, bidders must ensure that each bid item (Base Bid or Alternate) is balanced and contains a proportionate share of profit, overhead and other costs or expenses which will be incurred by the Bidder.

**Name of Bidder**\_\_\_\_\_

**Business Address**\_\_\_\_\_

**Place of Residence**\_\_\_\_\_

#### TO THE DIRECTOR OF PUBLIC WORKS OF ALAMEDA:

The undersigned, as bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm or corporations; that bidder has carefully examined the location of the proposed work, plans and specifications; and bidder proposes and agrees, if this proposal is accepted, that bidder will contract with the City of Alameda to provide all necessary machinery, tools, apparatus, and other means of construction, and to do all the work and furnish all the materials specified in this contract in the manner and time prescribed, and according to the requirements of the Engineer as therein set forth; and that bidder will take in full payment therefor an amount based on the bids specified herein above for the various items of work.

## **BIDDER'S PROPOSAL FORMS**

(Base Bid Schedule (not used))

Amount of Time Required to Commence Work After Receipt of NOTICE TO PROCEED:

5 Days

## BID FORM

This form is to be submitted as a part of the bid by the time and date specified in the first paragraph of the Notice Inviting Bids.

### CITY OF ALAMEDA

THIS BID IS SUBMITTED BY:

\_\_\_\_\_  
(Firm/Company Name)

**Re: THE KRUSI PARK RENOVATIONS – SITEWORK & UTILITIES, No. P.W. 02-19-06.**

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the CITY OF ALAMEDA ("City") in the form included in the Contract Documents, to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Bid and in accordance with all other terms and conditions of the Contract Documents.
2. Bidder accepts all of the terms and conditions of the Contract Documents, including, without limitation, those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for sixty (60) Days after the day of Bid opening. **Contractor agrees to be bound by its bid for a period of ninety (90) days commencing the day of the bid opening.**
3. In submitting this Bid, Bidder represents:
  - (a) Bidder has examined all of the Contract Documents and the following Addenda (receipt of all of which is hereby acknowledged).

Addendum No.	Addendum Date	Signature of Bidder

- (b) Bidder has visited the Site and performed tasks, reviews, examinations, and analysis and given notices, regarding the Project and the Site.



- (c) Bidder has given District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and actual conditions and the written resolution thereof through Addenda issued by City is acceptable to Contractor.
4. Based on the foregoing, Bidder proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following Schedule of Bid Prices:

### **SCHEDULE OF BID PRICES**

All Bid items must be filled in completely. The Summary of Work describes the scope of work to be performed under this contract.

Total Base Bid Price (in words): \_\_\_\_\_

**Total Bid Alternate 1 Bid Price (in words):** \_\_\_\_\_

~~Total Bid Alternate 2 Bid Price (in words):~~ \_\_\_\_\_

~~Total Bid Alternate 3 Bid Price (in words):~~ \_\_\_\_\_

5. Subcontractors for work included in all Bid items are listed on the attached Document.
6. The undersigned Bidder understands that the CITY reserves the right to reject this Bid.
7. If written notice of the acceptance of this Bid, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Bidder within the time described in the Contract Documents or at any other time thereafter before it is withdrawn, the undersigned Bidder will execute and deliver the documents required by the Instructions to Bidders within the times specified therein.
8. Notice of Award or request for additional information may be addressed to the undersigned Bidder at the address set forth below.
9. The undersigned Bidder herewith encloses a cashier's check, or certified check of or on a responsible bank in the United States, or a corporate surety bond furnished by a surety authorized to do a surety business in the State of California, in form specified in Instructions to Bidders, in the amount of ten percent (10%) of the total bid and made payable to "City of Alameda".
10. The undersigned Bidder agrees to commence Work under the Contract Documents on the date established in the General Conditions and to complete all work within the time specified in the Agreement. The undersigned Bidder acknowledges that the CITY has reserved the right to delay or modify the commencement date. The undersigned Bidder further acknowledges City has reserved the right to perform independent work at the Site, the extent of such work may not be determined until after the opening of the Bids, and that the undersigned Bidder will be required to cooperate with such other work in accordance with the requirements of the Contract Documents.

11. The undersigned Bidder agrees that, in accordance with the General Conditions liquidated damages for failure to complete all Work in the Contract within the time specified shall be as set forth in the Agreement.

12. The names of all persons interested in the foregoing Bid as principals are:

(IMPORTANT NOTICE: If Bidder or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full).

NAME OF BIDDER: \_\_\_\_\_  
licensed in accordance with the act for the registration of Contractors, and with

License Number: \_\_\_\_\_

Expiration: \_\_\_\_\_

Department of Industrial Relations (DIR) No.: \_\_\_\_\_

Where incorporated, if applicable

\_\_\_\_\_  
Principals

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

\_\_\_\_\_  
Signature of Bidder

The undersigned agrees to execute the contract required in said Specifications, to the satisfaction of the Council of the City of Alameda, with the necessary bonds, if any be required, within ten days, not including Sundays or legal holidays, after receiving notice that the contract has been awarded and is ready for signature; and further agrees that, in case of his default in any of the foregoing provisions, the proceeds of any check which may accompany his bid in lieu of a bid bond shall become the property of the City of Alameda as agreed and liquidated damages.

Firm Name (Please Print) \_\_\_\_\_

Signature of Person on Behalf of Firm \_\_\_\_\_

Business Address \_\_\_\_\_

\_\_\_\_\_

Dated: \_\_\_\_\_

Zip Code \_\_\_\_\_

Name	Title	Address
(Of Officers or Partners)		
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Incorporated under the laws of the State of \_\_\_\_\_

Contractor's License No. \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Department of Industrial Relations (DIR) No.: \_\_\_\_\_

The signature above certifies that the foregoing information given on this document is true and correct under penalty of perjury. (Section 7028.15 California Business and Professionals Code.)

## PROPOSED SUBCONTRACTOR FORM

The Bidder shall list the name, address, license number and Department of Industrial Relations number of each subcontractor to whom the Bidder proposes to subcontract portions of the work, as required by the provisions in Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications and Section 2-1.01, "General," for the special provisions.

NAME & LICENSE NO.	BUSINESS ADDRESS	PORTION OF WORK	% OF WORK	*STATUS	DIR NO.

*(This form may be duplicated if necessary to list additional subcontractors)*

**\*STATUS** M = Minority Owned Business Enterprise  
W = Women Owned Business Enterprise  
DV = Disabled Veteran  
(Required for federally funded projects only)

The bidder's execution on the signature portion of this proposal shall also constitute an endorsement and execution of those certifications which are a part of this proposal)

## **EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION**

The bidder \_\_\_\_\_, proposed subcontractor, hereby certified that he has \_\_\_, has not \_\_\_, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all report due under the applicable filing requirements.

**NOTE:** The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

## SECURITY FOR COMPENSATION CERTIFICATE

(Required by Paragraph 1861, California Labor Code)

To: \_\_\_\_\_  
\_\_\_\_\_

I am aware of the provisions of Section 3700 of the Labor Code of the State of California which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(Signature of Bidder)

\_\_\_\_\_  
\_\_\_\_\_  
Business Address

## IMPORTANT INSTRUCTIONS

1. Any erasure or interlineation may invalidate bid.
2. If corporation is bidder, affix seal of corporation.
3. If bidder is:
  - (a) An individual doing business under his own name, sign his own name only.
  - (b) An individual using a firm name, sign: Example, "John Doe, an individual doing business as Blank Company."
  - (c) A co-partnership, sign: Example, "Blank Company, by John Doe, President" (or other title).
4. If a firm or co-partnership, give the names of all individual co-partners composing the firm. If a corporation, state legal name of corporation; also name of president, secretary and treasurer thereof.
5. If a bid is sent by mail, write the word "Proposal" plainly on the envelope.

**EXHIBIT A**  
**City of Alameda Contractor Verification Form**  
**Implementation of City of Alameda Integrated Pest Management Policy**

The City of Alameda (City) is mandated to:

- (a) Minimize its reliance on pesticides that threaten water quality, and
- (b) Require the effective use of Integrated Pest Management (IPM) in all municipal operations and on all municipal property.

To ensure compliance with this mandate, all City operations need to verifiably implement the practices and policies described in the City's IPM Policy adopted June 15, 2010. A copy of this IPM Policy is included with this form. The implementation of the IPM Policy is applicable to all municipal contractors that provide landscaping, structural pest control, or other pest management services in support of City operations and/or on municipal property.

The undersigning parties acknowledge that all elements of the City's IPM Policy will be implemented throughout the period of contractual services provided to City operations and on municipal property. Specific actions to document this performance shall include:

- ☐ Pest Management Contractor shall provide to City project manager for pre-approval the Pest Management Considerations Checklist.
- ☐ Pest Management Contractor shall avoid the use of the following pesticides that threaten water quality, human health and the environment:
  - Acute Toxicity Category I chemicals as identified by the Environmental Protection Agency (EPA)
  - Organophosphate pesticides (e.g., those containing Diazinon, chlorpyrifos or malathion)
  - Pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin), carbamates (e.g., carbaryl), and fipronil
  - Copper-based pesticides unless their use is judicious, other approaches and techniques have been considered and the threat of impact to water quality is prevented.
- ☐ Pest Management Contractor shall provide to the City's project manager an annual Report of all pesticide usage in support of City operations including product name and manufacturer, active ingredient(s), target pest(s), the total amounts used and reasons for any increase in use of any pesticide.
- ☐ If the Contractor's on-site personnel are currently IPM certified through either the EcoWise or GreenPro programs, or through another program, the contractor shall provide written evidence of any certifications to the City's project manager.

\_\_\_\_\_  
City Departmental Representative

\_\_\_\_\_  
Contractor Representative

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date



**EXHIBIT B**  
**City of Alameda Pest Management Contractor Checklist:**  
**Pest Management Options Considerations**

Contractor will consider the City IPM Policy's hierarchy of options or alternatives listed below, in the following order before recommending the use of or applying any pesticide on City property. Please provide a written explanation in each section below of why the specific pest management option is not appropriate:

(1) No controls (e.g. tolerating the pest infestation, use of resistant plant varieties or allowing normal life cycle of weeds)

Comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(2) Physical or mechanical controls (e.g. hand labor, mowing, exclusion)

Comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(3) Cultural controls (e.g. mulching, disking, alternative vegetation), good housekeeping (e.g. cleaning desk area)

Comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(4) Biological controls (e.g., natural enemies or predators)

Comment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(5) Reduced-risk chemical controls (e.g., soaps or oils)

Comment: \_\_\_\_\_

\_\_\_\_\_

(6) Other chemical controls

Comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contractor Representative

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
City Contractor

**AGREEMENT TO BE BOUND TO PSA**  
**(NOT APPLICABLE)**

**PROJECT STABILIZATION AGREEMENT FOR THE CITY OF ALAMEDA**  
**AGREEMENT TO BE BOUND**

The undersigned party confirms that it agrees and assents to comply with and to be bound by the City of Alameda Project Stabilization Agreement as such Agreement may, from time to time, be amended by the parties or interpreted pursuant to its terms. A copy of the Agreement is included as Attachment K.

By executing this Agreement To Be Bound, the undersigned party subscribes to, adopts and agrees to be bound by the written terms of the legally established trust agreements, as set forth in section 17, specifying the detailed basis upon which contributions are to be made into, and benefits made out of, such Trust Fund(s) and ratifies and accepts the trustees appointed by the parties to such Trust Fund(s) and agrees to execute a separate Subscription Agreement(s) for Trust Funds when such Trust Fund(s) require(s) such document(s).

Such assent and obligation to comply with and to be bound by this Agreement shall extend to all work covered by said Agreement undertaken by the undersigned party. The undersigned party shall require all of its subcontractors, of whatever tier, to become similarly bound for all their work within the scope of this Agreement by signing an identical Agreement To Be Bound.

This letter shall constitute a subscription agreement, to the extent of the terms of the letter.

Dated: \_\_\_\_\_ Project: **Krusi Park Renovations**

\_\_\_\_\_  
Signature of Authorized Officer

\_\_\_\_\_  
Authorized Officer & Title

\_\_\_\_\_  
Name of Contractor/Employer(s)

\_\_\_\_\_  
Contractor/Employer(s) Address

\_\_\_\_\_  
CSLB #

\_\_\_\_\_  
Area Code Phone

\_\_\_\_\_  
E-mail and/or Fax

\_\_\_\_\_  
Motor Carrier (CA) Permit Number

\_\_\_\_\_  
DIR Prevailing Wage Registration #

# **BIDDER'S BOND FORM**

We, \_\_\_\_\_,  
as Principal, and as Surety are bound unto the \_\_\_\_\_,  
hereafter referred to as "obligee", in the penal sum of ten percent (10%) of the total amount of the  
bid of the Principal submitted to the Obligee for the work described below, for the payment of  
which sum we bind ourselves, jointly, and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT: WHEREAS, the Principal is  
submitted to the Obligee, for \_\_\_\_\_  
(Copy here the exact description of work, including locations as it appears on the proposal)

for which bids are to be opened per Section 1 Proposal and Contract Requirements, Paragraph E,  
Presenting and Marking of Bid.

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and  
manner required under the specifications, after the prescribed forms are presented to Contractor  
for signature, enters into a written contract, in the prescribed form, in accordance with the bid, and  
files two bonds with Obligee, one to guarantee faithful performance of the contract and the other  
to guarantee payment for labor and materials as provided by law, then this obligation shall be null  
and void; otherwise, it shall remain in full force.

In the event suit is brought upon this bond by the Obligee and judgement is recovered, the  
Surety shall pay all cost incurred by the Obligee in such suite, including a reasonable attorney's  
fee to be fixed by the court.

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.

Dated: \_\_\_\_\_, 2019.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety

By: \_\_\_\_\_

CERTIFICATE OF ACKNOWLEDGMENT

State of California  
County of Alameda

On this \_\_\_\_ day of \_\_\_\_ in the year 2019 before me \_\_\_\_\_, a Notary Public, personally appeared \_\_\_\_\_

Attorney-in-fact

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_ (Seal)  
Notary Public

## **ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION**

This Escrow Agreement is made and entered into by and between CITY OF ALAMEDA, whose address is 950 W. MALL SQUARE, ROOM 110, ALAMEDA, CALIFORNIA, 94501, hereinafter called "Owner," **CONTRACTOR**, whose address is **ADDRESS, CITY, STATE, ZIP**, hereinafter called "Contractor" and **BANK NAME**, whose address is **ADDRESS, CITY, STATE, ZIP**, hereinafter called "Escrow Agent."

For the consideration hereinafter set forth, the Owner, Contractor, and Escrow Agent agree as follows:

(1) Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between the Owner and Contractor for the project known as **Krusi Park Renovations** in the amount of **MONEY** dated **CONTRACT DATE**, (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the Owner and Contractor. Securities shall be held in the name of City of Alameda and shall designate the Contractor as the beneficial Owner.

(2) The Owner shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

(3) When the Owner makes payments of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until the time that the escrow created under this Agreement is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.

(4) Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the Owner. These expenses and payment terms shall be determined by the Owner, Contractor and Escrow Agent. The City of Alameda set-up expenses for a standard escrow are \$200.00 which includes costs to process the original application and to process the closure documents. Thereafter, there is a monthly charge of \$50.00 to reconcile the account balances and a per pay estimate charge of \$25.00 to accommodate the additional financial processing and documentation. These charges will be invoiced to the Contractor at close of escrow and must be paid by the Contractor from the escrow or outside of escrow prior to the City authorizing release of funds.

- (5) The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.
- (6) Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.
- (7) The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days written notice to the Escrow Agent from the Owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.
- (8) Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
- (9) Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this Agreement and the Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.
- (10) The Escrow Agent will send a monthly statement of the escrow account to the City of Alameda, Finance Department, 2263 Santa Clara Avenue, Alameda, California, 94501, Attention Amy Ho.
- (11) Contractor is required to meet the requirements of Per Public Contract Code Section 22300(d) which states: Any Contractor who elects to receive interest on moneys withheld in retention by a public agency shall, at the request of any Subcontractor, make that option available to the Subcontractor regarding any moneys withheld in retention by the Contractor from the Subcontractor.
- (12) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of Owner:

---

**Liam Garland**

Public Works Director  
950 W. Mall Square, Room 110  
Alameda, CA 94501

On behalf of Contractor:

---

Title

---

Name

---

Signature

---

Address

On behalf of Escrow Agent:

---

Title

---

Name

---

Signature

---

Address

At the time the Escrow Account is opened, the Owner and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.



IN WITNESS WHEREOF, the parties have executed this Agreement by their officers on the date first set forth above.

**Owner**

City Manager \_\_\_\_\_  
Title

**Eric J. Levitt** \_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

**Recommended for Approval**

\_\_\_\_\_  
**Liam Garland**  
Public Works Director

**Approved As To Form**

\_\_\_\_\_  
**Mr. Yibin Shen**, City Attorney

**Escrow Agent**

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

**Contractor**

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

# ATTACHMENT A

## CONTRACTOR AGREEMENT

## CONTRACTOR AGREEMENT

THIS AGREEMENT, entered into this \_\_\_\_ day of \_\_\_\_\_, 2019, by and between CITY OF ALAMEDA, a municipal corporation (hereinafter referred to as "City"), and **COMPANY NAME**, a (California corporation, partnership, sole proprietor, individual) whose address is ADDRESS, (hereinafter referred to as "Contractor"), in reference to the following:

### RECITALS:

- A. City is a municipal corporation duly organized and validly existing under the laws of the State of California with the power to carry on its business as it is now being conducted under the statutes of the State of California and the Charter of the City.
- B. City and Contractor desire to enter into an agreement for construction of **Krusi Park Renovations – Sitework & Utilities**, a City of Alameda Park, located at 900 Mound Street, in accordance with Plans and Specifications adopted therefor, P.W. No. 05-16-10, filed in the Office of the City Clerk on \_\_\_\_\_, 2019.
- C. Contractor possesses the skill, experience, ability, background, certification and knowledge to provide the services described in this Agreement on the terms and conditions described herein.
- D. City and Contractor desire to enter into an agreement for **Krusi Park Renovations**, upon the terms and conditions herein. (See Exhibit A, BIDDERS PROPOSAL FORM), for reference.)

NOW, THEREFORE, it is mutually agreed by and between the undersigned parties as follows:

#### 1. TERM:

The Contractor shall have **sixty (60)** consecutive **working** days from the date the work is to commence pursuant to the Notice to Proceed to diligently prosecute the work to completion.

#### 2. SERVICES TO BE PERFORMED:

Contractor agrees, at its own cost and expense, to furnish all labor, tools, equipment, materials, except as otherwise specified, and to do all work strictly in accordance with Specifications, Special Provisions and Plans, which Specifications, Special Provisions and Plans are hereby referred to and expressly made a part hereof with the same force and effect as if the same were fully incorporated herein. The Contractor acknowledges that the work plan included in Exhibit "A" (BIDDERS PROPOSAL FORM) is tentative and does not commit the City to request Contractor to perform all tasks included therein.

### **3. COMPENSATION TO CONTRACTOR:**

Contractor shall be compensated for services performed pursuant to this Agreement in the amount and manner set forth in Contractor's bid, which is attached hereto as Exhibit "A" (BIDDERS PROPOSAL FORM) and incorporated herein by this reference. Payment will be made in the same manner that claims of a like character are paid by the City, with checks drawn on the treasury of said City, to be taken from fund **CIP#: 91003**.

Payment will be made by the City in the following manner: On the first day of each month, Contractor shall submit a written estimate of the total amount of work done the previous month. However, the City reserves the right to adjust budget within and between tasks. Pricing and accounting of charges are to be according to the bid packet pricing, unless mutually agreed to in writing.

Payment shall be made for 95% of the value of the work completed as determined by the City. The City shall retain 5% of the value of the work as partial security for the completion of the work by Contractor. Retained amounts shall be paid to Contractor within sixty days of acceptance by the City of the project. Payment shall not be construed as acceptance of defective work. No interest will be paid to Contractor on retained funds.

Total compensation for work is \$\_\_\_\_\_, with a ten percent contingency in the amount of \$\_\_\_\_\_ for a total not to exceed of \$\_\_\_\_\_. Use of contingency shall be **at the City's sole discretion** for items of work outside the original scope and requires prior written authorization by the City.

**Prompt Payment Of Withheld Funds To Subcontractors:** The City shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the City of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from all subcontractors within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the City. Any delay or postponement of payment may take place only for good cause and with the City's prior written approval. Any violation of these provisions shall subject the violating prime contractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise, available to the prime contractor or subcontractor in the event of a dispute involving late payment, or nonpayment by the contractor, or deficient subcontractor's performance, or noncompliance by a subcontractor. This clause applies to both DBE and non-DBE subcontractors.

### **4. TIME IS OF THE ESSENCE:**

Contractor and City agree that time is of the essence regarding the performance of this Agreement.

It is agreed by the parties to the Agreement that in case all the work called for under the Agreement is not completed before or upon the expiration of the time limit as set forth in paragraph 1 above, damage will be sustained by the City, and that it is and will be impracticable

to determine the actual damage which the City will sustain in the event of and by reason of such delay. It is therefore agreed that the Contractor will pay to the City the sum of **FIVE HUNDRED DOLLARS (\$500)** per day for each and every day's delay beyond the time prescribed to complete the work; and the Contractor agrees to pay such liquidated damages as herein provided, and in case the same are not paid, agrees that the City may deduct the amount thereof from any money due or that may become due the Contractor under the Agreement.

It is further agreed that in case the work called for under the Agreement is not finished and completed in all parts and requirements within the time specified, the City shall have the right to extend the time for completion or not, as may seem best to serve the interest of the City; and if City decides to extend the time limit for the completion of the Agreement, it shall further have the right to charge the Contractor, his or her heirs, assigns, or sureties, and to deduct from the final payment for the work, all or any part, as it may deem proper, of the actual costs and overhead expenses which are directly chargeable to the Agreement, and which accrue during the period of such extensions.

The Contractor shall not be assessed with liquidated damages during any delay in the completion of the work caused by an act of God or of the public enemy, acts of the City, fire, flood, epidemic, quarantine restriction, strikes, freight embargoes, and unusually severe weather or delays of subcontractors due to such causes; provided that the Contractor shall, within one (1) day from the beginning of such delay, notify the City in writing of the causes of delay. The City shall ascertain the facts and the extent of the delay, and its findings of the facts thereon shall be final and conclusive.

#### **5. STANDARD OF CARE:**

Contractor agrees to perform the Work in a manner commensurate with the prevailing standards of like professionals in the San Francisco Bay Area and agrees that all services shall be performed by qualified and experienced personnel who are not employed by the City nor have any contractual relationship with City.

#### **6. INDEPENDENT PARTIES:**

Contractor hereby declares that it is engaged as an independent business and it agrees to perform its services as an independent contractor. The manner and means of conducting the work are under the control of Contractor, except to the extent they are limited by statute, rule or regulation and the express terms of this Agreement. No civil service status or other right of employment will be acquired by virtue of Contractor's services. None of the benefits provided by City to its employees, including but not limited to unemployment insurance, workers' compensation plans, vacation and sick leave are available from City to Contractor, its employees or agents. Deductions shall not be made for any state or federal taxes, FICA payments, PERS payments, or other purposes normally associated with an employer-employee relationship from any fees due Contractor. Payments of the above items, if required, are the responsibility of Contractor.

**7. IMMIGRATION REFORM AND CONTROL ACT (IRCA):**

Contractor assumes any and all responsibility for verifying the identity and employment authorization of all of its employees performing work hereunder, pursuant to all applicable IRCA or other federal, or state rules and regulations. Contractor shall indemnify, defend, and hold City harmless from and against any loss, damage, liability, costs or expenses arising from any noncompliance of this provision by Contractor.

**8. NON-DISCRIMINATION:**

Consistent with City's policy that harassment and discrimination are unacceptable employer/employee conduct, Contractor agrees that harassment or discrimination directed toward a job applicant, a City employee, or a citizen by Contractor or Contractor's employee on the basis of race, religious creed, color, national origin, ancestry, handicap, disability, marital status, pregnancy, sex, age, or sexual orientation will not be tolerated. Contractor agrees that any and all violations of this provision shall constitute a material breach of this Agreement.

Contractor certifies and agrees that it will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, sex, age, or condition or physical or mental handicap (as defined in 41 C.F.R. Section 60-741, et. seq.), in accordance with requirement of state or federal law. Contractor shall take affirmative action to ensure that qualified applicants are employed and that employees are treated during employment without regard to race, color, religion, national origin, ancestry, sex, age, or condition of physical or mental handicap in accordance with requirements of state and federal law. Such shall include, but not be limited to, the following:

A. Employment upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation.

B. Selection for training, including interns and apprentices.

Contractor agrees to post in conspicuous places in each of Contractor's facilities providing services hereunder, available and open to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry, sex, age, or condition of physical or mental handicap, in accordance with requirements of state and federal law.

Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice advising the labor union or workers' representative of Contractor's commitments under this paragraph.

Contractor certifies and agrees that it will deal with its subcontractors, bidders, or vendors without regard to race, color, religion, national origin, ancestry, sex, age, or condition of physical or mental handicap, in accordance with requirement of state and federal law.

In accordance with applicable state and federal law, Contractor shall allow duly authorized county, state and federal representatives access to its employment records during regular business hours in order to verify compliance with the anti-discrimination provisions of this paragraph. Contractor shall provide such other information and records as such representatives may require in order to verify compliance with the anti-discrimination provisions of this paragraph.

If the City finds that any of the provisions of this paragraph have been violated, the same shall constitute a material breach of Agreement upon which City may determine to cancel, terminate, or suspend this Agreement. City reserves the right to determine independently that the anti-discrimination provisions of this Agreement have been violated. In addition, a determination by the California Fair Employment Practices Commission or the Federal Equal Employment Opportunity Commission that Contractor has violated state and federal anti-discrimination laws shall constitute a finding by City that Contractor has violated the anti-discrimination provisions of Agreement.

The parties agree that in the event Contractor violates any of the anti-discrimination provisions of this paragraph, City shall be entitled, at its option, to the sum of \$500.00 pursuant to California Civil Code Section 1671 as liquidated damages in lieu of canceling, terminating, or suspending this Agreement.

Contractor hereby agrees that it will comply with Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. Section 794), all requirements imposed by the applicable regulations (45 C.F.R.), and all guidelines and interpretations issued pursuant thereto, to the end that no qualified handicapped person shall, on the basis of handicap, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity of Contractor receiving Federal Financial Assistance. In addition, Contractor shall comply with the Uniform Federal Accessibility Standards, and Contractor, Engineer, or Architect responsible for any design, construction or alteration shall certify compliance with those Standards.

Contractor's attention is directed to laws, including but not limited to:

**A. CIVIL RIGHTS/EQUAL OPPORTUNITY**

(1) Civil Rights Act of 1964. Under Title VII of the Civil Rights Act of 1964, no person shall, on the grounds of race, sex, religion, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

(2) Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall, on the grounds of race, color, national origin, or sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

Section 109 of the Act further provides that any prohibition against discrimination on the basis of age under the Age Discrimination Act of 1975 (42 U.S.C. 6101 et seq.) or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) shall also apply to any program or activity funded in whole or in part with funds made available pursuant to the Act.

**B. PROGRAM ACCESSIBILITY FOR INDIVIDUALS WITH DISABILITIES**

This Agreement is subject to laws and regulations concerning the rights of otherwise qualified individuals with handicaps for equal participation in, and benefit from federally assisted programs and activities, including but not limited to:

(1) Americans with Disabilities Act of 1990 (ADA) (28 C.F.R. 35). Title II, Subpart A of the Americans with Disabilities Act of 1990 applies to all publicly funded activities and programs. Contractor shall also comply with the public accommodations requirements of Title III of the ADA, as applicable.

(2) Nondiscrimination on the Basis of Handicap (24 CFR 8). These regulations, which implement Section 504 of the Rehabilitation Act of 1973, as amended, and as cited in Section 109 of the Housing and Community Development Act, apply to all federally assisted activities and programs and are implemented through the regulations at 24 C.F.R. 8.

(3) Architectural Barrier Act of 1968. Any building or facility, excluding privately owned residential structures, designed, constructed, or altered with federal funds, shall comply with the Uniform Federal Accessibility Standards, 1984 (41 C.F.R. 3) and the Handicapped Accessibility Requirements of the State of California Title 24. The Consultant, Engineer or Architect responsible for such design, construction or alteration shall certify compliance with the above standards.

(4) In resolving any conflict between the accessibility standards cited in paragraphs (1), (2) and (3) above, the more stringent standard shall apply.

**9. HOLD HARMLESS:**

Contractor shall indemnify, defend, and hold harmless City, its City Council, boards, commissions, officials, employees, and volunteers ("Indemnitees") from and against any and all loss, damages, liability, claims, suits, costs and expenses whatsoever, including reasonable attorneys' fees ("Claims"), arising from or in any manner connected to Contractor's negligent act or omission, whether alleged or actual, regarding performance of services or work conducted or performed pursuant to this Agreement. If Claims are filed against Indemnitees which allege negligence on behalf of the Contractor, Contractor shall have no right of reimbursement against Indemnitees for the costs of defense even if negligence is not found on the part of Contractor. However, Contractor shall not be obligated to indemnify Indemnitees from Claims arising from the sole negligence or willful misconduct of Indemnitees.

**10. INSURANCE:**

On or before the commencement of the terms of this Agreement, Contractor shall furnish the City's Risk Manager with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of insurance coverage in compliance with paragraphs 10A, B, C and D. Such certificates, which do not limit Contractor's indemnification, shall also contain substantially the following statement: "Should any of the above insurance covered by this certificate be canceled or coverage reduced before the expiration date thereof, the insurer affording coverage shall provide fourteen (14) days' advance written notice to the City of Alameda, "Attention: Risk Manager."

It is agreed that Contractor shall maintain in force at all times during the performance of this Agreement all appropriate coverage of insurance required by this Agreement with an insurance company that is acceptable to the City Risk Manager and licensed to do insurance business in the State of California. Endorsements naming the City, its City Council, boards,



commissions, officials, employees, and volunteers as additional insured shall be submitted with the insurance certificates.

A. COVERAGE:

Contractor shall maintain the following insurance coverage:

- (1) Workers' Compensation:  
Statutory coverage as required by the State of California.

- (2) Liability:  
Commercial general liability coverage in the following minimum limits:  
Bodily Injury: \$2,000,000 each occurrence  
\$3,000,000 aggregate - all other

Property Damage: \$1,000,000 each occurrence  
\$2,000,000 aggregate

If submitted, combined single limit policy with aggregate limits in the amounts of \$2,000,000 will be considered equivalent to the required minimum limits shown above.

- (3) Automotive:  
Comprehensive automobile liability coverage (any auto) in the following minimum limits:

Bodily injury: \$1,000,000 each occurrence  
Property Damage: \$1,000,000 each occurrence  
or  
Combined Single Limit: \$2,000,000 each occurrence

- (4) Pollution Prevention:  
Legal liability required for hazardous materials excavation in the amount of \$2,000,000 each occurrence.

- (5) Builders Risk:  
In the amount of \$1,000,000.

B. SUBROGATION WAIVER:

Contractor agrees that in the event of loss due to any of the perils for which it has agreed to provide comprehensive general and automotive liability insurance, Contractor shall look solely to its insurance for recovery. Contractor hereby grants to City, on behalf of any insurer providing comprehensive general and automotive liability insurance to either Contractor or City with respect to the services of Contractor herein, a waiver of any right to subrogation which any such insurer of said Contractor may acquire against City by virtue of the payment of any loss under such insurance.

C. FAILURE TO SECURE:

If Contractor at any time during the term hereof should fail to secure or maintain the foregoing insurance, City shall be permitted to obtain such insurance in the Contractor's name or as an agent of the Contractor and shall be compensated by the Contractor for the costs of the insurance premiums at the maximum rate permitted by law and computed from the date written notice is received that the premiums have not been paid.

D. ADDITIONAL INSURED:

City, its City Council, boards, commissions, officials, employees, and volunteers shall be named as an additional insured under all insurance coverages, except worker's compensation insurance. The naming of an additional insured shall not affect any recovery to which such additional insured would be entitled under this policy if not named as such additional insured. An additional insured named herein shall not be held liable for any premium, deductible portion of any loss, or expense of any nature on this policy or any extension thereof. Any other insurance held by an additional insured shall not be required to contribute anything toward any loss or expense covered by the insurance provided by this policy.

E. SUFFICIENCY OF INSURANCE:

Contractor shall furnish the following bonds from a bonding company acceptable to the City Risk Manager. Faithful Performance Bond and Labor and Material Bond are only required for work over \$25,000. Therefore, those estimates that are under \$25,000 will not need to budget for the bond premiums and those estimates over \$25,000 will need to be sure to budget for the bond premiums.

The insurance limits required by City are not represented as being sufficient to protect Contractor. Contractor is advised to consult Contractor's insurance broker to determine adequate coverage for Contractor.

**11. BONDS:**

Contractor shall furnish the following bonds from a bonding company acceptable to the City Attorney:

A. Faithful Performance:

A bond in the amount of 100% of the total contract price guaranteeing the faithful performance of this contract, and

B. Labor and Materials:

A bond for labor and materials in the amount of 100% of the total contract price.

**12. PROHIBITION AGAINST TRANSFERS:**

Contractor shall not assign, sublease, hypothecate, or transfer this Agreement, or any interest therein, directly or indirectly, by operation of law or otherwise, without prior written consent of City. Any attempt to do so without said consent shall be null and void, and any assignee, sublessee, hypothecate or transferee shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer. However, claims for money by Contractor from City under this Agreement may be assigned to a bank, trust company or other financial institution without prior written consent. Written notice of such assignment shall be promptly furnished to City by Contractor.

The sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock of Contractor, or of the interest of any general partner or joint venturer or syndicate member or cotenant, if Contractor is a partnership or joint venture or syndicate or cotenancy, which shall result in changing the control of Contractor, shall be construed as an assignment of this Agreement. Control means fifty percent (50%) or more of the voting power of the corporation.

### **13. SUBCONTRACTOR APPROVAL:**

Unless prior written consent from City is obtained, only those people and subcontractors whose names are listed in Contractor's bid shall be used in the performance of this Agreement.

Requests for additional subcontracting shall be submitted in writing, describing the scope of work to be subcontracted and the name of the proposed subcontractor. Such request shall set forth the total price or hourly rates used in preparing estimated costs for the subcontractor's services. Approval of the subcontractor may, at the option of City, be issued in the form of a Work Order.

In the event that Contractor employs subcontractors, such subcontractors shall be required to furnish proof of workers' compensation insurance and shall also be required to carry general and automobile liability insurance in reasonable conformity to the insurance carried by Contractor. In addition, any work or services subcontracted hereunder shall be subject to each provision of this Agreement.

### **14. PERMITS AND LICENSES:**

Contractor, at its sole expense, shall obtain and maintain during the term of this Agreement, all appropriate permits, certificates and licenses, including a City Business License that may be required in connection with the performance of services hereunder.

### **15. REPORTS:**

Each and every report, draft, work product, map, record and other document reproduced, prepared or caused to be prepared by Contractor pursuant to or in connection with this Agreement shall be the exclusive property of City.

No report, information nor other data given to or prepared or assembled by Contractor pursuant to this Agreement shall be made available to any individual or organization by Contractor without prior approval by City.

Contractor shall, at such time and in such form as City may require, furnish reports concerning the status of services required under this Agreement.

### **16. RECORDS:**

Contractor shall maintain complete and accurate records with respect to sales, costs, expenses, receipts and other such information required by City that relate to the performance of services under this Agreement.

Contractor shall maintain adequate records of services provided in sufficient detail to permit an evaluation of services. All such records shall be maintained in accordance with generally accepted accounting principles and shall be clearly identified and readily accessible. Contractor shall provide free access to such books and records to the representatives of City or its designees at all proper times, and gives City the right to examine and audit same, and to make transcripts therefrom as necessary, and to allow inspection of all work, data, documents, proceedings and activities related to this Agreement. Such records, together with supporting documents, shall be kept separate from other documents and records and shall be maintained for a period of three (3) years after receipt of final payment.

If supplemental examination or audit of the records is necessary due to concerns raised by City's preliminary examination or audit of records, and the City's supplemental examination or audit of the records discloses a failure to adhere to appropriate internal financial controls, or other breach of contract or failure to act in good faith, then Contractor shall reimburse City for all reasonable costs and expenses associated with the supplemental examination or audit.

#### **17. NOTICES:**

All notices, demands, requests or approvals to be given under this Agreement shall be given in writing and conclusively shall be deemed served when delivered personally or on the second business day after the deposit thereof in the United States Mail, postage prepaid, registered or certified, addressed as hereinafter provided.

All notices, demands, requests, or approvals from Contractor to City shall be addressed to City at:

City of Alameda  
Recreation & Parks Department  
2263 Santa Clara Avenue  
Alameda, CA 94501-4417  
ATTENTION: Amy Wooldridge, Director  
Ph: (510) 747-7570 Email: [awooldridge@alamedaca.gov](mailto:awooldridge@alamedaca.gov)

#### **With a copy to:**

City of Alameda, Public Works Department  
950 West Mall Square  
Alameda, CA 94501-7575  
ATTENTION: Jack Dybas, Project Manager II, Public Works Department  
Ph.: (510) 747-7948 Email: [jdybas@alamedaca.gov](mailto:jdybas@alamedaca.gov)

All notices, demands, requests, or approvals from City to Contractor shall be addressed to Contractor at:

[Contractor Name]  
[Department]  
[Address]

Alameda, CA 94501  
ATTENTION; [Title]  
Ph: (510) xxx-xxxx / Fax: (510) xxx-xxxx

**18. UTILITIES**

Contractor shall pay all charges for fuel, gas, water, electricity, telephone services and any other utilities necessary to carry on the operations of Contractor.

**19. NUISANCE**

Contractor shall not maintain, commit, or permit the maintenance or commission of any nuisance in connection with the performance of services under this Agreement.

**20. SAFETY REQUIREMENT**

The Contractor will be solely and completely responsible for conditions of all vehicles owned or operated by Contractor, including the safety of all persons and property during performance of the services and tasks under this Agreement. This requirement will apply continuously and not be limited to normal working hours. In addition, Contractor will comply with all safety provisions in conformance with U.S. Department of Labor Occupational Safety and Health Act, any equivalent state law, and all other applicable federal, state, county and local laws, ordinances, codes, and any regulations that may be detailed in other parts of the Agreement. Where any of these are in conflict, the more stringent requirements will be followed. The Contractor's failure to thoroughly familiarize itself with the aforementioned safety provisions will not relieve it from compliance with the obligations and penalties set forth herein.

The Contractor will immediately notify the City's Risk Manager within 24 hours of any incident of death, serious personal injury or substantial property damage that occurs in connection with the performance of this Agreement. The Contractor will promptly submit to the City a written report of all incidents that occur in connection with this Agreement. This report must include the following information: (i) name and address of injured or deceased person(s); (ii) name and address of Contractor's employee(s) involved in the incident; (iii) name and address of Contractor's liability insurance carrier; (iv) a detailed description of the incident; and (v) a police report.

**21. HOURS OF OPERATION**

Contractor shall be allowed to operate only for the hours of 8:00 a.m. to 5:00 p.m., Monday -Friday unless prior written approval has been secured from City to do otherwise.

**22. LAWS TO BE OBSERVED:**

Contractor shall comply with all applicable laws, state, federal, and all ordinances, rules and regulations enacted or issued by City. In addition, the Contractor shall keep themselves fully informed of all existing and future state and federal laws and all municipal ordinances and regulations of the City of Alameda which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

**23. DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE AND PREVAILING WAGE REQUIREMENTS ON PUBLIC WORKS PROJECTS:**

Effective January 1, 2015, no Contractor or Subcontractor may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with the limited exceptions from this requirement for bid purposed only under Labor code Section 1771.1(a)). Register at <https://efiling.dir.ca.gov/PWCR>

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 Department of Industrial Relations pursuant to Labor Code Section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The Prime Contractor is required to post job site notices prescribed by regulations. See 8 Calif. Code Regulation §16451(d).

Effective April 1, 2015, All Contractors and Subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner at: <https://apps.dir.ca.gov/ecpr/das/altlogin>

**24. HOURS OF LABOR:**

As provided in Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Contractor or by any Subcontractor on any subcontract under this Contract, upon the work or upon any part of the work contemplated by this Contract, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereinafter provided. Notwithstanding the provision hereinabove set forth, work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon this public work provided that the employees' compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay.

The Contractor shall pay to the City a penalty of Twenty-five Dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor, or by any Subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one (1) calendar week, in violation of the provisions of Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, unless compensation for the workers so employed by Contractor is not less than one and one-half (1-1/2) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half (1½) times the above specified rate of *per diem* wages, unless otherwise specified. Holidays shall be defined in the Collective Bargaining Contract applicable to each particular craft, classification, or type of worker employed.

**25. CERTIFIED PAYROLL:**

Contractor to strictly abide by the State Dept. of Industrial Relation's Certified Payroll Reporting protocol/requirements.

**26. APPRENTICES:**

Attention is directed to the provisions in sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him on contracts greater than \$30,000 or 20 working days. The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

Section 1777.5 requires the Contractor or subcontractor employing workers in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of the public works project, and which administers the apprenticeship program in that trade, for a certificate of approval, if they have not previously applied and are covered by the local apprenticeship standards.

The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if: (1) the Contractor employs registered apprentices or journeymen in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions; or (2) if the Contractor is not a signatory to an apprenticeship fund and if the funds administrator is unable to accept Contractor's required contribution. The Contractor or subcontractor shall pay a like amount to the California Apprenticeship Council.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

**27. LABOR DISCRIMINATION:**

No discrimination shall be made in the employment of persons upon public works because of the race, color, sex, religion, age, national origin, sexual orientation, or physical disability of such persons and every Contractor for public works violating this section is subject to all the penalties imposed for a violation of the provisions of the Labor Code, and, in particular, Section 1735.

**28. REGISTRATION OF CONTRACTORS:**

Before submitting bids, contractors shall be licensed in accordance with the provisions of Chapter 9, Division 3, of the Business and Professional Code of the State of California.

**29. URBAN RUNOFF MANAGEMENT:**

The Contractor shall avoid creating excess dust when breaking asphalt or concrete and during excavation and grading. If water is used for dust control, contractor shall use as little as necessary. Contractor shall take all steps necessary to keep wash water out of the streets, gutters and storm drains.



The Contractor shall develop and implement erosion and sediment control to prevent pollution of storm drains. Such control includes but is not limited to:

- a. Use storm drain inlet protection devices such as sand bag barriers, filter fabric fences, block and gravel filters. (Block storm drain inlets prior to the start of the rainy season (October 15), on site de-watering activities and saw-cutting activities; shovel or vacuum saw-cut slurry and remove from the site).
- b. Cover exposed piles of soil or construction material with appropriately anchored and secured plastic sheeting. All construction materials must be stored in containers.
- c. Sweep and remove all materials from paved surfaces that drain to streets, gutters and storm drains prior to rain as well as at the end of the each work day. At the completion of the project, the street shall be washed and the wash water shall be collected and disposed of offsite in an appropriate location.
- d. After breaking old pavement, Contractor shall remove all debris to avoid contact with rainfall or runoff.
- e. Contractor shall maintain a clean work area by removing trash, litter, and debris at the end of each workday. Contractor shall also clean up any leaks, drips, and other spills as they occur.

The objective is to ensure that the City and County of Alameda County-Wide Clean Water Program is adequately enforced. These controls should be implemented prior to the start of construction, up-graded as required, maintained during construction phases to provide adequate protection, and removed at the end of construction.

These recommendations are intended to be used in conjunction with the State's Best Management Practices Municipal and Construction Handbooks, local program guidance materials from municipalities, Section 7.1.01 of the Standard Specifications and any other appropriate documents on storm water quality controls for construction.

Failure to comply with this program will result in the issuance of noncompliance notices, citations, project stop orders or fines. The fine for noncompliance of the above program is two hundred and fifty dollars (\$250.00) per occurrence per day. The State under the Federal Clean Water Act can also impose a fine on the contractor, pursuant to Cal. Water Code §13385.

### **30. COMPLIANCE WITH MARSH CRUST ORDINANCE:**

Contractor shall perform all excavation work in compliance with the City's Marsh Crust Ordinance as set forth at Section 13-56 of the Municipal Code. Prior to performing any excavation work, Contractor shall verify with the Building Official whether the excavation work is subject to the Marsh Crust Ordinance. Contractor shall apply for and obtain permits from Building Services on projects deemed to be subject to the Marsh Crust Ordinance.



### **31. COMPLIANCE WITH THE CITY'S INTEGRATED PEST MANAGEMENT POLICY:**

The Contractor shall follow the requirements of the City's Integrated Pest Management (IPM) Policy to ensure the City is in compliance with its Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, issued by the San Francisco Bay Regional Water Quality Control Board.

- ☐ Contractor shall use the most current IPM technologies available to ensure the long-term prevention or suppression of pest problems and to minimize negative impacts on the environment, non-target organisms, and human health for the control or management of pests in and around City buildings and facilities, parks and golf courses, urban landscape areas, rights-of-way, and other City properties.
- ☐ Contractor will consider the City IPM Policy's hierarchy of options or alternatives listed below, in the following order before recommending the use of or applying any pesticide on City property: (1)
  - a. No controls (e.g. tolerating the pest infestation, use of resistant plant varieties or allowing normal life cycle of weeds);
  - b. Physical or mechanical controls (e.g. hand labor, mowing, exclusion);
  - c. Cultural controls (e.g. mulching, disking, alternative vegetation) and good housekeeping (e.g. cleaning desk area);
  - d. Biological controls (e.g., natural enemies or predators);
  - e. Reduced-risk chemical controls (e.g., soaps or oils);
  - f. Other chemical controls.
- ☐ Prior to applying chemical controls the contractor shall complete a checklist for the City's pre-approval that explains why a chemical control is necessary. For annual contracts that require regular application of chemical controls the contractor shall submit one checklist prior to the initiation of the project demonstrating that the hierarchy has been reviewed and no other options exist. (Attached as Exhibit C). Additionally, the contractor shall provide documentation to the City's project manager of the implementation of the IPM techniques hierarchy described in the City's IPM Policy.
- ☐ Contractor shall avoid the use of the following pesticides that threaten water quality, human health and the environment:
  - a. Acute Toxicity Category I chemicals as identified by the Environmental Protection Agency (EPA)
  - b. Organophosphate pesticides (e.g., those containing Diazinon, chlorpyrifos or malathion)
  - c. Pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin), carbamates (e.g., carbaryl), and fipronil

- d. Copper-based pesticides unless their use is judicious, other approaches and techniques have been considered, and the threat of impact to water quality is prevented.
- ☐ Contractor shall sign the Contractor Verification Form (Attached as Exhibit B) indicating the intent to implement the City's IPM Policy, and return a signed copy to the City's project manager.
  - ☐ Contractor shall provide to the City's project manager an annual Report of all pesticide usage in support of City operations including pesticide name, active ingredient(s), target pest(s), the total amounts used and the reasons for any increase in use of any pesticide.
  - ☐ Contractor shall provide a copy of any current IPM certifications(s) to the City's project manager prior to initiation of the service work.

A copy of the City's IPM Policy may be obtained from the City's project manager and is also on file with the City Clerk. *If this agreement pertains to the use of any items listed above, the Contractor will need to fill out and send in the Contractor Verification Form and Contractor Check List.*

### **32. PURCHASES OF MINED MATERIALS REQUIREMENT:**

Contractor shall ensure that all purchases of mined materials such as construction aggregate, sand and gravel, crushed stone, road base, fill materials, and any other mineral materials must originate from a surface mining operation identified on the AB3098 List per the Surface Mining and Reclamation Act of 1975 (SMARA).

Within five days of award of contract, Contractor shall submit a report to City which lists the intended suppliers for the above materials and demonstrates that the suppliers are in compliance with the SMARA requirements. The AB3098 List is maintained by the Department of Conservation's Office of Mine Reclamation (OMR) and can be viewed at: [www.conservation.ca.gov/OMR/ab\\_3098\\_list/index.htm](http://www.conservation.ca.gov/OMR/ab_3098_list/index.htm). Note that the list changes periodically and should be reviewed accordingly.

### **33. TERMINATION:**

In the event Contractor fails or refuses to perform any of the provisions hereof at the time and in the manner required hereunder, Contractor shall be deemed in default in the performance of this Agreement and the City may terminate for cause pursuant to the provisions of Section 13 G of the General Conditions, attached hereto as General Conditions Of The Contract For Construction.

In addition to the foregoing, City shall have the option, at its sole discretion and without cause, of terminating this Agreement for convenience pursuant to the provisions of section 13 H of the General Conditions, attached hereto as General Conditions Of The Contract For Construction. Upon termination of this Agreement, each party shall pay to the other party that portion of compensation specified in this Agreement that is earned and unpaid prior to the effective date of termination.

### **34. ATTORNEY'S FEES:**

In the event of the bringing of any action or suit by a party hereto against the other party by reason of any breach of any covenants, conditions, obligation or provision arising out of this Agreement, the prevailing party shall be entitled to recover from the non-prevailing party all of its costs and expenses of the action or suit, including reasonable attorneys' fees, experts' fees, all court costs and other costs of action incurred by the prevailing party in connection with the prosecution or defense of such action and enforcing or establishing its rights hereunder (whether or not such action is prosecuted to a judgment). For the purposes of this Agreement, reasonable fees of attorneys of the Alameda City Attorney shall be based on the fees regularly charged by private attorneys with the equivalent number of years of experience in the subject matter area of the law for which the Alameda City Attorney's services were rendered who practice in Alameda County in law firms with approximately the same number of attorneys as employed by the Alameda City Attorney's Office.

### **35. CLAIMS (PCC Section 9204 Summary - Claims Submitted Between 01-01-2017 and 01-01-2020.):**

Notwithstanding anything else to the contrary stated in the Information For Bidders (IFB) or the Contract Documents, all claims, regardless of dollar amount, submitted between January 1, 2017 and January 1, 2020 shall be governed by PCC Section 9204 and this section. The following provisions and procedures shall apply:

A. For the purposes of this section, the term "Claim", "Contractor", "mediation", "Public Entity" "Public works project" and "Subcontractor" shall have the meaning provided for in PCC Section 9204.

B. Contractor shall submit each Claim (whether for a time extension, payment for money or damages) in writing and in compliance with PCC Section 9204. Contractor must include reasonable documentation to support each claim.

C. Upon receipt of a Claim, the City shall conduct a reasonable review and respond in writing within 45 days of receipt and shall identify in a written statement what portions of the claim are disputed and undisputed. Undisputed portions of the Claim shall be process and paid within 60 days of the written statement. Undisputed amounts not paid in a timely manner shall bear interest at 7% per annum. The City and Contractor may mutually agree to extend the 45 day response time.

D. If the City needs approval from the City Council to provide a written statement, the 45 days may be extended to 3 days following the next duly noticed public meeting pursuant to PCC Section 9204(d)(1)(C).

E. If the City fails to timely respond to a Claim or if Contractor disputes the City's response, Contractor may submit a written demand for an informal meet and confer conference with the City to settle the issues in dispute. The demand must be sent via registered or certified mail, return receipt requested. Upon receipt, the City shall schedule the conference within 30 days.

F. Within 10 business days following the informal meet and confer conference, the City shall submit to Contractor a written statement describing any issues remaining in dispute and that portion which is undisputed. Undisputed portions of the Claim shall be process and paid within 60 days of the written statement. Undisputed amounts not paid in a timely manner shall bear interest at 7% per annum. The issues remaining in dispute shall be submitted to non-binding mediation. If the City and Contractor mutually agree on a mediator, each party shall pay equal portions of all associated costs. If within 10 business days, the City and Contractor cannot agree on a mediator, each party shall select a mediator (paying all costs associated with their selected mediator), and those mediators shall select a qualified neutral third party to mediate the disputed issues. The City and Contractor shall pay equal portions of all associated costs of such third party mediator.

G. Unless otherwise agreed by the City and Contractor, any mediation conducted hereunder shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has commenced.

H. The City reserves all rights and remedies that it has pursuant to the Construction Contract, plans and specification, at law or in equity which are not in conflict with PCC 9204.

I. This Section shall be automatically extended if legislation is lawfully passed which extends the terms of Public Contract Code Section 9204 beyond January 1, 2020.

### **36. CONFLICT OF LAW:**

This Agreement shall be interpreted under, and enforced by the laws of the State of California excepting any choice of law rules which may direct the application of laws of another jurisdiction. The Agreement and obligations of the parties are subject to all valid laws, orders, rules, and regulations of the authorities having jurisdiction over this Agreement (or the successors of those authorities.) Any suits brought pursuant to this Agreement shall be filed with the courts of the County of Alameda, State of California.

### **37. ADVERTISEMENT:**

Contractor shall not post, exhibit, display or allow to be posted, exhibited, displayed any signs, advertising, show bills, lithographs, posters or cards of any kind pertaining to the services performed under this Agreement unless prior written approval has been secured from City to do otherwise.

### **38. WAIVER:**

A waiver by City of any breach of any term, covenant, or condition contained herein, shall not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant, or condition contained herein, whether of the same or a different character.

**39. INTEGRATED CONTRACT:**

This Agreement represents the full and complete understanding of every kind or nature whatsoever between the parties hereto, and all preliminary negotiations and agreements of whatsoever kind or nature are merged herein. No verbal agreement or implied covenant shall be held to vary the provisions hereof. Any modification of this Agreement will be effective only by written execution signed by both City and Contractor.

**40. INSERTED PROVISIONS:**

Each provision and clause required by law to be inserted into the Agreement shall be deemed to be enacted herein, and the Agreement shall be read and enforced as though each were included herein. If through mistake or otherwise, any such provision is not inserted or is not correctly inserted, the Agreement shall be amended to make such insertion on application by either party.

**41. CAPTIONS:**

The captions in this Agreement are for convenience only, are not a part of the Agreement and in no way affect, limit or amplify the terms or provisions of this Agreement.

*Signatures on next page*

IN WITNESS WHEREOF, the parties have caused the Agreement to be executed on the day and year first above written.

COMPANY NAME  
(A California Corporation, partnership,  
sole proprietor, individual)

CITY OF ALAMEDA  
A Municipal Corporation

\_\_\_\_\_  
(Name)  
(Title)

\_\_\_\_\_  
**Eric J. Levitt**  
City Manager

RECOMMENDED FOR APPROVAL

\_\_\_\_\_  
(Name)  
(Title)

\_\_\_\_\_  
Liam Garland  
Public Works Director

APPROVED AS TO FORM:  
City Attorney

\_\_\_\_\_  
**Mr. Yibin Shen**  
City Attorney

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES or CONTRACTORS FORM B

This endorsement modifies insurance provided under the following:  
COMMERCIAL GENERAL LIABILITY COVERAGE PART  
SCHEDULE

Name of Person or Organization:  
City of Alameda  
Public Works Department  
950 West Mall Square, Room 110  
Alameda, CA 94501-7558

**SAMPLE**

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

**REF:** \_\_\_\_\_

**The City of Alameda, its City Council, boards and commissions, officers & employees are additional insured for work done on their behalf by the named insured.**

**PRIMARY INSURANCE:**

IT IS UNDERSTOOD AND AGREED THAT THIS INSURANCE IS PRIMARY AND ANY OTHER INSURANCE MAINTAINED BY THE ADDITIONAL INSURED SHALL BE EXCESS ONLY AND NOT CONTRIBUTING WITH THIS INSURANCE.

**SEVERABILITY OF INTEREST:**

IT IS AGREED THAT EXCEPT WITH RESPECT TO THE LIMIT OF INSURANCE, THIS COVERAGE SHALL APPLY AS IF EACH ADDITIONAL INSURED WERE THE ONLY INSURED AND SEPARATELY TO EACH INSURED AGAINST WHOM CLAIM IS MADE OR SUIT IS BROUGHT.

**WAIVER OF SUBROGATION:**

IT IS UNDERSTOOD AND AGREED THAT THE COMPANY WAIVES THE RIGHT OF SUBROGATION AGAINST THE ABOVE ADDITIONAL INSURED (S), BUT ONLY AS RESPECTS THE JOB OR PREMISES DESCRIBED IN THE CERTIFICATE ATTACHED HERETO.

**NOTICE OF CANCELLATION:**

IT IS UNDERSTOOD AND AGREED THAT IN THE EVENT OF CANCELLATION OF THE POLICY FOR ANY REASON OTHER THAN NON-PAYMENT OF PREMIUM, 30 DAYS WRITTEN NOTICE WILL BE SENT TO THE CERTIFICATE HOLDER BY MAIL. IN THE EVENT THE POLICY IS CANCELED FOR NON-PAYMENT OF PREMIUM, 10 DAYS WRITTEN NOTICE WILL BE SENT TO THE ABOVE.

POLICY NUMBER:

**COMMERCIAL AUTO**

CG 20 48 02 99

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM  
GARAGE COVERAGE FORM  
MOTOR CARRIER COVERAGE FORM  
TRUCKERS COVERAGE FORM

**SAMPLE**

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement. This endorsement identifies person(s) or organization(s) who are "insureds" under the Who Is An Insured Provisions of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Endorsement Effective:	Countersigned By:
Named Insured:	<hr/> (Authorized Representative)

**SCHEDULE**

City of Alameda  
Public Works Department  
950 West Mall Square, Room 110  
Alameda, CA 94501-7558

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

**REF:** \_\_\_\_\_

**The City of Alameda, its City Council, boards and commissions, officers & employees are additional insured for work done on their behalf by the named insured.**

**NOTICE OF CANCELLATION:**

IT IS UNDERSTOOD AND AGREED THAT IN THE EVENT OF CANCELLATION OF THE POLICY FOR ANY REASON OTHER THAN NON-PAYMENT OF PREMIUM, 30 DAYS WRITTEN NOTICE WILL BE SENT TO THE CERTIFICATE HOLDER BY MAIL. IN THE EVENT THE POLICY IS CANCELED FOR NON-PAYMENT OF PREMIUM, 10 DAYS WRITTEN NOTICE WILL BE SENT TO THE ABOVE.

CA 20 48 02 99

Page 1 of 1



# ATTACHMENT B

## PAYMENT BOND FORM

## PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_

a \_\_\_\_\_, hereinafter called Principal, and

\_\_\_\_\_

hereinafter called Surety, are held and firmly bound unto \_\_\_\_\_

\_\_\_\_\_

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 the \_\_\_\_\_ day of \_\_\_\_\_, **2019**, a copy of which is hereto attached and made a part hereof for the construction of:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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 on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

## PAYMENT BOND FORM

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 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.

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 on \_\_\_\_\_ counterparts, each  
(Number)  
one of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 2019.

ATTEST:

_____ Principal Secretary (SEAL)	By: _____ Principal
_____ (Witness as to Principal)	_____ (Address)
_____ (Address)	_____ (Surety)

ATTEST:

_____ Surety Secretary (SEAL)	By: _____ Attorney-in-fact
_____ (Witness as to Surety)	_____ (Address)
_____ (Address)	_____

NOTE: Date of BOND must not be prior to date of Contract.

If the 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.

# ATTACHMENT C

## PERFORMANCE BOND FORM

## 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\_\_\_\_\_

(Name of Owner)

(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 the \_\_\_\_\_ day of \_\_\_\_\_ 2019, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, 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 the one year 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.

## PERFORMANCE BOND FORM

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 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.

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 on \_\_\_\_\_ counterparts, each one  
(Number)  
of which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, **2019**.

ATTEST:

_____ Principal Secretary (SEAL)	By: _____ Principal
_____ (Witness as to Principal)	_____ (Address)
_____ (Address)	_____ (Surety)

ATTEST:

_____ Surety Secretary (SEAL)	By: _____ Attorney-in-fact
_____ (Witness as to Surety)	_____ (Address)
_____ (Address)	_____

NOTE: Date of BOND must not be prior to date of Contract.

If the 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.

# **The City of Alameda**

## **GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION**

### **1. GENERAL**

#### **A. DOCUMENTS**

All contract documents complement each other. Requirements called for in one are as binding as if called for by all. Contract Documents shall not be construed to create a contractual relationship of any kind between (1) Architect/Engineer and Contractor; (2) CITY and/or its representatives and a subcontractor, sub-subcontractor or supplier of any Project labor, materials or equipment; or (3) between any persons or entities other than CITY and Contractor. CITY shall be deemed to be an intended third-party beneficiary of each agreement referenced in clause (2) above, and each such agreement shall so provide. (See Division 1 GENERAL REQUIREMENTS, Section 01 11 04 – CONTRACT DOCUMENTS for definition of Contract Documents.)

#### **B. EXERCISE OF CONTRACT RESPONSIBILITIES**

In exercising its responsibilities and authorities under Contract Documents, CITY does not assume any duties or responsibilities to any subcontractor or supplier and does not assume any duty of care to Contractor, Contractor's subcontractors or suppliers. Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work, labor, materials or equipment under a direct or indirect contract with Contractor. Except as expressly set forth in Contract Documents, in exercising its responsibilities and authorities under Contract Documents, Architect/Engineer does not assume any duties or responsibilities to any subcontractor or supplier and does not assume any duty of care to Contractor, Contractor's subcontractors or suppliers.

### **2. BIDDING**

#### **A. INVESTIGATION PRIOR TO BIDDING**

1. Prior to bidding, Bidders must perform the Work, investigations, research and analysis that a reasonable bidder in his field would ascertain from having performed the investigations, research and analysis. Bid prices must include entire cost of all Work "incidental" to completion of the Work.

2. Conditions Shown on Contract Documents: Information as to underground conditions, as-built conditions, or other conditions or obstructions indicated in Contract Documents, *e.g.*, on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. CITY warrants, and Contractor may rely on, the accuracy of only limited types of information.
  - a. Above ground and as-built conditions: There is no express or implied warranty and no express or implied representation that any information as to above ground conditions or as-built conditions indicated in Contract Documents is correctly shown, or indicated, or complete. As a condition to bidding, Contractor shall verify by independent investigation information all above ground and as-built conditions. In submitting its Bid, Contractor shall rely on the results of its own independent investigation and shall not rely on CITY- supplied information regarding above ground conditions and as-built conditions.
  - b. Subsurface conditions: Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in Contract Documents. CITY shall not be responsible for (1) the completeness of any subsurface condition information for bidding or construction; (2) Contractor's conclusions or opinions drawn from any subsurface condition information; or (3) subsurface conditions that are not specifically shown. (For example, CITY is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)
3. Conditions Shown in Reports and Drawings (if any) supplied For Informational Purposes: These materials are not Contract Documents and, except for any "technical data" regarding subsurface conditions, Contractor may not in any manner rely on the information in these materials. Subject to the foregoing, Contractor must make its own independent investigation of all conditions affecting the Work and must not rely on information provided by CITY.

## B. SUBCONTRACTORS

Consistent with Public Contract Code Sections 4101 *et seq.*, Contractor shall not substitute any other person or firm in place of any subcontractor listed in the Bid. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without CITY's express written approval. At CITY's request, Contractor shall provide CITY with a complete copy of all executed subcontracts or final commercial agreements with subcontractors and/or suppliers.



Subcontract agreements must preserve and protect the rights of CITY under Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a subcontractor, Contractor must require the subcontractor's written agreement (1) to be bound to the terms of Contract Documents and (2) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward CITY under Contract Documents. Contractor must provide for the assignment of all rights any subcontractor may have against any manufacturer, supplier, or distributor for breach of warranties and guarantees relating to the Work performed by the subcontractor under Contract Documents to CITY.

### **3. CONTRACT AWARD AND COMMENCEMENT OF THE WORK**

#### **A. AWARD OF CONTRACT**

CITY will make the Award of Contract by issuing a Notice of Award. Upon receipt, Contractor shall deliver to CITY all of the documents required by Contract Documents in the required quantities and within the required times, including but not limited to bonds and evidence of insurance.

#### **B. COMMENCEMENT OF WORK**

The Contract Time will commence to run on the day indicated in the Notice to Proceed. See also paragraph 15.A.2 of these General Conditions. CITY may give a Notice to Proceed at any time within thirty (30) days after the Notice of Award. Contractor shall not perform any Work at the Project Site prior to the date on which the Contract Time commence to run.

#### **C. Contractor shall be allowed to operate Monday through Friday only for the hours of 8:00 a.m. to 5:00 p.m. unless prior written approval has been secured from CITY to do otherwise.**

#### **D. Contractor shall not work during City holidays, **2019** holidays include:**

New Year's Day	<b>Tuesday, January 1, 2019</b>
Martin Luther King, Jr.	<b>Monday, January 21, 2019</b>
President's Day	<b>Monday, February 18, 2019</b>
Memorial Day	<b>Monday, May 27, 2019</b>
Independence Day	<b>Thursday, July 4, 2019</b>
Labor Day	<b>Monday, September 2, 2019</b>
Veteran's Day	<b>Monday, November 11, 2019</b>
Thanksgiving Day	<b>Thursday, November 28, 2019</b>
Day after Thanksgiving Day	<b>Friday, November 29, 2019</b>
Christmas Day	<b>Wednesday, December 25, 2019</b>

The following City events are planned for Calendar Year **2019**:

<b><u>Event</u></b>	<b><u>Date</u></b>
Spring Festival (Park Street)	May <b>11 and 12, 2019</b>
July 4th Parade	July 4, <b>2019</b>
Art and Wine Faire (Park Street)	July <b>27 and 28, 2019</b>
Webster Street Jam	TBD
Classic Car Show (Park Street)	October <b>12, 2019</b>
Trick or Treat at Webster Street	TBD
Santa on Webster Street	TBD
Concerts at the Cove	TBD

Farmer's Market (Webster Street at Haight Avenue)  
Every Tuesday and Saturday (year-round) from 9 a.m. to 1 p.m.

#### **4. BONDS AND INSURANCE**

##### **A. BONDS**

1. At or before 5:00 p.m. of the fourteenth (14th) calendar day following Notice of Award of Contract, Contractor must file with CITY the following bonds:
  - a. Construction Performance Bond, in the sum equal to 100% of the Contract Price, to guarantee faithful performance of Contract Documents; and
  - b. Construction Labor and Material Payment Bond, in sum equal to 100% of the Contract Price to guarantee payment of wages for services engaged and of bills contracted for materials, supplies, and equipment used in performance of the Work.
2. All corporate sureties must be acceptable and satisfactory to CITY. Corporate sureties on all bonds required under this Contract must be duly licensed to do business in the State of California and must have an A.M. Best Company financial rating of **A-VII** or better.

##### **B. INSURANCE**

Contractor shall fully comply with the requirements of the Contractor Agreement, Paragraph 10, Insurance.

#### **5. DRAWINGS AND SPECIFICATIONS**

##### **A. INTENT**

Drawings and Specifications are intended to describe a functionally complete

and operable Project (and all parts thereof) to be constructed in accordance with the requirements of Contract Documents. Contractor shall perform any Work, and furnish any materials or equipment, that may reasonably be inferred from the requirements of Contract Documents or from prevailing custom or trade usage as being required to produce this intended result. Contractor shall interpret words or phrases used to describe Work, materials or equipment, which have well-known technical or construction industry or trade meaning in accordance with that current meaning. Drawings' intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.

As part of the "Work," Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, shop drawings, storage, testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Sections of Specifications and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.

Contractor shall perform reasonably implied parts of Work as "incidental Work" although absent from Drawings and Specifications. Incidental Work includes any Work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental Work includes any Work necessary or required to begin commencement of Work to make each installation satisfactory, legally operable, fully functional for the use intended, and consistent with the intent of Drawings and Specifications. Contractor shall perform incidental Work without extra cost to CITY. Incidental Work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental Work shall be included in price bid and Contract Sum.

## B. DRAWING DETAILS

A typical or representative detail on drawings shall constitute the standard for Workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from drawings, Contractor shall adapt such representative detail for application to all corresponding parts of Work. The details of such adaptation shall be subject to prior approval by Architect/Engineer. Repetitive features shown in outline on drawings shall be in exact accordance with corresponding features completely shown.

## C. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in Drawings and Specifications, Contractor shall refer

the matter to the Architect and CITY's authorized representative, in writing. CITY will issue with reasonable promptness written clarifications or interpretations in the form of Drawings and Specifications or otherwise as CITY may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications or interpretations will be binding upon Contractor. Contractor shall not carry on Work except with the knowledge of CITY. If Contractor believes that a written clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time and the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work subject to the CITY's clarification or interpretation and may make a written claim for the adjustment as provided in Paragraph 12 of these General Conditions. Contractor shall perform the Work as directed by Architects and CITY's authorized representative.

D. CHECKING OF DRAWINGS

Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents and check and verify pertinent figures shown in Contract Documents and all applicable field measurements. Contractor shall be responsible for any errors that might have been avoided by such comparison. Figures shown on Drawings shall be followed; Contractor shall not scale drawings for measurements. Contractor shall promptly report to the Architect and the CITY's authorized representative, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from the Architect and the CITY's authorized representative before proceeding with any Work affected thereby.

E. STANDARDS TO APPLY WHERE SPECIFICATIONS ARE NOT FURNISHED

The following general specifications shall apply wherever in the Specifications, or in any directions given by CITY in accordance with or supplementing Specifications, it is provided that Contractor shall furnish materials or manufactured articles or shall do Work for which no detailed specifications are shown. Materials or manufactured articles shall be of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be used. Work shall conform to the usual standards or codes, for first-class work of the kind required. Contractor shall specify in writing to the Architect and the CITY's authorized representative the materials to be used or Work to be performed under this Paragraph 5.E ten (10) business days prior to furnishing such materials or performing such work.

F. DEVIATION FROM SPECIFICATIONS AND DRAWINGS

1. Contractor must perform Work in accord with Drawings and Specifications. Contractor may deviate from Drawings or the

dimensions given in the Drawings, and may deviate from the Specifications, only upon CITY's written approval of the proposed deviation.

2. CITY may order that locations, lines and grades for Work vary from those shown on Drawings. Changes may be made in locations, lines or grades for Work under any item of Contract Documents. No payment in addition to unit price fixed in Contract Documents for Work under respective items will be allowed on account of variations from Drawings in unit price items. In lump sum contracts, or where there are no unit price items covering work affected by variations of locations, lines or grades, all changes in Contract Documents will be made as set forth in Paragraph 14 of these General Conditions.

#### G. PRECEDENCE OF DOCUMENTS

1. In the case of discrepancy or ambiguity in Contract Documents, the following order of precedence shall prevail: (1) Change Orders in inverse chronological order, and in the same order as specific portions they are modifying; (2) Contractor Agreement, and terms and conditions referenced therein; (3) Supplemental Conditions (if any); (4) General Conditions; (5) Division 1 Specifications; (6) Division 2 through 33 Specifications; (7) Drawings; (8) written numbers over figures, unless obviously incorrect; (9) figured dimensions over scaled dimensions; (10) large- scale Drawings over small-scale drawings.
2. In the case of any conflict between a bill or list of materials shown in Contract Documents and the actual quantities required to complete Work required by Contract Documents, then the actual quantities required shall take precedence.
3. In the event the technical specifications include divisions above Division 33 (e.g., Division 34 and above), then such divisions shall be included within Contract Documents unless identified otherwise.

#### H. OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND CONTRACT DOCUMENTS

Drawings, Specifications and other Contract Documents were prepared for use for this Project only. No part of the Contract Documents shall be used for any other construction or for any other purpose except with the written consent of CITY. Any unauthorized use of Contract Documents is prohibited and at the sole liability of the user.

## 6. CONSTRUCTION BY CITY OR BY SEPARATE CONTRACTORS

A. CITY'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

CITY may perform, with its own forces, construction or operations related to the Project. CITY may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Project Site or areas contiguous to the Project Site, under conditions similar to these Contract Documents, or may have utility owners perform other Work. When separate contracts are awarded for different portions of the Project or other construction or operations on the Project Site, the term "Contractor" in Contract Documents shall mean Contractor that executes its separate CITY/Contractor agreement.

B. MUTUAL RESPONSIBILITY

1. Contractor shall afford all other contractors, utility owners and CITY (if CITY is performing Work with its own forces), proper, timely and safe access to the Project Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others' Work, and shall cooperate with them to facilitate the progress of the Work.
2. Contractor shall appropriately coordinate its Work with the Work of other separate contractors, CITY, and utility owners. Contractor shall hold coordination meetings with other contractors, CITY and its representatives, and utility owners.
3. Unless otherwise provided in Contract Documents, Contractor shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of other separate contractors, CITY or utility owners by cutting, excavating or otherwise altering their Work and will only cut or alter their work with the written consent of CITY and the others whose work will be affected.
4. Contractor's duties and responsibilities under Paragraphs 6.B.1, 6.B.2 and 6.B.3 above are for the benefit of CITY and also for the benefit of such other contractors and utility owners working at the Project Site to the extent that there are comparable provisions for the benefit of Contractor in the direct contracts between CITY and such other contractors and utility owners.
5. To the extent that any part of Contractor's Work is to interface with Work performed or installed by other contractors or utility owners, Contractor shall inspect and measure the in-place Work. Contractor shall promptly report to CITY, in writing, within (10) ten business days, any defect in in-place Work that will impede or increase the cost of Contractor's interface

unless corrected. CITY will require Contractor responsible for the defective Work to make corrections so as to conform to its contract requirements, or, if the defect is the result of an error or omission in Contract Documents, issue a Change Order. If Contractor fails to measure, inspect and/or report to CITY in writing, within (10) ten business days, defects that are reasonably discoverable, Contractor shall bear all costs of accomplishing the interface acceptable to CITY. This provision shall be included in any and all other contracts or subcontracts for Work to be performed where such a conflict could exist.

#### **C. CITY AUTHORITY OVER COORDINATION**

1. CITY shall have authority over coordination of the activities of multiple contractors in cases where CITY performs Work with its own forces or contracts with others for the performance of other Work on the Project, or utilities perform Work on the Project Site. CITY may at any time and in its sole discretion, designate a person or entity other than CITY to have authority over the coordination of the activities among the various contractors. CITY's authority with respect to coordination of the activities of multiple contractors and utility owners shall not relieve Contractor of its obligation to other contractors and utility owners to coordinate its Work with other contractors and utility owners as specified above. Contractor shall promptly notify CITY in writing when another contractor on the Project fails to coordinate its Work with the Work of Contract Documents.
2. Contractor shall suspend any part of the Work or carry on the same in such manner if directed by CITY when such suspension or prosecution is necessary to facilitate the Work of other contractors or Workers. No damages or claims by Contractor will be allowed if the suspension or Work change is due in whole or in part to Contractor's failure to perform its obligation to coordinate its Work with other contractors and utility owners. Damages or claims will be allowed only to the extent of fault by CITY if the suspension or Work change is due in whole or in part to another contractor's failure to coordinate its Work with Contractor, other contractors and utility owners. CITY reserves the right to back charge Contractor for any damages or claims incurred by other contractors as a result of Contractor's failure to perform its obligations to coordinate with other contractors and utility owners. CITY may deposit the funds retained with a Court of competent jurisdiction pursuant to applicable interpleader procedures, and Contractor releases CITY of further liability for such funds.

## **7. CITY AND PAYMENT**

#### **A. CITY'S REPRESENTATIVES**

CITY's Representative, as well as any other authorized representatives will



have limited authority to act on behalf of CITY. Except as otherwise provided in these Contract Documents, CITY shall issue all communications to Contractor through its designated Representative and Architect or Construction Manager concurrently, and Contractor shall issue all communications to CITY through the City's designated Representative and Architect or Construction Manager concurrently in a written document delivered to the attention of Amy Wooldridge, Director, Alameda Recreation and Parks Department, 2226 Santa Clara Avenue, Alameda, CA 94501 ([awooldridge@alamedaca.gov](mailto:awooldridge@alamedaca.gov)), and to Jack Dybas, Project Manager, Public Works, 950 West Mall Square, Alameda, CA 94501 ([jdybas@alamedaca.gov](mailto:jdybas@alamedaca.gov)). Communications between Contractor and Architect/Engineer do not affect the contract terms unless confirmed in a written document issued by the City.

#### B. MEANS AND METHODS OF CONSTRUCTION

Subject to those rights specifically reserved in Contract Documents, CITY shall not supervise, or direct, or have control over, or be responsible for, Contractor's means, management practices, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor's failure to comply with laws and regulations applicable to the furnishing or performance of Work. CITY shall not be responsible for Contractor's failure to perform or furnish the Work in accordance with Contract Documents.

#### C. RECEIPT AND PROCESSING OF APPLICATIONS FOR PAYMENT

As required by Paragraph 3 of the Contractor Agreement: Compensation to Contractor, and as detailed in the Division 1, Section 01 29 00 Payment Procedures, Contractor shall prepare the schedules, submit applications for progress payments or final payments and warrant title to all Work covered by each application for payment. CITY shall review Contractor's applications for payment and make payment thereon, and Contractor shall make payments to Subcontractors, suppliers and others.

### 8. CONTROL OF THE WORK

#### A. SUPERVISION OF WORK BY CONTRACTOR

1. Contractor shall supervise, inspect and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, management practices, sequences and procedures, safety precautions and programs in connection with the Work.



Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.

**B. OBSERVATION OF WORK BY CITY AND ARCHITECT/ENGINEER**

1. Work shall be performed under CITY's general observation and administration. Contractor shall comply with CITY's directions and instructions in accordance with the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under Contract Documents. CITY's or Architect/Engineer's failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.
2. Architect/Engineer will advise and consult with CITY, but will have authority to act on behalf of CITY only to extent provided in Contract Documents. Architect/Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work. Architect/Engineer will not be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
3. Architect/Engineer will review Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance with design concept of Work and with information given in Contract Documents.
4. Architect/Engineer may visit the Project Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract Documents. Based on its observations, Architect/Engineer may recommend to CITY that it disapprove or reject Work that Architect/Engineer believes to be defective or will not produce a complete Project that conforms to Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by Contract Documents. CITY will also have authority to require special inspection or testing of Work, whether or not the Work is fabricated, installed or completed.
5. Architect/Engineer may conduct inspections to recommend to CITY the dates that Contractor has achieved Substantial Completion and Final Acceptance, and will receive and forward to CITY for review written warranties and related documents required by Contract Documents.

**C. ACCESS TO WORK**

During performance of Work, CITY and its agents, consultants, and employees may, at any time, enter upon Work, shops where any part of the Work may be

in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make prompt and appropriate arrangements with manufacturers to facilitate inspection of their processes and products to such extent as CITY's interests may require. Other contractors performing Work for CITY may also enter upon Work for all purposes required by their respective contracts. Subject to the rights reserved in Contract Documents, Contractor shall have sole care, custody and control of the Project Site and its Work areas.

#### D. EXISTING UTILITIES

1. Drawings indicate above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, hot water and other similar items and utilities that are known to CITY. Contractor shall locate these known existing installations before proceeding with trenching, or any other operations that may cause damage, shall maintain them in service where appropriate, and shall repair any damage to them caused by the Work, at no increase in Contract Sum. Additional utilities whose locations are unknown to CITY are suspected to exist. Contractor shall be alert to their existence; if they are encountered, Contractor shall immediately report to CITY for disposition of the same. In addition to reporting if any utility is damaged, Contractor shall take appropriate action as provided in these General Conditions. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor's attention including reasonable action taken to protect or repair damage shall be determined as provided in these General Conditions.
2. At no additional cost to CITY, Contractor must incorporate into the Work main or trunkline utilities identified in Contract Documents and other utilities or underground structures known or reasonably discernible and that will remain in service, including minor adjustments to design location or minor relocations of the existing installations. Contractor must take immediate action to restore any in service installations damaged by Contractor's operations. Should CITY determine that Contractor has not responded in a timely manner or not diligently pursued completion of the Work, CITY may restore service and deduct the costs of such action by CITY from the amounts due under the Contract.
3. Consistent with Government Code Section 4215, as between CITY and Contractor, CITY shall be responsible for the timely removal, relocation or protection of existing main or trunk line utility facilities located on the Project Site only if such utilities are not identified in the Drawings and Specifications made a part of the invitation for bids. CITY shall compensate for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating

such main or trunk line utility facilities not indicated on the Drawings and Specifications with reasonable accuracy, and equipment on the Project necessarily idled during such Work. The compensation shall be determined in accordance with the provisions of these General Conditions.

4. Prior to performing Work at the Project Site, Contractor must lay out the locations of known underground utilities that are to remain in service and other significant known underground installations. At no additional cost to CITY, prior to commencing other Work in proximity to such known underground utilities or installations that can be readily inferred from adjacent surface improvements, Contractor must further locate by carefully excavating with small equipment and principally by hand, such utilities or installations that are to remain and that are subject to damage. This obligation applies to all utilities (including, but not limited to, those referenced above).
5. Nothing in these General Conditions shall be deemed to require CITY to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Project Site can be inferred from the presence of other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Project Site of the construction. Contractor shall immediately secure all available information and notify CITY and utility, in writing, of its discovery while performing the Work under the Contract Document of any utility facilities not identified in the Drawings and Specifications.

## **9. WARRANTIES, GUARANTY AND INSPECTION OF WORK**

### **A. WARRANTY AND GUARANTY**

1. General Representations and Warranties: Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every phase of Work and to complete Work in accordance with the terms of Contract Documents. Contractor warrants that all construction Work and construction services shall be performed in accordance with generally accepted professional standards of good and sound construction and management practices and all requirements of Contract Documents. Contractor warrants that Work, including but not limited to each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use; and free from defects in design, engineering, materials, construction and Workmanship. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses, permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, and design parameters where

specifically shown and expressly required by Contract Documents.

2. Extended Guarantees: Any guaranty exceeding one year provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to act as co-guarantor of such equipment and materials and shall supply CITY with all warranty and guarantee documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers.
3. Environmental and Toxics Warranty: The covenants, warranties and representations contained in this Paragraph 9.A.3 are effective continuously during Contractor's Work on the Project and following cessation of labor for any reason, including but not limited to, Project completion. Contractor covenants, warrants and represents to CITY that:
  - a. To Contractor's knowledge after due inquiry, no lead or asbestos-containing materials were installed or discovered in the Project at any time during Contractor's construction thereof. If any lead or asbestos-containing materials were discovered, Contractor made immediate written disclosure to CITY.
  - b. To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCB's are or were located on the Project at any time during Contractor's construction thereof. If any such materials were discovered Contractor made immediate written disclosure to City.
  - c. To Contractor's knowledge after due inquiry, no storage tanks for gasoline, petroleum or any other toxic substance are or were located on the Project at any time during Contractor's construction thereof. If any such materials were discovered, Contractor made immediate written disclosure to CITY.
  - d. Contractor's operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for, any Work, repairs, construction, alteration, or installation on or in connection with the Project in order to comply with any such laws, ordinances, codes or regulations, with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide CITY with copies thereof.

## B. INSPECTION OF WORK

1. All materials, equipment and Workmanship used in Work shall be subject to inspection and testing at all times during construction and/or manufacture in accordance with the terms of Contract Documents. Work and materials, and manufacture and preparation of materials, from beginning of construction until final completion and acceptance of Work, shall be subject to inspection and rejection by CITY, its agents, or independent contractors retained by CITY to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Project Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, CITY shall be afforded prompt access for inspection at the source of supply, manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.
2. Contractor shall give CITY timely notice of readiness of Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
3. If applicable laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for promptly arranging and obtaining such inspections, tests or approvals, and furnish CITY with the required certificates of inspection, or approval. CITY shall pay the cost of initial testing and Contractor shall pay all costs in connection with any follow up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mixed designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.
4. If Contractor covers or displaces any Work, or the Work of others, prior to any required inspection, test or approval without written approval of CITY, Contractor must uncover or replace the Work at CITY's request. Contractor shall bear the expense of uncovering Work and/or replacing Work.
5. In any case where Contractor covers Work contrary to CITY's request, Contractor must uncover Work for CITY's observation or inspection at CITY's request. Contractor shall bear the cost of uncovering Work.

6. Whenever required by CITY, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making examination and of reconstruction shall be borne by Contractor. If Work is found to be satisfactory, CITY in manner herein prescribed for paying for alterations, modifications and extra Work, except as otherwise herein specified will pay for examination.
7. Inspection of the Work by or on behalf of CITY, or its failure to do so, shall not be deemed a waiver or approval of any non-conforming aspect of the Work.

#### C. CORRECTION OF DEFECTIVE WORK

1. If Contractor fails to supply sufficient skilled Workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, CITY may order Contractor to replace any defective Work, or stop any portion of Work to permit CITY (at Contractor's sole expense) to replace such defective Work. These CITY rights are entirely discretionary on the part of the CITY, and shall not give rise to any duty on the part of CITY to exercise the rights for the benefit of Contractor or any other party.
2. CITY may direct Contractor to correct any defective Work or remove it from the Project Site and replace it with Work that is not defective and satisfactorily correct or remove and replace any damage to other Work or the Work of others resulting from the correction or removal. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. A Change Order will be issued incorporating the necessary revisions in Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, CITY may deduct from monies due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with CITY's calculations, it may make a claim as provided in Paragraph 12 of these General Conditions. CITY's rights under this paragraph 9.C.2. shall be in addition to any other rights it may have under Contract Documents. Where Contractor fails to correct defective Work CITY shall have all rights and remedies granted by law or in equity.
3. Correction Period: If within one year after the date of Final Acceptance, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be defective, Contractor shall promptly, without cost to CITY and in accordance with CITY's written instructions, correct such



defective Work. Contractor shall remove any defective Work rejected by CITY and replace it with Work that is not defective, and satisfactorily correct or remove and replace any damage to other Work or the Work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, CITY may have the defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal, replacement and inspection. Where Contractor fails to correct defective Work, or defects are discovered outside the correction period, CITY shall have all rights and remedies granted by law or in equity.

4. In special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order.
5. Where defective or rejected Work (and damage to other Work resulting therefrom) has been inspected, corrected, removed or replaced under this provision after the commencement of the correction period, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

#### D. ACCEPTANCE AND CORRECTION OF DEFECTIVE WORK BY CITY

1. CITY may at its sole discretion accept defective or nonconforming Work. Contractor shall pay all claims, costs, losses and damages attributable to CITY's evaluation of and determination to accept such defective Work. If CITY accepts any defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, CITY may deduct from monies due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the defective Work. If Contractor disagrees with CITY's calculations, it may make a claim as provided in Paragraph 12 of these General Conditions. If CITY accepts any defective Work after final payment, Contractor shall pay to CITY, an appropriate amount as determined by CITY.
2. CITY may correct and remedy deficiency if, after seven (7) days written notice to Contractor, Contractor fails to correct defective Work or to remove and replace rejected Work in accordance with Paragraph 9.C.2 of these General Conditions; or provide a plan for correction of defective Work acceptable to CITY; or perform Work in

accordance with Contract Documents. In connection with such corrective and remedial action, CITY may exclude Contractor from all or part of the Project Site, take possession of all or part of Work and suspend Contractor's Work related thereto, take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Project Site, and incorporate in Work any materials and equipment stored at the Project Site or for which CITY has paid and holds title but which Contractor has stored elsewhere. Contractor shall allow CITY, its representatives, agents, employees, and other contractors and Architect/Engineer's consultants prompt access to the Project Site and to all stored material to enable CITY to exercise the rights and remedies under this Paragraph 9.D.2. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by CITY in exercising such rights and remedies. A Change Order will be issued incorporating the necessary revisions in Contract Documents with respect to Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, CITY may deduct from monies due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with CITY's calculations, it may make a claim as provided in Paragraph 12 of these General Conditions.

**E. RIGHTS UPON INSPECTION OR CORRECTION**

1. Contractor shall not be allowed an extension of scheduled Contract Time because of any delay in the performance of Work attributable to the exercise by CITY of its rights and remedies under this Paragraph 9 of these General Conditions. Where CITY exercises its rights under this Paragraph 9, it retains all other rights it has by law, in equity or under Contract Documents, including but not limited to, the right to terminate Contractor's right to proceed with the Work under the Contract Documents and/or make a claim or back charge where a Change Order cannot be agreed upon.
2. Inspection shall not relieve Contractor of its obligation to have furnished material and Workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments or otherwise shall not operate to waive CITY's right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of the Work paid therefore. Contractor's obligation to complete the Work in accordance with Contract Documents shall be absolute, unless CITY agrees otherwise in writing.

**F. SAMPLES AND TESTS OF MATERIALS AND WORK**

Contractor shall furnish in such quantities and sizes as may be required for proper examination and tests, samples or test specimens of all materials to be



used or offered for use in connection with Work. Contractor shall prepare samples or test specimens at its expense and furnish them to CITY. Contractor shall submit all samples in ample time to enable CITY and Architect/Engineer to make any necessary tests, examinations or analyses before the time it is desired to incorporate the material into the Work.

**G. PROOF OF COMPLIANCE OF CONTRACT PROVISIONS**

In order that CITY may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, upon request by CITY, submit to CITY properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.

**H. ACCEPTANCE**

Inspection by CITY or its authorized agents or representatives, any order or certificate for the payment of money, any payment, acceptance of the whole or any part of Work by CITY, any extension of time, any verbal statements on behalf of CITY or its authorized agents or representatives shall not operate as a waiver or modification of any provisions of Contract Documents, or of any power reserved to CITY herein or therein or any right to damages provided in Contract Documents. Any waiver of any breach of Contract Documents shall not be held to be a waiver of any other subsequent breach.

## **10. CONTRACTOR'S ORGANIZATION AND EQUIPMENT**

**A. CONTRACTOR'S ADDRESS FOR NOTICES**

Street address, facsimile number and email address given in Contractor's Bid are hereby designated as Contractor's legal address for purposes of giving any notice under this Agreement. Contractor may change its address by notice in writing, delivered to CITY, which in conspicuous language advises CITY of a change in address. Notices shall be deemed to be received upon personal delivery to the street address; if sent by email, upon delivery; if sent by overnight delivery, upon delivery as shown by delivery service records; if sent by facsimile, upon receipt as confirmed by the sending facsimile equipment; if by United States Postal Service, on the second business day after deposit in the mail.

**B. CONTRACTOR'S SUPERINTENDENTS OR FOREPERSONS**

Contractor shall at all times be represented on Project Site by one or more superintendents or forepersons authorized and competent to receive and carry out any instructions that CITY may give, and shall be liable for faithful observance of instructions delivered to Contractor or to authorized representative or representatives on Project Site.

C. PROFICIENCY IN ENGLISH

Contractors, supervisors, forepersons, subcontractors' supervisors and forepersons, security guards, safety personnel and employees who have unescorted access to the Project Site must possess proficiency in the English language in order to read drawings and specifications and to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

D. CONTRACTOR'S AND SUBCONTRACTORS' EMPLOYEES

Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If CITY notifies the Contractor that any of its employees, or any of its Subcontractors' employees on Work are incompetent, unfaithful or disorderly, or fails to observe customary standards of conduct, or refuses to carry out provisions of the Contract Documents, or uses threatening or abusive language to any person on Work, places graffiti, smokes, harassment of any kind, or violates sanitary rules, engages in any criminal activity, or is otherwise unsatisfactory, and if CITY requests that such person be discharged from the Work, then Contractor or its Subcontractor shall immediately discharge such person from the Work and the discharged person shall not be re-employed on the Work except with consent of CITY.

E. CONTRACTOR TO SUPPLY SUFFICIENT WORKERS AND MATERIALS

Unless otherwise required by CITY under the terms of Contract Documents, Contractor shall at all times keep on the Project Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.

F. CONTRACTOR TO LIST TRADES WORKING

Contractor shall list the trades working on the Project Site and their scheduled activities on a daily basis, and provide a copy of that list to CITY.

G. CONTRACTOR'S USE OF THE PROJECT SITE

Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between CITY and any owner, former owner or tenant of such land, structure or buildings. Contractor may not occupy CITY-owned property outside the limit of the Work as shown on Drawings unless it obtains prior approval from CITY. All signage posted on the Project Site for any purpose

requires prior CITY approval before it is installed. Signage posted without CITY approval may be removed at the discretion of the CITY at the Contractors cost.

## **11. PROSECUTION AND PROGRESS OF THE WORK**

### **A. LINES AND GRADES, MEASUREMENTS**

1. Contractor shall be responsible for the accuracy of the building lines and levels. Contractor shall employ a licensed civil engineer or surveyor to establish and maintain all lines and levels necessary for the location and construction of the Work. Contractor shall verify the levels shown on Drawings with existing levels and notify CITY of any discrepancies before proceeding with the Work. Unless directed otherwise by CITY, Contractor shall do Work to lines and grades established by Contractor at Contractor's expense. Contractor shall, at its sole cost, repair or replace any monument, stake, or mark destroyed or damaged by Contractor by reason of its operations or, at CITY's election, CITY may charge Contractor with the cost of repairing or replacing any destroyed or damaged monument, stake, or mark. Before performance of the Work, Contractor must take field measurements and verify field conditions consistent with prudent construction industry standards and must carefully compare the field measurements and conditions and other information known to Contractor with Contractor Documents and notify CITY of any discrepancies.
2. No direct payment will be made for Contractor's cost of any Work or delay occasioned by establishing or checking lines and grades or making other measurements, or by inspection, and no extension of time will be allowed for such delays.

### **B. COST DATA**

1. Contractor shall maintain full and correct information as to the number of Workers employed in connection with each subdivision of Work, the classification and rate of pay of each Worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work. Contractor shall provide CITY with monthly summaries of this information. If Contractor maintains summaries or reports comparing actual project costs with bid estimates or budgets, it shall provide CITY with a copy of such report whenever it is generated.
2. Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Project Site, Work activities, problems encountered and delays. Contractor shall

provide CITY with copies each day. Contractor shall take monthly progress photographs of all areas of the Work, problems encountered, and delays. Contractor shall maintain copies of all correspondence with subcontractors and records of meetings with subcontractors.

3. CITY shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including but not limited to financial records), and to inspect the Project Site, including Contractor's trailer, or other job Project Site office, and this requirement shall be contained in the subcontracts of subcontractors working on Project Site. By way of example, CITY shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, Bid proposal and negotiation documents, cost records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job progress reports, photographs, and as-built drawings maintained by Contractor. CITY, State Auditor General and any other applicable governmental entity shall have the right to inspect all information and documents maintained under this Paragraph at any time during the Project and for a period of three (3) years following issuance and Contractor's receipt of final payment. This right of inspection shall not relieve Contractor of its duties and obligations under Contract Documents. This right of inspection shall be specifically enforceable in a court of law, either independently or in conjunction with enforcement of any other rights in Contract Documents.
4. Contractor shall maintain in a safe place at the Project Site one record copy of all Drawings, Specifications, Submittals and Addenda, Change Orders, Work Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record documents, together with all approved samples and a counterpart of all approved shop drawings, shall be maintained and available to CITY for reference. Upon completion of the Work, Contractor shall deliver to CITY, the Record Drawings / Documents, samples and shop drawings and as-built drawings as described in Sections 01 78 23, and 01 73 39 of the General Requirements. (Note: See General Requirements, Section 01 78 39 regarding content of "Record Drawings / Documents".)

## **12. CLAIMS BY CONTRACTOR**

### **A. GENERAL**

1. Contract Interpretation Disputes: Should it appear to Contractor that Work to be performed or any of the matters relative to Contract Documents are not satisfactorily detailed or explained therein, or should any questions arise as to the meaning or intent of Contract Documents,

Contractor shall give written notice to CITY. Contractor shall bear all costs incurred in giving notice. CITY shall render a determination regarding the issue, which shall be final. CITY shall have the right but not the obligation to affirm or disaffirm the Architect/Engineer's interpretation of Drawings or Specifications and CITY's decision to affirm or disaffirm shall be final. If Contractor disagrees with CITY's decision, Contractor's sole and exclusive remedy is to file a claim in accordance with this Paragraph 12 of these General Conditions. Contractor shall diligently prosecute the Disputed Work (as defined below) to Final Completion pending resolution of any claim.

2. Work Disputes: Contractor shall give written notice to CITY of any dispute arising under Contract Documents respecting the true value of any Work performed, the implementation of Work required by Contract Documents, any Work omitted, any extra Work that Contractor may be required to perform or time extensions, respecting the size of any payment to Contractor during the performance of Contract Documents, or of compliance with Contract Documents procedures. CITY shall render a determination regarding the issue, which shall be final. If Contractor disagrees with CITY's decision, Contractor's sole and exclusive remedy is to file a claim in accordance with this Paragraph 12 of these General Conditions. Pending the resolution of any claim, Contractor shall diligently prosecute the Disputed Work to Final Completion.
3. The claim notice and documentation procedure described in this Paragraph 12 applies to all claims and disputes arising under Contract Documents, including without limitation any claim or dispute by any subcontractor or material supplier. All subcontractor and supplier claims of any type shall be brought only through Contractor as provided in Paragraph 12 of these General Conditions. Under no circumstances shall any subcontractor or supplier make any direct claim against CITY.
4. "Claim" means a written demand or written assertion by Contractor seeking, as a matter of right, the payment of money, the adjustment or interpretation of Contract Documents terms, time, or other relief arising under or relating to Contract Documents. In order to qualify as a "claim," the written demand must state that it is a claim submitted under Paragraph 12 of these General Conditions.
5. A voucher, invoice, proposed change, payment application, cost proposal, RFI, change order request, or other routine or authorized form of request for payment is not a claim under Contract Documents. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a claim under Contract Documents by submitting a separate claim in compliance with claim submission requirements.

6. The provisions of this Paragraph 12 of these General Conditions survive termination or completion of Contract Documents. Contractor shall bear all costs incurred in the preparation and submission of a claim.

## B. PROCEDURE

1. Should any clarification, determination, action or inaction by CITY or Architect/Engineer, Work, or any other event, in the opinion of Contractor, exceed the requirements of or not comply with Contract Documents, or otherwise result in Contractor seeking additional compensation in time or money or damages for any reason (collectively "Disputed Work"), then Contractor and CITY shall make good faith attempts to resolve informally any and all such issues, claims and/or disputes. Before commencing the Disputed Work, or within seven (7) calendar days after Contractor's first knowledge of the Disputed Work, whichever is earlier, Contractor must file a written notice and cost proposal for the Disputed Work with CITY stating clearly and in detail its objection and reasons for contending the Work or interpretation is outside the requirements of Contract Documents. If a written notice and cost proposal for Disputed Work is not issued within this time period, or if Contractor proceeds with the Disputed Work without first having given the notice required by this Paragraph 12.B.1, Contractor shall waive its rights to further claim on the specific issue.
2. CITY will review Contractor's timely notice and cost proposal for Disputed Work and provide a decision. If, after receiving the decision, Contractor disagrees with it or still considers the Work required of it to be outside of the requirements of Contract Documents, it shall so notify CITY, in writing, within seven (7) calendar days after receiving the decision, by submitting a notice of potential claim, stating that a formal claim will be issued. Within thirty (30) calendar days of receiving the City's decision (on the notice of potential claim), Contractor shall submit its claim in the form specified herein and all arguments, justification, cost or estimates, schedule analysis, and detailed documentation supporting its position. Contractor's failure to furnish notification within seven (7) calendar days and all justifying documentation within thirty (30) calendar days of the City's decision (on the notice of potential claim) will result in Contractor waiving its right to the subject claim. If Disputed Work persists longer than thirty (30) days, then Contractor shall, every thirty (30) days until the Disputed Work ceases, submit to CITY a document titled "Claim Update" which shall update and quantify all elements of the claim as completely as possible. Contractor's failure to submit a Claim Update or to quantify costs every thirty (30) days shall result in waiver of the claim for that thirty (30) day period. Claims or Claim Updates stating that damages, total damages (direct and indirect) and/or any time extension will be determined at a later date shall not comply with this Paragraph and shall result in Contractor waiving its



claim(s).

3. Upon receipt of Contractor's formal claim including all arguments, justifications, cost or estimates, schedule analysis, and documentation supporting its position as previously stipulated, CITY or its designee will review the issue and render a final determination. If Contractor's claims submitted in accordance with this Paragraph 12 at Project completion total less than \$375,000, then claims resolution shall proceed in the manner prescribed by Article 1.5 of Division 2 of the California Public Contract Code. If Contractor's claims (submitted in accordance with above) totals \$375,000, or more, then claims resolution shall proceed in the manner prescribed by Article 7.1 of division 2 of the California Public Contract Code.
4. Claims shall be calculated in the same manner as Change Orders. EXCEPT WHERE PROVIDED BY LAW, OR ELSEWHERE IN THESE CONTRACT DOCUMENTS (IF APPLICABLE), CITY SHALL NOT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES, AND CONTRACTOR SHALL NOT INCLUDE THEM IN ITS CLAIMS. CONTRACTOR SHALL BE LIMITED IN ITS RECOVERY ON CLAIMS TO THE CHANGE ORDER.

#### C. CLAIM FORMAT

Contractor shall submit the claim justification to CITY in the following format: (a) Cover letter and certification of claim in accordance with appropriate Government Code Section, (b) summary of claim, including underlying facts, entitlement, quantum calculations, contract provisions supporting relief, (c) list of documents relating to claim including specifications, drawings, clarifications/requests for information, schedules, other (d) chronology of events and correspondence, (e) analysis of claim merit, (f) analysis of claim cost, (g) attach supporting documents referenced in (c).

#### D. EXCLUSIVE REMEDY

Contractor's performance of its duties and obligations specified in Paragraph 12 of these General Conditions and submission of a claim as provided in Paragraph 12 is Contractor's sole and exclusive remedy for the payment of money, extension of time, the adjustment or interpretation of Contract Documents terms or other contractual or tort relief arising from Contract Documents. This exclusive remedy and the limitation of liability (expressed herein and elsewhere throughout Contract Documents) apply notwithstanding the completion, termination, suspension, cancellation, breach or rescission of the Work or Contract Documents, negligence or strict liability by CITY, its representatives, consultants or agents, or the transfer of Work or the Project to CITY for any reason whatsoever. Contractor waives all claims of waiver, estoppel, release, bar, or any other type of excuse for non-compliance with the claim submission requirements. Compliance with the notice and claim submission

procedures described in Paragraph 12 is a condition precedent to the right to commence litigation, file a Government Code Claim, or commence any other legal action. No claim or issues not raised in a timely protest and timely claim submitted under this Paragraph 12 may be asserted in any Government Code Claim, subsequent litigation, or legal action. CITY shall not have deemed to waive any provision under Paragraph 12, if at CITY's sole discretion, a claim is accepted in a manner not in accord with Paragraph 12.

E. MEDIATION

All claims – less than \$375,000 (per Article 1.5 Division 2 of the California Public Contract Code) - shall, as a condition precedent to litigation thereon, first be mediated. Mediation shall be non-binding and utilize the services of a mediator mutually acceptable to the parties. If the parties cannot agree on a mediator, the court shall appoint a mediator trained in construction industry mediation. All statutes of limitation shall be tolled from the date of the demand for mediation until a date two weeks following the mediation's conclusion. All unresolved claims shall be submitted to the same mediator. The cost of mediation shall be equally shared. (Note: See Article 7.1 of Division 2 of the California Public Contract Code for claims equal to or over \$375,000.)

F. PUBLIC CONTRACT CODE (PCC) SECTION 9204 SUMMARY (Claims submitted between 01-01-2017 and 01-01-2020.)

Notwithstanding anything else to the contrary stated in the Information For Bidders (IFB) or the Contract Documents, all claims, regardless of dollar amount, submitted between January 1, 2017 and January 1, 2020 shall be governed by PCC Section 9204 and this section. The following provisions and procedures shall apply:

1. For the purposes of this section, the term "Claim", "Contractor", "mediation", "Public Entity" "Public works project" and "Subcontractor" shall have the meaning provided for in PCC Section 9204.
2. Contractor shall submit each Claim (whether for a time extension, payment for money or damages) in writing and in compliance with PCC Section 9204. Contractor must include reasonable documentation to support each claim.
3. Upon receipt of a Claim, the City shall conduct a reasonable review and respond in writing within 45 days of receipt and shall identify in a written statement what portions of the claim are disputed and undisputed. Undisputed portions of the Claim shall be process and paid within 60 days of the written statement. Undisputed amounts not paid in a timely manner shall bear interest at 7% per annum. The City and Contractor may mutually agree to extend the 45 day response time.
4. If the City needs approval from the City Council to provide a written statement, the 45 days may be extended to 3 days following the next duly noticed public meeting pursuant to PCC Section 9204(d)(1)(C).



5. If the City fails to timely respond to a Claim or if Contractor disputes the City's response, Contractor may submit a written demand for an informal meet and confer conference with the City to settle the issues in dispute. The demand must be sent via registered or certified mail, return receipt requested. Upon receipt, the City shall schedule the conference within 30 days.
6. Within 10 business days following the informal meet and confer conference, the City shall submit to Contractor a written statement describing any issues remaining in dispute and that portion which is undisputed. Undisputed portions of the Claim shall be process and paid within 60 days of the written statement. Undisputed amounts not paid in a timely manner shall bear interest at 7% per annum. The issues remaining in dispute shall be submitted to non-binding mediation. If the City and Contractor mutually agree on a mediator, each party shall pay equal portions of all associated costs. If within 10 business days, the City and Contractor cannot agree on a mediator, each party shall select a mediator (paying all costs associated with their selected mediator), and those mediators shall select a qualified neutral third party to mediate the disputed issues. The City and Contractor shall pay equal portions of all associated costs of such third party mediator.
7. Unless otherwise agreed by the City and Contractor, any mediation conducted hereunder shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has commenced.
8. The City reserves all rights and remedies that it has pursuant to the Construction Contract, plans and specification, at law or in equity which are not in conflict with PCC 9204.
9. This Section shall be automatically extended if legislation is lawfully passed which extends the terms of Public Contract Code Section 9204 beyond January 1, 2020.

## **13. LEGAL AND MISCELLANEOUS**

### **A. LAWS AND REGULATIONS**

1. Contractor shall keep fully informed of and shall comply with all laws, ordinances, regulations and orders of any properly constituted authority affecting Contract Documents, the Work and persons connected with the Work, and shall protect and indemnify CITY, its City Council, boards and commissions, officers, employees, volunteers, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, regulation or order, whether by Contractor or by

Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of the Work to ascertain compliance of all applicable laws, ordinances, regulations and orders.

2. Whenever Drawings and Specifications require large sizes or higher standards than are required by any applicable law, ordinance, regulation or order, Drawings and Specifications shall govern. Whenever Drawings and Specifications require something, which will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.

#### B. PERMITS AND TAXES

Contractor shall procure all permits and licenses, pay all charges and fees, including fees for street opening permits, and give all notices necessary and incident to due and lawful prosecution of Work, unless otherwise provided herein. CITY will pay applicable building permits, school, sanitation and water fees, except as otherwise provided in Contract Documents. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly assessed against equipment or other property used in connection with Work, without any increase in the Contract Price. Contractor shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads and other works in advance of operations, even where CITY may have already obtained permits for the Work.

#### C. RESPONSIBILITY OF CONTRACTOR AND INDEMNIFICATION

1. CITY and each of its officers, employees, volunteers, consultants and agents including, but not limited to the boards and commissions, officers, officials, employees and volunteers, and each CITY representative shall not be reasonably liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.
2. To the furthest extent permitted by law (including without limitation California Civil Code Section 2782), Contractor shall assume defense of, and indemnify, and hold harmless the CITY, its City Council, Boards and Commissions, officers, employees, volunteers, consultants, and each CITY representative, from claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to attorney's fees and consultant's fees, directly or indirectly arising out of, connected with or resulting from performance of the Work, failure to

perform the Work, or condition of the Work which is caused in whole or part by any act or omission of Contractor, Subcontractors, any one directly or indirectly employed by any of them or any one for whose acts any of them may be liable, regardless of whether it is caused in part by the negligence of CITY or by any person or entity required to be indemnified hereunder.

3. With respect to third party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against CITY, its City Council, Boards and Commissions, officers, employees, volunteers, consultants and agents, including, but not limited to, the Board of Commissioners, officers, officials, employees and volunteers.
4. Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them.
5. To the furthest extent permitted by law (including, without limitation, Civil Code Section 2782), the indemnities, releases of liability and limitations of liability, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of contract, negligence (active or passive), fault or strict liability of the party[s] indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, or completion of Contract Documents. If Contractor fails to perform any of these defense or indemnity obligations, CITY may in its discretion backcharge Contractor for its costs and damages resulting therefrom and withhold such sums from progress payments or other contract monies which may become due.
6. The indemnities in Contract Documents shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall they apply to CITY to the extent of its active negligence or willful misconduct.
7. To the extent there is any conflict between the Contractor's duty to indemnify, defend and hold harmless the City and its indemnities as stated in this Paragraph 8.C of these General Conditions and in Paragraph 9 of the Contractor Agreement then the provision providing the City, and/or its indemnities with the greatest protection shall prevail.

#### D. NOTICE OF CONCEALED OR UNKNOWN CONDITIONS

1. Before commencing Work of digging trenches or excavation, Contractor shall review all information available regarding subsurface conditions. Contractor shall also comply with Government Code Sections 4216 to 4216.9, and in particular Section 4216.2 which provides, in part:

“Except in an emergency, every person planning to conduct any excavation shall contact the appropriate regional notification center at least two Working days, but no more than 14 calendar days, prior to commencing that excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator, and, if practical, the excavator shall delineate with white paint or other suitable markings the area to be excavated. The regional notification center shall provide an inquiry identification number to the person who contacts the center and shall notify any member, if known, who has a subsurface installation in the area of the proposed excavation.”

Contractor shall contact the regional notification center, “Underground Service Alert” (“USA”), and schedule the Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Contractor is charged with knowledge of all subsurface conditions reflected in USA records. Prior to commencing excavation or trenching Work, Contractor shall provide CITY with copies of all USA records secured by Contractor. Contractor shall advise CITY of any conflict between information provided and that provided by USA records.

2. If any of the following conditions is encountered at Project Site, Contractor shall give written notice to CITY promptly before conditions are disturbed (except in an emergency as required by Paragraph 16.D of these General Conditions), and in no event later than three (3) days after first observance of:
  - a. Material that the Contractor believes may be material that is hazardous waste, as defined in section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal Project Site in accordance with provisions of existing law.
  - b. Subsurface or latent physical conditions at the Project Site differing from those indicated by information made available to bidders prior to the deadline for submitting bids.
  - c. Unknown physical conditions at the Project 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.

In response to Contractor's notice, the City shall promptly investigate the conditions, and if it finds that the conditions do so materially differ, or do involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, shall issue a change order under the procedures described in the Contract Documents.

In the event that a dispute arises between the City and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. 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 parties.

3. If CITY determines that physical conditions at the Project Site are not latent or are not materially different from those indicated in Contract Documents or that no change in terms of Contract Documents is justified, CITY shall so notify Contractor in writing, stating reasons. If CITY and Contractor do not agree on an adjustment in Contract Sum or Contract Time, Contractor shall proceed with the Work as directed by CITY and may file a claim as provided in Paragraph 12 of these General Conditions.
4. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed latent or materially different Project Site conditions if (a) Contractor knew of the existence of such conditions at the time Contractor submitted its Bid; or (b) Contractor should have known of the existence of such conditions as a result of having complied with the requirements of Contract Documents, including without limitation Paragraph 13.D.2 of these General Conditions; or (c) the information or conditions claimed by Contractor to be latent or materially different consist of information, conclusions, opinions or deductions of the kind that Paragraph 13.D.2 precludes reliance upon; or (4) Contractor was required to give written notice under Paragraph 13.D.2 and failed to do so within the time required.
5. If CITY and Contractor are unable to agree on entitlement to or as to the amount or length of any adjustment in the Contract Sum or Contract Time required under this Paragraph, Contractor shall proceed with the Work as directed by CITY and may make a claim as provided in Paragraph 12 of these General Conditions.
6. In the event the CITY Exercises its rights to decide disputed issues pertaining to changed Work, as set forth above, then the resulting Change Order shall be effective when signed by the CITY and notwithstanding the fact that the Contractor has not signed it.

7. The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data, including but not limited to information on file at USA; (b) locating all underground facilities (i.e.; Underground storage Tank (UST)) shown or indicated in Contract Documents, available information, or indicated by visual observation, including but not limited to, and by way of example only, engaging qualified locating services and all necessary backhoeing and potholing; (c) coordination of the Work with the owners of such underground facilities during construction; and (d) the safety and protection of all such underground facilities and repairing any damage thereto resulting from the Work.
8. If an underground facility (i.e.; Underground Storage Tank, (UST)) is uncovered or revealed at or contiguous to the Project Site which was not shown or indicated in the materials supplied by CITY or in information on file at USA, or is otherwise reasonably available to Contractor, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than three (3) calendar days), and prior to performing any Work in connection therewith (except in an emergency as required by Paragraph 16 of these General Conditions), identify the owner of such underground facility and give written notice to that owner and to CITY. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
9. Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any underground facility that is owned and was built by CITY only where the underground facility was not shown or indicated in Contract Documents or in information on file at USA; and (b) Contractor did not know of it; and (c) Contractor could not reasonably have been expected to be aware of it or to have anticipated it from the information available. (For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an underground facility, then an increase in the Contract Price or an extension of the Contract Time will not be due, even if the underground facility was not indicated in Contract Documents, in information on file at USA, or otherwise reasonably available to Contractor.)
10. Contractor shall bear the risk that underground facilities not owned or built by CITY may differ in nature or locations shown in information on file at USA, or otherwise reasonably available to Contractor. Underground facilities are inherent in construction involving digging of trenches or other excavations and Contractor is to apply its skill and expertise to verify the information available.



E. NOTICE OF HAZARDOUS WASTE OR MATERIALS CONDITIONS

1. Notice by Contractor shall be given in writing to CITY promptly, before any of the following conditions are disturbed (except in an emergency as required by Paragraph 16.D below), and in no event later than 24 hours after first observance, of any (a) material that Contractor believes may be material that is hazardous waste or hazardous material, as defined in Section 25117 of the Health and Safety Code (including, without limitation, asbestos, lead, PCBs, petroleum and related hydrocarbons, and radioactive material) that is required to be removed to a Class I, Class II, or Class III disposal Project Site in accordance with provisions of existing law; (b) other material which may present a substantial danger to persons or property exposed thereto in connection with Work at the Project Site.
2. Except as otherwise provided in Contract Documents or as provided by applicable law, Contractor shall not be required to give any notice for the disturbance or observation of any such hazardous waste or hazardous material where such matter is disturbed or observed as part of the scope of Work under Contract Documents (such as hazardous waste or hazardous material investigation, remediation or disposal activities which are identified as the subject of Work under Contract Documents), where Contractor complies with all requirements in Contract Documents and applicable law respecting such materials.
3. Contractor's written notice under Paragraphs 13.D.2, 13.D.8, and 13.E.1 above shall indicate whether the hazardous waste or material was shown or indicated in Contract Documents to be within the scope of Work, and whether the hazardous waste or material was brought to the Project Site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible. As used in this paragraph, "hazardous materials" shall include (but not be limited to) asbestos, lead, PCBs, petroleum and related hydrocarbons, and radioactive material.
4. Contractor shall not be entitled to any adjustment in the Contract Sum or Time regarding claimed hazardous waste or materials if (1) Contractor knew of the existence of such hazardous material or hazardous waste at the time Contractor submitted its bid; or (2) Contractor should have known of the existence of such hazardous material or hazardous waste as a result of its having the responsibility to obtain additional or supplementary examinations, investigation, explorations, tests, studies and data concerning the conditions at or contiguous to the Project Site prior to submitting its Bid; or (3) Contractor failed to give the written notice within the time required by Paragraphs 13.D.2, 13.D.8 and 13.E.1 of these General Conditions.

5. If CITY determines that conditions do not involve hazardous waste or hazardous materials or that no change in Contract Document terms is justified, CITY shall notify Contractor in writing, stating the reasons for its determination. If CITY and Contractor cannot agree on an adjustment in Contract Sum or Contract Time, Contractor shall proceed with the Work and as directed by CITY and may file a claim as provided in Paragraph 12 of these General Conditions.
6. If Contractor does not agree to resume Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, CITY may order the disputed portion of Work deleted from the Work, or performed by others, or CITY may invoke its right to terminate Contractor's right to proceed under Contract Documents in whole or in part. If Contractor does not agree with CITY's determination of any adjustment in the Contract Sum or Times as a result, Contractor may make a claim as provided in Paragraph 12 of these General Conditions.

#### F. SUSPENSION OF WORK

CITY may, without cause, order Contractor in writing to suspend, delay or interrupt Work in whole or in part for such period of time as CITY may determine. An adjustment shall be made for increases in cost of performance of Contract Documents caused by any such suspension, delay or interruption. No adjustment shall be made to extent: (a) that performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or (b) that an equitable adjustment is made or denied under another provision of Contract Documents; or (c) that the suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder. Adjustments made in cost of performance may have a mutually agreed fixed or percentage fee; if the parties cannot agree, Contractor may file a claim under Paragraph 12 herein.

#### G. TERMINATION OF CONTRACT FOR CAUSE

1. Contractor shall be in default of Contract Documents and CITY may terminate Contractor's right to proceed under Contract Documents, for cause:
  - a. Should Contractor make an assignment for the benefit of creditors, admit in writing its inability to pay its debts as they become due, file a voluntary petition in bankruptcy, be adjudged a bankrupt or insolvent, be the subject of an involuntary petition in bankruptcy which is not dismissed within 60 days; file a petition or answer seeking for itself any reorganization, arrangement, composition, readjustment, liquidation, dissolution, or similar relief under any present or future statute, law, or regulation, filing any answer



admitting or not contesting the material allegations of a petition filed against Contractor in any such proceeding, or seek, consent to, or acquiesce in, the appointment of any trustee, receiver, custodian or liquidator of Contractor or of all or any substantial part of its properties or if Contractor, its directors or shareholders, take action to dissolve or liquidate Contractor; or

- b. Should Contractor commit a material breach of Contract Documents and not cure such breach within ten (10) calendar days of the date of notice from CITY to Contractor demanding such cure; or, if such breach is curable but not curable within such ten (10) day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of 10 calendar days, Contractor must provide CITY within the 10 day period with a written plan acceptable to CITY to cure said breach, and then diligently commence and continue such cure according to the written plan); or
  - c. Should Contractor violate or allow (by a Subcontractor or other person or entity for which Contractor is responsible) a violation of any valid law, statute, regulation, rule, ordinance, permit, license or order of any governmental agency applicable to the Project or Work and does not cure (or cause to be cured) such violation within ten (10) days of the date of the notice from CITY to Contractor demanding such cure; or, if such violation is curable but not curable within such ten (10) day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of 10 calendar days, Contractor must provide CITY within the 10 day period with a written plan to cure said violation acceptable to CITY, and then diligently commence and continue performance of such cure according to the written plan.); or
  - d. Should any material representation, warranty, declaration, certification or other statement (together, “representations”) made by Contractor in any Bidding Document or otherwise to CITY in connection with Contractor’s obtaining or performing this Contract prove to be materially incorrect when made, or should Contractor materially breach any material agreement made in any Bidding Document.
2. If CITY at any time reasonably believes that Contractor is or may be in default under Contract Documents, as defined above, CITY may in its sole discretion notify Contractor of this fact and request written assurances from Contractor of performance of Contract Documents and a written plan from Contractor to remedy any default under the terms of Contract Documents which CITY may advise Contractor of in writing.

Failure of Contractor to provide such written assurances of performance and the required written plan, within ten (10) calendar days of demand, will constitute a material breach of Contract Documents sufficient to justify termination for cause.

3. In event of termination for cause, CITY shall immediately serve written notice thereof upon Surety and Contractor. Surety shall have the rights and obligations set forth in the Construction Performance Bond. Subject to the Surety's rights under the Performance Bond (which rights are waived upon a default thereunder), CITY may take over the Work and prosecute it to completion by contract or by any other methods it may deem advisable.
4. In the event of termination by CITY as provided in Paragraph 13.G.1 above for cause;
  - a. CITY shall compensate Contractor for the value of the Work delivered to CITY upon termination as determined in accordance with Contract Documents, subject to all rights of offset and backcharges, and provided that Contractor provides CITY with updated as-builts and Project record documents showing the Work performed up to the date of termination. However, CITY shall not compensate Contractor for any of its costs incurred in terminating the Work or any cancellation charges owed to third parties.
  - b. Contractor shall deliver to CITY possession of the Work in its then condition, including but not limited to, all designs, engineering, Project records, cost data of all types, drawings and specifications and contracts with vendors and subcontractors, all other documentation associated with the Project, and all construction supplies and aids dedicated solely to performing the Work which, in the normal course of construction, would be consumed or only have salvage value at the end of the construction period. Contractor shall remain fully liable for the failure of any Work completed and materials and equipment provided through the date of such termination to comply with the provisions of Contract Documents. The provisions of this Paragraph shall not be interpreted to diminish any right which CITY may have to claim and recover damages for any breach of Contract Documents or otherwise, but rather, Contractor shall compensate CITY for all loss, cost, damage, expense, and/or liability suffered by CITY as a result of such termination and failure to comply with Contract Documents.
  - c. CITY shall, to the extent applicable, have all other rights and remedies set forth in any Bidding Document.

5. In the event a termination for cause is later determined to have been made wrongfully or without cause, then the termination shall be treated as a termination for convenience, and Contractor shall have only the recovery rights specified in Paragraph 13.H of these General Conditions. Any Contractor claim arising out of a termination for cause, however, shall be made in accordance with Paragraph 12 of these General Conditions. No other loss, cost, damage, expense or liability may be claimed, requested or recovered by Contractor. Under no condition will Contractor recover lost profits or similar damages.

#### H. TERMINATION OF CONTRACT FOR CONVENIENCE

1. CITY may terminate performance of the Work under Contract Documents in accordance with this clause in whole, or from time to time in part, whenever CITY shall determine that termination is in CITY's best interest. Termination shall be effected by CITY delivering to Contractor notice of termination specifying the extent to which performance of the Work under Contract Documents is terminated, and the effective date of the termination.
2. After receiving a notice of termination under Paragraph 13.H.1 above, and except as otherwise directed by CITY, Contractor shall:
  - a. Stop Work under Contract Documents on date and to extent specified in notice of termination;
  - b. Place no further orders or subcontracts for materials, services, or facilities except as necessary to complete portion of Work under Contract Documents which is not terminated;
  - c. Terminate all orders and subcontracts to extent that they relate to performance of Work terminated by the notice of termination;
  - d. Assign to CITY in manner, at times, and to extent directed by CITY, all right, title, and interest of Contractor under orders and subcontracts so terminated. CITY shall have the right, in its sole discretion, to settle or pay any or all claims arising out of termination of orders and subcontracts;
  - e. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with approval or ratification of CITY to extent CITY may require. CITY's approval or ratification shall be final for purposes of this Paragraph;
  - f. Transfer title to CITY, and deliver in the manner, at the times, and to the extent, if any, directed by CITY, all fabricated or unfabricated parts, Work in process, completed Work, supplies, and

all other material produced as part of, or acquired in connection with performance of, Work terminated by the notice of termination, and completed or partially completed drawings, drawings, specifications, information, and other property which, if the Project had been completed, would have been required to be furnished to CITY;

- g. Use its best efforts to sell, in manner, at times, to extent, and at price or prices that CITY directs or authorizes, any property of types referred to in Paragraph 13.H.2.f. above, but Contractor shall not be required to extend credit to any purchaser, and may acquire any such property under conditions prescribed and at price or prices approved by CITY. Proceeds of transfer or disposition shall be applied to reduce payments to be made by CITY to Contractor under Contract Documents or shall otherwise be credited to the price or cost of Work covered by Contract Documents or paid in such other manner as CITY may direct;
  - h. Complete performance of the part of the Work which was not terminated by the notice of termination; and
  - i. Take such action as may be necessary, or as CITY may direct, to protect and preserve all property related to Contract Documents which is in Contractor's possession and in which CITY has or may acquire interest.
3. After receipt of a notice of termination, Contractor shall submit to CITY its termination claim, in form and with all certifications required by Paragraph 12 herein. Contractor's termination claim shall be submitted promptly, but in no event later than 6 months from effective date of the termination. Contractor and CITY may agree upon the whole or part of the amount or amounts to be paid to Contractor because of a total or partial termination of Work under this Paragraph 13.H. If Contractor and CITY fail to agree on the whole amount to be paid to Contractor because of the termination of the Work under this Paragraph 13.H, CITY shall determine, based on information available to it, the amount, if any, due to Contractor by reason of the termination and shall pay to Contractor for Work specified in Contract Documents which is performed before the effective date of the termination, the total (without duplication of any items) of:
- a. The reasonable cost to Contractor, without profit, for all Work performed prior to the effective date of the termination, including Work done to secure the Project for termination. In determining reasonable cost, deductions will be made for cost of materials to be retained by Contractor, cost of Work defectively performed, amounts realized by sale of materials, and for other appropriate credits against cost of Work. Reasonable cost will include

reasonable allowance for Project overhead and general administrative overhead not to exceed a total of 10 percent of direct costs of such Work.

- b. When, in CITY's opinion, the cost of any item of Work is excessively high due to costs incurred to remedy or replace defective or rejected Work, commercially reasonable cost to be allowed will be the estimated reasonable cost of performing the Work in compliance with requirements of Contract Documents and excessive actual cost shall be disallowed.
- c. A commercially reasonable allowance for profit on cost of Work performed as determined under Paragraph 13.H.3.a, provided that Contractor establishes to CITY's satisfaction that Contractor would have made a profit had the Project been completed, and provided further that the profit allowed shall not exceed 5 percent of cost.
- d. Commercially reasonable costs to Contractor of handling material returned to vendors, delivered to CITY or otherwise disposed of as directed by CITY.
- e. A commercially reasonable allowance for Contractor's internal administrative costs in preparing termination claim.
- f. CITY shall have no obligation to pay Contractor under this Paragraph 13.H unless and until Contractor provides CITY with updated and acceptable as-builts and Project record documents for Work completed prior to termination.

Except as provided above, CITY shall not be liable for costs incurred by Contractor or subcontractors after receipt of a notice of termination. Such non-recoverable costs include, but are not limited to, anticipated profits on Work not performed as of the date of termination, post-termination employee salaries, post-termination general administrative expenses, post-termination overhead or unabsorbed overhead, costs of preparing and submitting Contractor's Bid, attorney's fees of any type, and all other costs relating to prosecution of claim or lawsuit.

- 4. In arriving at the amount due Contractor under this clause there shall be deducted in whole (or in the appropriate part[s] if the termination is partial): (a) All unliquidated advances or other payments on account previously made to Contractor, including without limitation all payments applicable to the terminated portion of Contract Documents; (b) any claim which CITY may have against Contractor in connection with Contract Documents; and (c) the agreed price for, or proceeds of sale of, any materials, supplies, or other things kept by Contractor or sold under

provisions of Paragraph 13.H, and not otherwise recovered by or credited to CITY.

#### I. CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Contractor hereby assigns to CITY each Subcontract for a portion of the Work, provided that:

1. The assignment is effective only after CITY's termination of Contractor's right to proceed under Contract Documents (or portion thereof relating to that Subcontract) pursuant to Paragraphs 13.G or 13.H above.
2. The Assignment is effective only for the Subcontracts which CITY expressly accepts by notifying the Subcontractor in writing;
3. The assignment is subject to the prior rights, if any, of the Surety, obligated by the Performance and/or Payment Bond provided under Contract Documents, where the Surety exercises its rights to complete the Contract;
4. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense (except as otherwise provided in Paragraphs 13.G or 13.H above), sign all instruments and take all actions reasonably requested by CITY to evidence and confirm the effectiveness of the assignment in CITY; and
5. Nothing in this Paragraph 13.I shall modify or limit any of Contractor's obligations to CITY arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold harmless obligations arising from or related to the assigned Subcontract.

#### J. REMEDIES

Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counterclaims, disputes and other matters in question between CITY and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the applicable court of competent jurisdiction located in the State of California, County of Alameda. All CITY remedies provided in Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein provided; and in all instances CITY shall have any and all other equitable and legal rights and remedies which it would have according to law.

K. PATENTS

Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Bid price for doing the Work. Contractor shall defend, indemnify and hold harmless CITY, its City Council, boards and commissions, and each of its officers, employees, volunteers, consultants and agents, including, but not limited to, the Mayor, City Council, Boards and Commissioners, and each city employee, from all damages, claims for damages, costs or expenses in law or equity, including attorney's fees, arising from or relating to any claim that any article supplied or to be supplied under Contract Documents infringes on the patent rights, copyright, trade name, trademark, service mark, trade dress, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnitee or ordered by a court or administrative body of any competent jurisdiction.

L. SUBSTITUTION FOR PATENTED AND SPECIFIED ARTICLES

Except as noted specifically in Specifications, whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words "or equal" and Contractor may offer any substitute material or process that Contractor considers equal in every respect to that so designated and if material or process offered by Contractor is, in opinion of CITY, equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Substitution Request Form as provided in Instructions to Bidders.

M. INTEREST OF PUBLIC OFFICERS

No representative, city employee, member of the governing body of the locality in which the Project is situated, no member of the locality in which CITY was activated, and other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in Contract Documents or the proceeds thereof.

N. LIMIT OF LIABILITY

CITY AND EACH OF ITS OFFICERS, MAYOR, COUNCIL MEMBERS,  
BOARDS AND COMMISSIONS. OFFICERS, EMPLOYEES,



VOLUNTEERS, CONSULTANTS AND AGENTS INCLUDING, BUT NOT LIMITED TO, EACH CITY REPRESENTATIVE SHALL HAVE NO LIABILITY TO CONTRACTOR FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES, EXCEPT TO THE LIMITED EXTENT THAT THESE CONTRACT DOCUMENTS OR APPLICABLE PUBLIC CONTRACTING STATUTES MAY SPECIFY THEIR RECOVERY.

O. SEVERABILITY

Any provisions or portions thereof of Contract Documents which are prohibited by, unlawful, or unenforceable under any applicable law of any jurisdiction shall as to such jurisdiction be ineffective without affecting other provisions or portions thereof in Contract Documents.

P. DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE AND PREVAILING WAGE REQUIREMENTS ON PUBLIC WORKS PROJECTS

Effective January 1, 2015, No Contractor or Subcontractor may be listed on a bid proposal for a public Works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with the limited exceptions from this requirement for bid purposed only under Labor code Section 1771.1(a)). Register at <https://efiling.dir.ca.gov/PWCR>

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 Department of Industrial Relations pursuant to Labor Code Section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The Prime Contractor is required to post job Project Site notices prescribed by regulation. See 8 Calif. Code Regulation §16451(d).

Effective April 1, 2015, All Contractors and Subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner. <https://apps.dir.ca.gov/ecpr/das/altlogin>

## 14. MODIFICATIONS OF CONTRACT DOCUMENTS

A. ALTERATIONS, MODIFICATIONS AND FORCE ACCOUNT WORK

1. No modification or deviation from the Drawings and Specifications will be permitted except by written Change Order.
2. CITY may, without notice to the sureties, make alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease the quantity of any item or portion of the Work; change the



Contract Time; delete any item or portion of the Work; and require extra Work. Contractor shall perform such Work under applicable provisions of Contract Documents, unless specifically provided otherwise at the time the change is ordered. In the case of any ordered extra Work, CITY reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such CITY-furnished labor, materials, and equipment.

3. Changes affecting time or price of the Work shall be set forth in a written Change Order that shall specify: (1) the Work performed in connection with the change to be made; (2) the amount of the adjustment of the Contract price, if any, and the basis for compensation for the Work ordered; and (3) the extent of the adjustment in the Contract time, if any. A Change Order will fully accommodate the “**Work by ...**” paragraphs below and will not become effective until signed by CITY.

**Work by Contractor:**

The following percentages may be added to the Contractor’s costs and shall constitute the maximum allowable markup for all overhead, increase in Contractor’s bond or insurance, administrative expenses and/or profit on work performed by the Contractor:

a) Labor	15%
b) Materials	15%
c) Equipment Rental	15%
d) Other Items and Expenditures	15%

**Work by Subcontractor:**

When any part of the extra work is performed by a Subcontractor, of any tier, the markup established above (in **Work by Contractor**) shall be applied, and limited, to the Subcontractor’s actual cost of such work. Contractor markup on Subcontractor work shall be limited to five (5%) percent.

No payment shall be made for any item not set forth above (in **Work by Contractor** or in **Work by Subcontractor**), including without limitation, Contractor’s overhead, general administrative expense, supervision or damages claimed for delay in prosecuting the remainder of the Work.

This provision shall not be construed to preclude the recovery of damages by the Contractor stemming from delay for which the Owner/CITY is responsible, which is unreasonable under the circumstances involved, and which was not within the contemplation of the Owner/CITY and the Contractor.

4. Changes not affecting the time or price of the Work, in CITY's discretion, may be set forth in a written Request for Information (RFI) executed by CITY or other written form approved by the CITY. Execution of such an RFI constitutes Contractor's agreement to make the specified change without change to the Contract Price or the Contract Time.
5. No changes or deviations from Contract Documents affecting time or price of the Work will be made without the authority of an approved Change Order or Construction Change Directive, except in cases of emergency discussed herein.
6. Contractor in accordance with Contract Documents shall diligently carry out all Change Orders. If changes ordered in design, Workmanship or materials are of such a nature as to increase or decrease the cost of any part of the Work, the price fixed in Contract Documents shall be increased or decreased by the amount that Contractor and CITY may agree upon as a reasonable and proper allowance for the cost increase or decrease. If an agreement cannot be reached, then CITY shall reach a determination, which shall be final, subject to Contractor's rights under Paragraph 12 of these General Conditions. In all cases Contractor shall perform the changed Work as directed by CITY subject to Contractor's rights under Paragraph 12 of these General Conditions. In the event the CITY exercises its rights to decide disputed issues pertaining to changed Work, as set forth above, then the resulting Change Order shall be effective when signed by the CITY and notwithstanding the fact that the Contractor has not signed it.
7. Contractor shall, upon CITY's request, permit inspection of the original unaltered Project Bid estimate, subcontract agreements, purchase orders relating to the change, and documents substantiating all costs associated with the cost proposal.
8. Changes in the Work made pursuant to this Paragraph and extensions of Contract Time necessary by reason thereof shall not in any way release the guarantees/warranties given by Contractor pursuant to provisions of Contract Documents, nor shall such changes in the Work relieve or release the Sureties of bonds executed pursuant to said provisions. The Sureties, in executing such bonds, shall be deemed to have expressly agreed to any such change in the Work and to any extension of time made by reason thereof.
9. Regarding delay and impact costs of any nature, Contractor may not seek delay compensation for on-Project Site or off-Project Site costs based on formulas, e.g., "Eichleay" or other formula. Rather, Contractor must prove actual costs resulting from such delays. If Contractor requests compensation for delay to the construction, then Contractor

must prove and document actual costs plus markup in order to request, claim or prove compensation for delay.

10. A performance bond rider covering the changed Work must be executed and delivered to CITY before proceeding with the Work. Contractor is charged with knowledge of CITY's approved change order limits and procedures in effect at the applicable time.

#### B. ENTIRE AGREEMENT

Contract Documents and any approved and authorized Change Orders shall represent the entire and integrated agreement between CITY and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusive statement of the terms of the parties' agreement. Contract Documents and any Change Orders shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied that relate in any way to the subject matter of Contract Documents or written modifications. CITY and Contractor represent and agree that, except as otherwise expressly provided in Contract Documents, they are entering into Contract Documents and any subsequent written modification in sole reliance upon the information set forth or referenced in Contract Documents or Change Orders and the parties are not and will not rely on any other information.

#### C. EFFECT OF WAIVERS

Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.

### 15. TIME ALLOWANCES

#### A. TIME ALLOWANCES FOR PERFORMANCE OF CONTRACT DOCUMENTS

1. When Contractor and CITY have signed the Contract Documents, CITY will serve a Notice to Proceed upon Contractor to that effect, either by depositing notice in a post office or post office box regularly maintained by United States Postal Service in a pre-paid wrapper directed to Contractor at legal address or (at CITY's option) by delivery by other means at legal address.
2. The start date for Contract Time shall be as provided in paragraph 3.B of these General Conditions. The total number of Work days for completion of the Work under Contract Documents shall be as provided in Paragraph 1 of the Contractor Agreement.

## B. CHANGE OF CONTRACT TIME

1. The Contract Time may only be changed by Change Order, and all time limits stated in Contract Documents are of the essence of Contract Documents. The Contract Time will be adjusted in an amount equal to the time lost due to (a) changes in the Work ordered by CITY; (b) acts or neglect by CITY, any CITY representative, utility owners or other contractors performing other Work, provided that Contractor has fully and completely performed its responsibilities under Contract Documents; (c) fires, floods, epidemics, abnormal weather conditions, earthquakes, civil or labor disturbances, strikes or acts of God, provided damages resulting therefrom is not the result of Contractor's failure to protect the Work as required by Contract Documents. The Contract Time shall not be extended for such causes, however, unless Contractor can actually document with proof that it has been prevented from completing any part of the Work within the Contract Time due to delay that is (i.) beyond Contractor's control and due to reasons for which Contractor is not responsible; (ii.) a claim for delay is made as provided herein; and (iii.) Contractor submits a Time Impact Analysis that demonstrates actual delay to Work activities that actually delay the progress of the Work in the amount of time requested. Delays attributable to and within the control of a subcontractor, or its subcontractors, or supplier shall be deemed to be delays within the control of Contractor.
2. Where Contractor is prevented from completing any part of the Work within the Contract Time due to delay beyond the control of both CITY and Contractor (including, but not limited to, abnormal or adverse weather of all types within or beyond the parameters referenced below and acts of other contractors or utilities), an extension of Contract Time, in an amount equal to the time lost due to such delay (without compensation), shall be Contractor's sole and exclusive remedy for such delay.
3. Contractor must present as its claims, all subcontractor and supplier claims of any type, and prove them under the terms of the Contract Documents. CITY shall not be directly liable to any Subcontractor, any supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages or extra costs of any type arising out of or resulting from the Project, including without limitation (a) delays caused by or within the control of Contractor, (b) changes in the Work ordered by CITY or any CITY representative, (c) acts or neglect by CITY, utility owners or other contractors performing other Work, (d) fires, floods, abnormal weather conditions, earthquakes, civil or labor disturbances, strikes or acts of God, (e) other contractors performing other Work as contemplated by Paragraph 6, or (f) claimed deficiencies in Project design.

4. Delays due to abnormal or adverse weather conditions shall not be allowed for weather conditions which fall within the parameters listed herein. Adverse weather delays may be allowed only if the number of Workdays of adverse weather exceeds these parameters on a monthly basis and Contractor proves that adverse weather actually delayed Work on the critical path of the project. Contractor shall provide written notice of intent to claim an adverse weather day within one day of the adverse weather day occurring. Rain parameters are as follows, prorated in the individual month Contractor starts and finishes Work:

Rain Workdays: January, [6]; February, [6]; March, [5]; April, [3]; May, [1]; June, [0]; July, [0]; August, [0]; September, [0]; October, [2]; November, [4]; December, [6]. The Contractor shall anticipate a total of **33** Workdays for each complete year and include said Workdays in accordance with these general conditions.

In order to qualify as a rain day with respect to the foregoing parameters, daily rainfall must exceed .10 of an inch or more at the Metro Oakland International Airport, Oakland, California, weather station, as measured by the National Oceanic & Atmospheric Administration, and Contractor must prove that the rain actually caused critical project delay as set forth above and below.

5. Delays due to abnormal or adverse weather conditions shall not be a prima facie reason for an extension of Contract Time. Contractor shall make every effort to continue Work under prevailing conditions. Delays due to abnormal or adverse weather conditions will be allowed provided Contractor can prove abnormal or adverse weather conditions at the Project Site prevented the Contractor from proceeding with seventy-five percent (75%) of the scheduled crew labor and equipment resources engaged on critical path activities identified on the accepted and most current CPM progress schedule update at the time of the abnormal or adverse weather condition, and 75% of the crew did not Work more than three (3) hours. Abnormal or adverse weather delays meeting the criteria in this paragraph are deemed beyond the control of both CITY and Contractor, and an extension of Contract Time (or milestones) due to such a delay shall be the Contractor's sole and exclusive remedy for such a delay.
6. Rain delay shall be recognized for the actual period of time Contractor proves it was delayed by rain in accordance with the above parameters and requirements. For example, and not by way of limitation, if rain exceeding the specified parameters does not in fact delay Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves that rain exceeding the specified parameters causes delay to Contractor for a period longer than one day, then Contractor shall be entitled to a time extension equal to the actual period of such delay.

7. Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Project Site, providing access roads unimpacted by abnormal or adverse weather and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for CITY to not grant a time extension due to abnormal or adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

C. NOTICE OF DELAY

Within seven (7) calendar days of the beginning of any delay Contractor shall notify CITY in writing, by submitting a notice of potential claim, of all anticipated delays resulting from the delay event in question. Any request for extension of time shall be accompanied by Contractor's written statement that the adjustment claimed is the entire adjustment to which the claimant is entitled as a result of the occurrence of said event. CITY shall determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this paragraph.

D. NO DAMAGES FOR CONTRACTOR CAUSED DELAY

Contractor shall not be entitled to any time extension or compensation, including but not limited to extended field or home office overhead, field supervision, costs of capital, interest, escalation charges, acceleration costs or other impacts for any delays caused in whole or in part by Contractor's failure to perform its obligations under Contract Documents, or during periods of delay concurrently caused by Contractor and either CITY or others. Contractor may receive time extension and be compensated for delays caused directly and solely by CITY except that Contractor shall not be entitled to damages for delay to the Work caused by the following reasons:

1. CITY's right to sequence the Work in a manner which would avoid disruption to CITY's tenants, including noticing requirements thereto and their contractors or other prime contractors and their respective subcontractors, exercised as a result of Contractor's failure to perform its cooperation and coordination responsibilities required by Contract Documents, CITY's enforcement of any government act or regulation, or the provisions of Contract Documents.
2. For changed Project Site conditions that are beyond the parties' contemplation, except that CITY may approve direct costs associated with unknown conditions (but not costs or damages which result from such delays); and



3. Extensive requests for clarifications to Contract Documents or modifications thereto, provided such clarifications or modifications are processed by CITY or its consultants in a reasonable time commensurate with Contract Documents requirements.

#### E. LIQUIDATED DAMAGES

1. Time is of the essence. Execution of Contract Documents by Contractor shall constitute acknowledgement by Contractor that Contractor understands, has ascertained and agrees that CITY will actually sustain damages in the amount fixed in Contract Documents for each and every Work day during which completion of Work required is delayed beyond expiration of time fixed for completion or extensions of time allowed pursuant to provisions hereof. Contractor and CITY agree that specified measures of liquidated damages shall be presumed to be the damages actually sustained by CITY as defined below, and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.
2. Liquidated damages shall be considered not as a penalty but as agreed monetary damage sustained by CITY for increased project administration expenses, including extra inspection, construction management and Architectural and engineering expenses and interest expenses related to the Project and Contract Documents because Contractor failed to perform and complete Work within time fixed for completion or extensions of time allowed pursuant to provisions hereof. Liquidated damages shall not be deemed to include within their scope additional damages arising from defective Work, lost revenues, cost of completion of the Work, cost of substitute facilities, or damages suffered by others or other forms of liability claimed against CITY as a result of delay (e.g., delay or delay related claims of other contractors, subcontractors or tenants), and defense costs thereof; Contractor shall be fully responsible for the actual amount of any such damages it causes, in addition to the liquidated damages otherwise due CITY.
3. There shall be deducted from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then accrued liquidated damages. Should Contractor fall behind the approved Progress Schedule, CITY reserves the right to deduct liquidated damages based on its estimated period of late completion. CITY need not wait until Final Completion to withhold liquidated damages from Contractor's progress payments. Should money due or to become due to Contractor be insufficient to cover aggregate liquidated damages due, then Contractor forthwith shall pay the remainder of the assessed liquidated damages to CITY.

## 16. WORKING CONDITIONS AND PREVAILING WAGES

### A. USE OF PROJECT SITE/SANITARY RULES

1. All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets and adequate sanitary supplies for use of Contractor's and Subcontractors' employees on the Project Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public observation, and shall be located, constructed and maintained subject to CITY's approval. Contractor is responsible for removing graffiti or replacing portable toilets that include graffiti on the interior or exterior of the toilets.
2. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of Workers to the Project Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by CITY, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to the owner or occupant thereof resulting from the performance of Work.
3. During the progress of the Work, Contractor shall keep the Project Site and other debris resulting from the Work. Contractor also shall protect equipment and materials from damage by weather. Contractor shall comply with Section 01 74 00 of the General Requirements for the off-haul / recycling / disposal of all waste materials, rubbish and debris from and about the Project Site as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the premises clean and ready for occupancy by CITY at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.
4. Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform its Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.



## B. PROTECTION OF WORK, PERSONS AND PROPERTY

Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with Work. Contractor shall comply with all safety requirements specified in any safety program established by CITY, or required by state, federal or local laws and ordinances. Contractor shall be responsible for all damage to Work, property or structures, and all injuries to persons, arising from the performance of Contract Documents.

1. Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.
2. Contractor shall remedy all damage, injury or loss to any property referred to in Paragraph 16.B, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor's duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. CITY and of its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor's Work.
3. Contractor shall designate a qualified and experienced safety representative at the Project Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
4. CITY may, at its option, retain such moneys due under Contract Documents as CITY deems necessary until any and all suits or claims against Contractor for injury to persons or property shall be settled and CITY receives satisfactory evidence to that effect.

## C. RESPONSIBILITY FOR SAFETY AND HEALTH

1. Contractor shall ensure that its and each tier of subcontractors' employees, agents and invitees comply with applicable health and safety laws while at the Project Site. These laws include the Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto, and CITY's safety regulations as amended from time to time. Contractor shall comply with all CITY directions regarding protective clothing and gear.

2. Contractor shall be fully responsible for the safety of its and its subcontractors' employees, agents and invitees on the Project Site, including all CITY and City employees, City Council acting as Board of Commissioners, officials, officers, volunteers and representatives. Contractor shall notify CITY in writing, of the existence of hazardous conditions, property or equipment at the Project Site that are not under Contractor's control. Contractor shall be responsible for taking all the necessary precautions against injury to persons or damage to the property of Contractor, subcontractors or persons from recognized hazards until the responsible party corrects the hazard.
3. Contractor shall confine all persons acting on its or its subcontractors' behalf to that portion of the Project Site where Work under Contract Documents is to be performed: CITY designated routes for ingress and egress thereto; and any other CITY designated area. Except those routes for ingress and egress over which Contractor has no right of control, within such areas, Contractor shall provide safe means of access to all places at which persons may at any time have occasion to be present.

#### D. EMERGENCIES

In emergencies affecting the safety or protection of persons or Work or property at the Project Site or adjacent thereto, Contractor, without special instruction or authorization from CITY, is obligated to act, with best efforts, to prevent threat and damage, injury or loss, until directed otherwise by CITY. Contractor shall give CITY prompt written notice if Contractor believes that any significant changes in Work or variations from Contract Documents have been caused thereby. If CITY determines that a change in Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order or Construction Change Directive will be issued to document the consequences of such action.

#### E. USE OF ROADWAYS AND WALKWAYS

Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic. Before beginning interference and with CITY's prior concurrence, Contractor may provide detour or temporary bridge for traffic to pass around or over the interference, which Contractor shall maintain in satisfactory condition as long as interference continues per Caltrans standards. Unless otherwise provided in Contract Documents, Contractor shall bear the cost of these temporary facilities.

#### F. NONDISCRIMINATION

No person or entity shall discriminate in the employment of persons upon public Works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sexual

preference, or gender of such persons, except as provided in Section 12940 of the Government Code. Every contractor for public Works violating the provisions of Section 1735 of the Labor Code is subject to all the penalties imposed for a violation of Chapter 1, Part 7, Division 2 of the Labor Code.

G. PREVAILING WAGES

1. Contractor shall pay to persons performing labor in and about Work provided for in Contract Documents an amount not less than the general prevailing rate of per diem wages for (1) Work of a similar character in the locality in which the Work is performed and (2) legal holiday and overtime Work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations to be the general prevailing rate of per diem wages for each craft or type of Worker or mechanic needed to execute this contract.
2. Contractor shall forfeit, as a penalty to CITY, Fifty Dollars (\$50.00) for each laborer, Worker, or mechanic employed in performing labor in and about the Work provided for in Contract Documents for each calendar day, or portion thereof, that such laborer, Worker or mechanic is paid less than the said stipulated rates for any Work done under Contract Documents by him or her or by any subcontractor under him or her, in violation of Articles 1 and 2 of Chapter 1 of Part 7 of Division II of the California Labor Code. The sums and amounts which shall be forfeited pursuant to this Paragraph 16.G.2 and the terms of the Labor Code shall be withheld and retained from payments due to Contractor under Contract Documents, pursuant to these General Conditions and the Labor Code, but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by CITY. The Labor Commissioner pursuant to Labor Code section 1775 shall determine the final amount of forfeiture.
3. Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, provision that subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for Work for Work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime Work fixed in the Labor Code. Contractor stipulates that it shall comply with all applicable wages and hour laws, including without limitation Labor Code Section 1813.

## H. ENVIRONMENTAL CONTROLS

Contractor shall comply with all rules, regulations, ordinances and statutes that apply to any Work performed under Contract Documents including, without limitation, any toxic, water and soil pollution controls and air pollution controls specified in Government Code, Section 11017. Contractor shall be responsible for insuring that Contractor's employees, subcontractors and the public are protected from exposure to airborne hazards or contaminated water, soil or other toxic materials used during or generated by activities on the Project Site or associated with the Project.

## I. TRENCH SAFETY PLAN

1. At least five (5) calendar days in advance of excavating any trench five feet or more in depth, Contractor shall submit to CITY a detailed plan showing the shoring, bracing and sloping design and other provisions to be made for Worker protection from the hazard of caving ground during the excavation, as required by Labor Code Section 6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.
2. During the course of Work, Contractor shall be responsible for determining where sloping, shoring and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five (5) feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. CITY's acceptance of any drawings showing the shoring or bracing design or Work schedule shall not relieve Contractor of its responsibilities under this Paragraph.

## J. PURCHASES OF MINED MATERIALS REQUIREMENT

1. Contractor shall ensure that all purchases of mined materials such as construction aggregate, sand and gravel, crushed stone, road base, fill materials, and any other mineral materials must originate from a surface mining operation identified on the AB3098 List per the Surface Mining and Reclamation Act of 1975 (SMARA).
2. Within five days of award of contract, Contractor shall submit a report to City which lists the intended suppliers for the above materials and demonstrates that the suppliers are in compliance with the SMARA requirements. The AB3098 List is maintained by the Department of Conservation's Office of Mine Reclamation (OMR) and can be viewed at: [www.conservation.ca.gov/OMR/ab\\_3098\\_list/index.htm](http://www.conservation.ca.gov/OMR/ab_3098_list/index.htm). Note that the list – and access to it - changes periodically and should be reviewed accordingly.

**END OF DOCUMENT**

# **SPECIFICATIONS**

## **DIVISION 1      GENERAL REQUIREMENTS**

## **SECTION 01 10 00 – SUMMARY**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General and Supplementary Conditions (as applicable) and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section Includes:
  - 1. Project information.
  - 2. Work covered by Contract Documents.
  - 3. Specification and drawing conventions.
- B. Related Requirements:
  - 1. Division 0 - General Condition Section - Temporary Facilities and Controls for limitations and procedures governing temporary use of Owner's facilities.

#### **1.3 PROJECT INFORMATION**

- A. Project Identification:
  - 1. Project: City of Alameda, **Krusi Park Renovations – Sitework & Utilities**
    - a. Permit No. **CB17-0557**.
    - b. Project Location: 900 Mound Street, Alameda, CA 94501
- B. Owner: City of Alameda.
  - 1. Owner's Representative: Amy Wooldridge, Director, Alameda Recreation and Parks Dept., 510-747-7570.
- C. Architect (Prime Consultant) Architect: Group 4 Architectural Research + Planning, Inc., Phone: (650) 871-0709 main;
  - 1. Jonathan Hartman, Principal, JHartman@g4arch.com, (650) 871-0709, ext. 230,
  - 2. Dawn Merkes, Principal, dmerkes@g4arch.com, (650) 871-1707, ext. 217.
- D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:
  - 1. ~~Associate Architect (for Prefabricated Recreational Building): Byrens Kim-Design Works, Dong Kim, (510) 452-3224,~~
  - 2. Civil Engineer: Bohley Consulting, Inc., Craig Overbo, (408) 265-1600,
  - 3. Electrical Engineer: Zeiger Engineers, Ron Zeiger, (510) 452-9391.

- E. Other Owner Consultants: The Owner has retained the following design professionals who have prepared designated portions of the Contract Documents:
1. Geotechnical Engineer: Miller Pacific Engineering Group (also as Geotechnical Engineer of Record)

#### 1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work for this Project (Krusi Park Renovations – **Sitework & Utilities**) is defined by the Contract Documents and consists of, but is not limited to, the following:
1. **Base Bid Project: SITWORK & UTILITIES**  
Provide, furnish, and install, all sitework and utilities (except for SITE ELECTRICAL by others) to within 10 ft. of footprint of new prefab. Recreation building. Work includes – but is not limited to - new ADA curb ramp, accessible path of travel, new underground fire service to new fire hydrant (deferred submittal), new ‘grasspaved’ EVA (Emergency Vehicle Access) drive, revised and/or new extended stormwater, domestic water and sanitary sewer utilities, new drinking fountain, bike racks, asphalt concrete and/or concrete walkways, curbs, gutters and ramps, site hardscape and/or softscape patchwork as required, minor grading and re-grading ‘conform’ work, and local bldg. fire alarm w/ manual pull stations (provided by others after new prefab. bldg.. installed.
  2. **Bid Alternate No. 1: BID ALTERNATE No. 1:**  
Remove and replace (additional) damaged and deteriorated asphalt concrete paving and base (lump sum, includes off-haul, disposal).  
(As described in Construction Documents; see Sheet C0.1, BIB PACKAGE 1), **BID ALTERNATE 1.**)
- B. Type of Contract:
1. Project will be constructed under a single ‘Lump Sum’ prime contract.

#### 1.5 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The 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:
1. Imperative mood and streamlined language are generally used in the Specifications. 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.
  2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the

following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

## **PART 2 - PRODUCTS**

Not Used.

## **PART 3 - EXECUTION**

Not Used.

END OF SECTION 01 10 00



## **SECTION 01 11 04 - CONTRACT DOCUMENTS**

---

### **PART 1 - GENERAL**

#### **1.1 GENERAL**

- A. The generally described contract Specifications/Statement of Work (SCOPE OF WORK) can be found on the SUMMARY, Section 01 10 00.
- B. The Contract Documents consist of the Project Manual, Specifications and the Drawings and items included, or attached and incorporated by reference – including but not limited to all Attachments, Exhibits and APPENDICES noted in the Table of Contents and included in the Project Manual or Construction Documents.

#### **1.2 DRAWING LIST**

- A. Project: Krusi Park Renovations – **Sitework & Utilities**

Sheet No.	Sheet No.	Sheet Title	Description
1	A0.0	COVER AND NOTES	
2	A0.1	CONDITIONAL USE PERMIT + SITE FOUNTAIN DETAIL	
3	A0.2	OVERALL SITE PLAN (NEW SHEET)	
4	C0.0	CIVIL GENERAL NOTES	
5	C0.1	CIVIL GRADING PLAN	
6	C0.2	DETAILS	
7	C0.3	DETAILS	
8	C0.4	POLLUTION PREVENTION	
9	E1.0	ELECTRICAL LEGEND, SINGLE LINE DIAGRAM & DETAILS	
10	E2.0	ELECTRICAL SITE PLAN AND DETAILS	
11	E3.0	AMP DETAILS	
12	E3.1	AMP DETAILS (NEW SHEET)	
13	A3.0	BUILDING PLANS + DRAWINGS (REFERENCE ONLY)	(phased permit submittal)

### **PART 2 - PRODUCTS**

Not Used.

### **PART 3 - EXECUTION**

Not Used.

END OF SECTION 01 11 04

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, the General Conditions of the Contract for Construction, and General Requirements apply to this Section.

**1.2 SUMMARY**

- A. Section includes administrative and procedural requirements governing allowances.
  - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Lump-sum allowances.
  - 2. Unit-cost allowances.
  - 3. Quantity allowances.
  - 4. Contingency allowances.
  - 5. Testing and inspecting allowances.
- C. Related Requirements:
  - 1. Division 01 Section - Unit Prices for procedures for using unit prices.
  - 2. Division 01 Section - Quality Requirements for procedures governing the use of allowances for testing and inspecting.
  - 3. Divisions 02 through 33 for items of Work covered by allowances.

**1.3 SELECTION AND PURCHASE**

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

#### **1.4 ACTION SUBMITTALS**

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

#### **1.5 INFORMATIONAL SUBMITTALS**

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

#### **1.6 COORDINATION**

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

#### **1.7 LUMP-SUM ALLOWANCES**

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
  - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver – at Contractor's cost - unused material to Owner's storage space as directed.

#### **1.8 CONTINGENCY ALLOWANCES**

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

## **1.9 TESTING AND INSPECTING ALLOWANCES**

- A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.
- B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.
- C. Costs of services not required by the Contract Documents are not included in the allowance.
- D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

## **1.10 ADJUSTMENT OF ALLOWANCES**

- A. Allowance Adjustment: To adjust allowance amounts, prepare a proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
  - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
  - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
  - 3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
  - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit – of same.
  - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
  - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

## **PART 2 - PRODUCTS**

Not Used.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement (or refund).

### **3.2 PREPARATION**

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

### **3.3 SCHEDULE OF ALLOWANCES**

- A. Allowance No. 1: **[Lump-Sum] [Unit-Cost]** Allowance: Include the sum of \_\_\_\_\_. Include \_\_\_\_\_ as specified in Division \_\_\_\_\_ Section - \_\_\_\_\_ and as shown on Drawings.
  - 1. This allowance includes material cost, receiving, handling, and installation and Contractor overhead and profit.
  - 2. Coordinate quantity allowance adjustment with corresponding unit-price requirements in Division 01 Section - Unit Prices.

END OF SECTION 01 21 00

## **SECTION 01 21 50 – MOBILIZATION**

---

### **PART 1 - GENERAL**

#### **1.1 SUMMARY OF WORK**

- A. The work under this Bid Item consists of construction start-up and preparatory work including, but not limited to, work necessary for the mobilizing and furnishing at the site, equipment, materials, supplies and incidentals; for the establishment of all offices, buildings and other temporary facilities and infrastructure necessary for work on the project; cost for pre-paid bonds and insurances; and for all other work and operations which must be performed or costs incurred to begin work on the various Base Bid Schedule (if used) Items at the project site as required for the proper performance and completion of the work. Compensation for mobilization includes, but is not limited to, the following principal items:

1. Moving onto the site of all Contractors' equipment required for operations.
2. Installing temporary construction power and wiring.
3. Developing and installing construction water supply.
4. Providing field offices for the Contractor complete with all furnishings
5. Providing all on-site communication facilities, including telephones.
6. Providing on-site sanitary facilities and potable water facilities.
7. Arranging for and erection of Contractor's work and storage yard(s), and installation of temporary construction fence.
8. Posting all OSHA-required notices and establishing safety programs.
9. Submitting preconstruction submittals, including Construction Schedule.
10. Fabrication and erection of Project Signs.
11. Preparation of Site-Specific Health and Safety Plan if/as required by Specification and/or Construction Documents
12. **Submitting a Schedule of Values in accordance with Section 012900 – Payment Procedures.**
13. Construction Progress Documentation required by Section 013200 – Construction Progress Documentation.

- A. Demobilization work shall include, but not be limited to, the following principal items:

1. Demobilizing and removal of the Contractor's facilities and equipment.
2. Removing all project signs from project site, and removing all construction area signs, traffic handling and detour signs, and temporary traffic control devices from project vicinity.
3. Removing all temporary construction facilities including Contractor's field office and other equipment and utilities from the site as Contractor's property within fourteen (14) calendar days after Final Completion. Cleanup of all debris and restoring the site as specified.

4. Furnishing all required equipment installation certification forms, warranty documents and Operations and Maintenance (O&M) data and manuals and spare parts, special tools and keys.
5. Performing and submitting all manufacturer installation checkouts.
6. Furnishing the Contractor's Final Updated Construction Drawings (Record Drawings).
7. Finishing all punch list work within the time requirements.
8. Performing final site cleanup and restoration as required.
9. Completing all specified close-out requirements.
10. Requesting final payment.

## 1.1 RELATED SECTIONS

- A. Section 013300 – Submittal Procedures

## 1.2 SUBMITTALS

- A. Contractor shall submit drawings to scale indicating materials, details, and calculations for all permits in a format as required by the Department of Building Inspection.

## 1.3 PAYMENT PROCEDURES

- A. **Bid Item “Mobilization” shall be included in the Contractor’s Schedule of Values** and will be paid as a lump sum payment over the course of the project based on a percentage of completion.

<u>Percentage Bid Item</u> <u>Mobilization</u>	<u>Percentage Project</u> <u>Completion</u>
25%	2%
50%	5%
75%	10%
100%	20%

- B. The retention of funds provisions in Paragraph 9.06 – Withholding Payment of the General Conditions apply to the sum of all the contract work done, including that under the Schedule of Values Bid Item “Mobilization.”
- C. Any extension of the contract time that may be granted will not of itself constitute grounds for a claim for additional payment.

## PART 2 – PRODUCTS (Not Used)

**PART 3 – EXECUTION (Not Used)**

**PART 4 – BASE BID SCHEDULE (not used)**

~~The value for ITEM #2 MOBILIZATION in the BASE BID SCHEDULE shall include the following:-~~

- ~~● Mobilization~~

~~The scope included in the BASE BID SCHEDULE for the mobilization items above shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in mobilizing, re-mobilizing, demobilizing, as shown on the Plans, as specified in Section 9-1.16D, "Mobilization," in the Standard Specifications, the City General Conditions, these special provisions, and as directed by the City Representative. The unit price paid for Mobilization is limited to 2.5% of bid items 3 through 21~~

END OF SECTION 01 21 50

END OF SECTION 01 21 50



## **SECTION 01 22 00 - UNIT PRICES**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General Conditions, BIDDING REQUIREMENTS, SCHEDULE OF VALUES (Provided by Awarded Contractor) and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
  - 1. Division 01 Section 01 26 00 Contract Modification Procedures for procedures for submitting and handling Change Orders.
  - 2. Division 01 Section 01 40 00 Quality Requirements for general testing and inspecting requirements.

#### **1.3 DEFINITIONS**

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

#### **1.4 PROCEDURES**

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A BASE BID SCHEDULE (not used) for unit prices is included in the PROJECT MANUAL, BIDDING REQUIREMENTS. Specification Sections (which may be) referenced in the schedule contain requirements for materials described under each unit price.

## **PART 2 - PRODUCTS**

Not Used.

## **PART 3 - EXECUTION**

### **3.2 SCHEDULE OF UNIT PRICES (see BASE BID SCHEDULE (not used) in BIDDING REQUIREMENTS, PROJECT MANUAL)**

- A. Unit Price No. <(see SCHEDULE OF VALUES)>:
1. Description: <(see SCHEDULE OF VALUES)> according to Division Section "<(see SCHEDULE OF VALUES)>."
  2. Unit of Measurement: <(see SCHEDULE OF VALUES)>.
  3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements (if any) in Division 01 Section 01 21 00 "Allowances."

END OF SECTION 01 22 00

## **SECTION 01 23 00 - ALTERNATES**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for alternates.

#### **1.3 DEFINITIONS**

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
  - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
  - 3. Alternate Bids shall include all overhead and profit applicable to that portion of the Work.
  - 4. The description below for each Alternate Bid is recognized to be incomplete and abbreviated, but implies that each change must be complete for the scope of Work affected. The descriptions are primarily scope definitions, and do not necessarily detail the full range of materials and processes needed to complete the Work as required. Refer to applicable Specification Sections, and to applicable drawings, for the specific requirements of the Work, regardless of whether references are so noted in the description of each Alternate. Coordinate related Work and modify surrounding Work as required to properly integrate with the Work of each Alternate. Any change of details, construction, etc., as required to accommodate the Alternate shall be the responsibility of the Contractor and shall be included in his Alternate Bid Price.
  - 5. Where methods of construction, materials, finishes, or details of installation, required by the various Alternate Bids, differ from the requirements shown on drawings or specified for corresponding items, the Alternate construction, materials, etc., will be subject to approval by the Architect.

6. Approval of the Alternate makes all requirements of scope, performance, submissions, service and guarantee binding as any other material name appearing in the Specifications for the Base Bid. All necessary changes in building design or construction to accommodate the alternate materials shall be the sole responsibility of the Contractor without extra cost to the Owner.

## 1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent Work as necessary to completely integrate work of the alternate into Project.
  1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
  2. Prior to installation of the Alternate items, verify that all surfaces have been modified as necessary to accept the installation and that the item or items may be installed in complete accordance with their manufacturer's current recommendations. Notify the Architect of any discrepancies before proceeding.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other Work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the Work described under each alternate.

## PART 2 - PRODUCTS

Not Used.

## PART 3 - EXECUTION

### 3.1 SCHEDULE OF ALTERNATES

A. Bid Alternate No. 1: **REMOVE and REPLACE DAMAGED and DETERIORATED ASPHALT CONCRETE PAVING** (as described in Construction Documents)

B. Alternate No. 2: (NA)

END OF SECTION 01 23 00

## **SECTION 01 25 00 - SUBSTITUTION PROCEDURES**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Division 01 Section - Allowances for products selected under an allowance.
  - 2. Division 01 Section - Alternates for products selected under an alternate.
  - 3. Division 01 Section - Product Requirements for requirements for submitting comparable product submittals for products by listed manufacturers.
  - 4. Divisions 02 through 33 for specific requirements and limitations for substitutions.

#### **1.3 DEFINITIONS**

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Owner.

#### **1.4 ACTION SUBMITTALS**

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use Substitution Request form, as included in Section 01 25 00A.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

- a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
  - b. Coordination information, including, but not limited to, a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
  - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
  - d. Product Data, including, but not limited to, drawings and descriptions of products and fabrication and installation procedures.
  - e. Samples, where applicable or requested.
  - f. Certificates and qualification data, where applicable or requested.
  - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
  - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  - i. Research reports evidencing compliance with building code in effect for Project.
  - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including, but not limited to, effect on the overall Contract Time (i.e.; TERM). If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
  - k. Cost information, including, but not limited to, a proposal of change, if any, in the Contract Sum.
  - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
  - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
    - a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
    - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

## **1.5 QUALITY ASSURANCE**

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

## **1.6 PROCEDURES**

- A. Coordination: Revise or adjust affected work as necessary to integrate Work of the approved substitutions.

## **PART 2 - PRODUCTS**

### **2.1 SUBSTITUTIONS**

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
  - 1. Conditions: Architect will consider Contractor's request for substitution when all of the following conditions are satisfied. If all of the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - b. Substitution request is fully documented and properly submitted.
    - c. Requested substitution will not adversely affect Contractor's construction schedule.
    - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
    - e. Requested substitution is compatible with other portions of the Work.
    - f. Requested substitution has been coordinated with other portions of the Work.
    - g. Requested substitution provides specified warranty.
    - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
    - i. SUBSTITUTION REQUEST form (CSI), attached to this Section, is used.
- B. Substitutions for Convenience: Architect will consider requests for substitution if received within 30 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Architect. (See DEFINITIONS, this Section, paragraph 1.3 A.2.)
  - 1. Conditions: Architect will consider Contractor's request for substitution when all of the following conditions are satisfied. If all of the

following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

- a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
- b. Requested substitution does not require extensive revisions to the Contract Documents.
- c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- d. Substitution request is fully documented and properly submitted.
- e. Requested substitution will not adversely affect Contractor's construction schedule.
- f. Requested substitution has received necessary approvals of authorities having jurisdiction.
- g. Requested substitution is compatible with other portions of the Work.
- h. Requested substitution has been coordinated with other portions of the Work.
- i. Requested substitution provides specified warranty.
- j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- k. SUBSTITUTION REQUEST FORM (CSI), attached to this Section, is used.

### **PART 3 - EXECUTION**

Not Used.

END OF SECTION 01 25 00





## SUBSTITUTION REQUEST (After the Bidding Phase)

Project: \_\_\_\_\_ Substitution Request Number: \_\_\_\_\_  
\_\_\_\_\_  
From: \_\_\_\_\_  
To: \_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_  
A/E Project Number: \_\_\_\_\_  
Re: \_\_\_\_\_ Contract For: \_\_\_\_\_

Specification Title: \_\_\_\_\_ Description: \_\_\_\_\_  
Section: \_\_\_\_\_ Page: \_\_\_\_\_ Article/Paragraph: \_\_\_\_\_

Proposed \_\_\_\_\_ Substitution: \_\_\_\_\_  
\_\_\_\_\_  
Manufacturer: \_\_\_\_\_  
Address: \_\_\_\_\_ Phone: \_\_\_\_\_  
Trade Name: \_\_\_\_\_ Model No.: \_\_\_\_\_  
Installer: \_\_\_\_\_ Address: \_\_\_\_\_ Phone: \_\_\_\_\_

History: ☐ New product ☐ 2-5 years old ☐ 5-10 yrs old ☐ More than 10 years old

Differences between proposed substitution and specified product: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ Point-by-point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item: \_\_\_\_\_  
\_\_\_\_\_

Similar Installation:

Project: \_\_\_\_\_ Architect: \_\_\_\_\_  
Address: \_\_\_\_\_ Owner: \_\_\_\_\_  
\_\_\_\_\_ Date Installed: \_\_\_\_\_

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain \_\_\_\_\_

Savings to Owner for accepting substitution: \_\_\_\_\_ (\$ \_\_\_\_\_).

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] \_\_\_\_\_ days.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ \_\_\_\_\_

---

# SUBSTITUTION REQUEST (Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including, but not limited to, A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: \_\_\_\_\_

Signed by: \_\_\_\_\_

Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Attachments: \_\_\_\_\_

## A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01330.  
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.  
☐ Substitution rejected - Use specified materials.  
☐ Substitution Request received too late - Use specified materials.

Signed by: \_\_\_\_\_

Date: \_\_\_\_\_

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ \_\_\_\_\_

## **SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
  - 1. Division 01 Section 01 22 00 - Unit Prices for administrative requirements for using unit prices.
  - 2. Division 01 Section 01 25 00 - Substitution Procedures for administrative procedures for handling requests for substitutions made after the Contract award.

#### **1.3 MINOR CHANGES IN THE WORK**

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

#### **1.4 PROPOSAL REQUESTS**

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
  - 2. Within time specified in Proposal Request or 10 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

- b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  - c. Include costs of labor and supervision directly attributable to the change.
  - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to,, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  - e. Quotation Form: Use AIA Document G709 – or similar - for Proposal Requests.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Owner.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
  - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  - 4. Include costs of labor and supervision directly attributable to the change.
  - 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to,, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  - 6. Comply with requirements in Division 01 Section 01 25 00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
  - 7. Proposal Request Form: Use AIA Document G709 – or similar - for Proposal Requests.

## **1.5 ADMINISTRATIVE CHANGE ORDERS**

- A. Allowance Adjustment: See Division 01 Section 01 21 00 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.
- B. Unit-Price Adjustment: See Division 01 Section 01 22 00 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

## **1.6 CHANGE ORDER PROCEDURES**

- A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701

form – or similar - included in Project Manual.

## **1.7 CONSTRUCTION CHANGE DIRECTIVE**

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714 – or similar. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
  - 1. Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.
  - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

## **PART 2 - PRODUCTS**

Not Used.

## **PART 3 - EXECUTION**

Not Used.

END OF SECTION 01 26 00

## **SECTION 01 29 00 - PAYMENT PROCEDURES**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
  - 1. Division 01 Section 01 21 00 - Allowances for procedural requirements governing the handling and processing of allowances.
  - 2. Division 01 Section 01 22 00 - Unit Prices for administrative requirements governing the use of unit prices.
  - 3. Division 01 Section 01 26 00 - Contract Modification Procedures for administrative procedures for handling changes to the Contract.
  - 4. Division 01 Section 01 32 00 - Construction Progress Documentation for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

#### **1.3 DEFINITIONS**

- A. **Schedule of Values: An itemized statement furnished by Contractor allocating all portions of the Contract Sum to various portions (i.e.; Bid Items) of the Work and used as the basis for reviewing Contractor's Applications for Payment and/or Change Order Requests (CORs).**

#### **1.4 SCHEDULE OF VALUES**

- A. **Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's construction schedule.**
  - 1. Coordinate line items in the Schedule of Values with other required administrative forms and schedules, including, but not limited to, the following:
    - a. Application for Payment forms with continuation sheets.
    - b. Submittal schedule.
    - c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. **Submit the Schedule of Values to Owner at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.** ~~Schedule of Values, submitted by awarded Contractor, will be a much more detailed document than the Base Bid Schedule (if provided), as further described herein and in the Contract Documents.~~
3. Subschedules for Each Project: Where the Work is separated into phases requiring separately phased payments. Provide subschedules showing values coordinated with the Project as defined in Section 01 10 00 - Summary.
4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.

**B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.**

1. Identification: Include the following Project identification on the Schedule of Values:
  - a. Project name and location.
  - b. Name of Architect.
  - c. Architect's project number.
  - d. Contractor's name and address.
  - e. Date of submittal.
2. Arrange Schedule of Values consistent with format of AIA Document G703.
3. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
  - a. Related Specification Section or Division.
  - b. Description of the Work.
  - c. Name of subcontractor.
  - d. Subcontractor License # AND DIR #.
  - e. Name of manufacturer or fabricator.
  - f. Name of supplier.
  - g. Change Orders (numbers) that affect value.
  - h. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
    - 1) Labor.
    - 2) Materials.
    - 3) Equipment.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five (5) percent of the Contract Sum.
5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
6. **Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.**



7. **Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.**
8. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
9. Purchase Contracts: Provide a separate line item in the Schedule of Values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
10. **Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.**
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
11. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

## 1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as submitted to the Owner and as certified by Architect.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Owner by the **first day of the month**. The period covered by each Application for Payment is one month, ending on the **last day of the month** ~~<last day of the month>~~.
  1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect, **City, and Project Manager or Construction Manager**.
- D. Application for Payment Forms: **Use most appropriate and applicable Application forms standard for the industry. Submit draft to City for review and approval min. one week prior to first Payment Application. ~~provided in Project Manual for Applications for Payment. Sample copies are included in Project Manual.~~**
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will

return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's construction schedule. Use updated schedules if revisions were made.
  2. Include amounts for Work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  4. Indicate separate amounts for Work being carried out under Owner-requested project acceleration.
- F. **Stored Materials:** Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
  2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  3. Provide summary documentation for stored materials indicating the following:
    - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- G. **Transmittal:** Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. **Waiver Forms:** Submit executed waivers of lien on forms acceptable to Owner.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:**

1. List of subcontractors (including, but not limited to, License #s and DIR #s).
  2. **Schedule of Values.**
  3. Contractor's construction schedule (preliminary if not final).
  4. Products list (preliminary if not final).
  5. Submittal schedule (preliminary if not final).
- J. Application for Payment at Substantial Completion: After Owner issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited to,, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
  5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
  6. AIA Document G707, "Consent of Surety to Final Payment."
  7. Evidence that claims have been settled.
  8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
  9. Final liquidated damages settlement statement.

## **PART 2 - PRODUCTS**

Not Used.

## **PART 3 - EXECUTION**

Not Used.

END OF SECTION 01 29 00

## **SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General coordination procedures.
  - 2. Conservation.
  - 3. Correlation of Documents.
  - 4. Coordination drawings.
  - 5. Requests for Information (RFIs).
  - 6. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
  - 1. Division 01 Section 01 10 00 - Contract Summary for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
  - 2. Division 01 Section 01 32 00 - Construction Progress Documentation for preparing and submitting Contractor's construction schedule.
  - 3. Division 01 Section 01 73 00 - Execution for procedures for coordinating general installation and field-engineering services, including, but not limited to, establishment of benchmarks and control points.
  - 4. Division 01 Section 01 77 00 - Closeout Procedures for coordinating closeout of the Contract.

#### **1.3 DEFINITIONS**

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

#### **1.4 INFORMATIONAL SUBMITTALS**

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including, but not limited to, those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
  - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.
- B. Key Personnel Names: Within fifteen (15) days of receipt of Notice to Proceed (and starting construction operations), submit a list of key personnel assignments, including, but not limited to, superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including, but not limited to, home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
  - 1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

## **1.5 GENERAL COORDINATION PROCEDURES**

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other

contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
  2. **Preparation of the Schedule of Values.**
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Preinstallation conferences.
  7. Project closeout activities.
  8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Specifications Sections (including, but not limited to, but not limited to Sections 01 74 00 Construction Waste Management, 01 85 00 Recycling of Concrete and Asphalt Materials) for disposition of salvaged and recycled materials that are, or may be, designated as Owner's property.

## 1.6 CORRELATION OF DOCUMENTS

- A. Any discrepancy in the documents shall be interpreted to default to the most restrictive or beneficial (to the Owner) solution. In case of discrepancy either in figures or Drawings or Specifications, the matter must be promptly submitted by the Contractor to the Architect, who will promptly make a determination in writing. Any adjustment by the Contractor without such a determination by the Architect will be at the Contractor's own risk and expense. The Architect will furnish, as necessary, additional detailed Drawings and information for clarification.
- B. If a document discrepancy is identified prior to bidding, the Architect is to be notified so a written clarification may be issued.
- C. Any survey drawing documents included herein are for convenience of the Contractor and Owner. The Architect assumes no responsibility as to their completeness or accuracy.
- D. Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, is of like effect as if shown or mentioned in both.
- E. On any of the Drawings in which a portion of the Work is detailed or drawn out and the remainder is shown in outline, the parts detailed or drawn out will apply also to all other like portions of the Work.
- F. When the word "similar" appears on Drawings, it has a general meaning and must not be interpreted as meaning identical. All details must be worked out in relation to their location and connection with other parts of the Work.

- G. Refer to Architectural Drawings for verification of locations, sizes and dimensions.

## 1.7 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
    - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
    - c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    - d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
    - e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
    - f. Indicate required installation sequences.
    - g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
  2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
  3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
  4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.



5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
  6. Refer to Division 26 Section - Basic (Electrical) Materials and Methods for specific Coordination Drawing requirements for mechanical and electrical installations.
  7. Mechanical and Plumbing Work: Work to be shown shall include, but not be limited to the following:
    - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including, but not limited to, insulation, bracing, flanges, and support systems.
    - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
    - c. Fire-rated enclosures around ductwork.
  8. Electrical Work: Work to be shown shall include, but not be limited to the following:
    - a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
    - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
    - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
    - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
  9. Fire-Protection System: Work to be shown shall include, but not be limited to the following:
    - a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
  10. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make changes as directed and resubmit.
  11. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Division 01 Section 01 33 00 - Submittal Procedures.
- C. Coordination of Digital Data Files: Prepare coordination digital data files according to the following requirements:
1. Architect may consent to furnish Contractor with one set of digital data files of certain drawings for use in preparing coordination digital data files.
    - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
    - b. Digital Data Software Program: Drawings are available in AutoCAD 2013.
    - c. Contractor shall sign a data licensing agreement form in a format acceptable to Architect.
    - d.



## 1.8 REQUESTS FOR INFORMATION (RFI'S)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified – or similar.
  - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
  - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
  - 1. Project name.
  - 2. Project number.
  - 3. Date issued.
  - 4. Name of Contractor.
  - 5. Date requested of Response.
  - 6. RFI number, numbered sequentially.
  - 7. RFI subject.
  - 8. RFI Cost Impact (if any),
  - 9. Specification Section number and title and related paragraphs, as appropriate.
  - 10. Drawing number and detail references, as appropriate.
  - 11. Field dimensions and conditions, as appropriate.
  - 12. **Contractor's best recommendation for resolution**. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  - 13. Contractor's signature.
  - 14. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716 – or similar.
  - 1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) working days for Architect's response for each RFI.
  - 1. The following Contractor-generated RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods.
    - d. Requests for coordination information already indicated in the Contract Documents.
    - e. Requests for adjustments in the Contract Time or the Contract Sum.
    - f. Requests for interpretation of Architect's actions on submittals.
    - g. Incomplete RFIs or inaccurately prepared RFIs.
  - 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.

3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section 01 26 00 - Contract Modification Procedures.
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within three (3) days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Include the following:
1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Architect.
  4. RFI number including, but not limited to, RFIs that were returned without action or withdrawn.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven (7) days if Contractor disagrees with response.
1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

## 1.9 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date, location and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
  2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees at least five (5) days prior to meeting.
  3. Minutes: Entity responsible for conducting meeting (Contractor) will record and document significant discussions, agreements and disagreements achieved. Distribute the meeting minutes to everyone concerned, including, but not limited to, Owner and Architect, within three (3) days of the meeting.
- B. Preconstruction Conference: **Architect/City will schedule and conduct a preconstruction conference** before starting construction, at a time convenient to Owner and Architect, but no later than fifteen (15) days after execution of the Agreement.
1. Conduct the conference to review responsibilities and personnel assignments.
  2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to

conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect progress, including, but not limited to, the following:
  - a. Tentative construction schedule.
  - b. Phasing.
  - c. Critical work sequencing and long-lead items.
  - d. Designation of key personnel and their duties.
  - e. Lines of communications.
  - f. Procedures for processing field decisions and Change Orders.
  - g. Procedures for RFIs.
  - h. Procedures for testing and inspecting.
  - i. Procedures for processing Applications for Payment.
  - j. Distribution of the Contract Documents.
  - k. Submittal procedures.
  - l. Preparation of record documents.
  - m. Use of the premises.
  - n. Work restrictions.
  - o. Working hours.
  - p. Owner's occupancy requirements.
  - q. Responsibility for temporary facilities and controls.
  - r. Procedures for moisture and mold control.
  - s. Procedures for disruptions and shutdowns.
  - t. Construction waste management and recycling.
  - u. Parking availability.
  - v. Office, work, and storage areas.
  - w. Equipment deliveries and priorities.
  - x. First aid.
  - y. Security.
  - z. Progress cleaning.
4. Minutes: Entity responsible for conducting meeting (Contractor) will record and distribute meeting minutes.

C. Preinstallation and Coordination Conferences: Conduct a preinstallation and coordination conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, and Owner or Owner's Authorized representative of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including, but not limited to, requirements for the following:
  - a. Contract Documents.
  - b. Options.
  - c. Related RFIs.
  - d. Related Change Orders.
  - e. Purchases.
  - f. Deliveries.

- g. Submittals.
  - h. Review of mockups.
  - i. Possible conflicts.
  - j. Compatibility requirements.
  - k. Time schedules.
  - l. Weather limitations.
  - m. Manufacturer's written instructions.
  - n. Warranty requirements.
  - o. Compatibility of materials.
  - p. Acceptability of substrates.
  - q. Temporary facilities and controls.
  - r. Space and access limitations.
  - s. Regulations of authorities having jurisdiction.
  - t. Testing and inspecting requirements.
  - u. Installation procedures.
  - v. Coordination with other work.
  - w. Required performance results.
  - x. Protection of adjacent work.
  - y. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including, but not limited to, required corrective measures and actions.
  - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than thirty (30) days prior to the scheduled date of Substantial Completion.
- 1. Conduct the conference to review requirements and responsibilities related to Project closeout.
  - 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  - 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including, but not limited to, the following:
    - a. Preparation of record documents.
    - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    - c. Submittal of written warranties.
    - d. Requirements for preparing operations and maintenance data.
    - e. Requirements for delivery of material samples, attic stock, and spare parts.
    - f. Requirements for demonstration and training.
    - g. Preparation of Contractor's punch list.

- h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    - i. Submittal procedures.
    - j. Coordination of separate contracts.
    - k. Owner's partial occupancy requirements.
    - l. Installation of Owner's furniture, fixtures, and equipment.
    - m. Responsibility for removing temporary facilities and controls.
    - n. Final clean up and removal of construction materials and debris.
  - 4. Minutes: Entity conducting meeting (Contractor) will record and distribute meeting minutes.
- E. Progress Meetings: Conduct progress meetings at weekly intervals.
- 1. Coordinate dates of meetings with preparation of payment requests.
  - 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
      - 1) Review schedule for next period.
    - b. Review present and future needs of each entity present, including, but not limited to, the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.
      - 3) Status of submittals.
      - 4) Deliveries.
      - 5) Off-site fabrication.
      - 6) Access.
      - 7) Site utilization.
      - 8) Temporary facilities and controls.
      - 9) Progress cleaning.
      - 10) Quality and work standards.
      - 11) Status of correction of deficient items.
      - 12) Field observations.
      - 13) Safety
      - 14) Work hours
      - 15) Status of RFIs.
      - 16) Status of proposal requests.
      - 17) Pending Changes

- 18) Status of Change Orders
  - 19) Pending claims and disputes
  - 20) Documentation of information for payment request.
4. Minutes: Entity responsible for conducting the meeting (Contractor) will distribute the meeting minutes to each party present and to parties requiring information.
- Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

## **PART 2 - PRODUCTS**

Not Used.

## **PART 3 - EXECUTION**

Not Used.

END OF SECTION 01 31 00

## **SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including, but not limited to, the following:
  - 1. Startup construction schedule.
  - 2. Contractor's construction schedule.
  - 3. Submittals schedule
  - 4. Construction schedule updating reports.
  - 5. Daily construction reports.
  - 6. Material location reports.
  - 7. Site condition reports.
  - 8. Special reports.
- B. Related Requirements:
  - 1. Division 01 Section 01 29 00 - Payment Procedures for submitting the Schedule of Values.
  - 2. Division 01 Section 01 31 00- Project Management and Coordination for submitting and distributing meeting and conference minutes.
  - 3. Division 01 Section 01 33 00 - Submittal Procedures for submitting schedules and reports.
  - 4. Division 01 Section 01 40 00 - Quality Requirements for submitting a schedule of tests and inspections.
  - 5. Division 01 Section 01 77 00 - Closeout Procedures for submitting photographic negatives as Project Record Documents at Project closeout.

#### **1.3 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.
  - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
  - 2. Predecessor Activity: An activity that precedes another activity in the network.

3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Architect or Owner.**
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
1. Float time belongs to Owner.
  2. Free Float is the amount of time an activity can be delayed without adversely affecting the early start of the Successor Activity.
  3. Total Float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

#### **1.4 INFORMATIONAL SUBMITTALS**

- A. Format for Submittals: Submit required submittals in the following format:
1. Working electronic copy of schedule file, where indicated.
  2. PDF electronic file.
  3. Two **(2)** paper copies.
- B. Startup construction schedule.
1. Approval of cost-loaded, startup construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.
- C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- D. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (Initial or updated) and date on label.



- E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
  2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
  3. Total Float Report: List of all activities sorted in ascending order of Total Float.
  4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.
- F. Construction Schedule Updating Reports: Submit with Applications for Payment.
- G. Construction Photographs: Submit two prints of each photographic view with Application for Payment.
1. Format: 4 x 6 smooth-surface prints on single-weight commercial-grade paper, enclosed in clear plastic sleeves that are punched for standard 3-ring binder.
  2. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:
    - a. Name of Project.
    - b. Name and address of photographer.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Date photograph was taken.
    - f. Brief description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
- H. **In lieu of above noted Construction Photographs Contractor may elect to submit a complete digital set of weekly progress photographs on a Compact Disc (CD) as a Project Record Document.**
- I. Qualification Data: For firms and persons specified in "Quality Assurance" specification articles 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.
- J. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
1. Scheduled date for first submittal.
  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 Architect's final release or approval.

- K. Daily Construction Reports: Submit at weekly intervals.
- L. Site Condition Reports: Submit at time of discovery of differing conditions.
- M. Special Reports: Submit at time of unusual event.

## 1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.

## 1.6 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's construction schedule with the Schedule of Values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from entities involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

## PART 2 - PRODUCTS

### 2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for Notice of Award to the Notice to Proceed to date of **Substantial Completion** to final completion of the Project.
  - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each section or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
  - 1. Activity Duration: Define activities so no activity is longer than 20 twenty days, unless specifically allowed by Architect.
  - 2. Procurement Activities: Include procurement process activities for any long lead items and major items (including but not limited to items below), requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
    - a. ~~Synthetic Turf.~~
    - b. Site Furnishings, [Pathway Light Fixtures](#), if/as applicable.

- ~~e. Sports Field Lighting.~~
    - d. Transformers, Service Meter Pedestals,
    - e. Prefabricated Modular or Pre-Engineered Structures, including Restroom / Storage Buildings, if/as applicable.
  - 3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section 01 33 00 - Submittal Procedures in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
  - 4. Startup and Testing Time: Include no fewer than (15) fifteen days for startup and testing.
  - 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion.
  - 6. Punch List and Final Completion: Include not more than (30) thirty days for completion of punch list items and final 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 schedule by phase.
  - 2. Work under More Than One Contract: Include a separate activity for each contract.
  - 3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
  - 4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section – 01 10 00 Summary. Delivery dates indicated stipulate the earliest possible delivery date.
  - 5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 01 Section – 01 10 00 Summary. Delivery dates indicated stipulate the earliest possible delivery date.
  - 6. Work Restrictions: 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. Environmental control.
  - 7. 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. Mockups.
    - e. Fabrication.
    - f. Sample testing.
    - g. Deliveries.

- h. Installation.
  - i. Tests and inspections.
  - j. Adjusting.
  - k. Curing.
- 8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
  - a. Structural completion.
  - b. Temporary enclosure and space conditioning.
  - c. Permanent space enclosure.
  - d. Completion of mechanical installation.
  - e. Completion of electrical installation.
  - f. Substantial Completion.
- D. Milestones: Include milestones indicated or implied in the Contract Documents in the schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion, **and the following interim milestones:**
  - 1. On-site arrival of prefabricated structure.
  - 2. Utilities connection of prefabricated structures
  - 3. Excavation, Backfilling and Compacting.
- E. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.
  - 1. See Division 01 Section – 01 29 00 Payment Procedures for cost reporting and payment procedures.
- F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
  - 1. Unresolved issues.
  - 2. Unanswered Requests for Information.
  - 3. Rejected or unreturned submittals.
  - 4. Notations on returned submittals.
  - 5. Pending modifications affecting the Work and Contract Time.
- G. Recovery Schedule: When periodic update indicates the Work is **(14)** fourteen or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
- H. Computer Scheduling Software: Prepare schedules using Owner approved current version of a program that has been developed specifically to manage construction schedules, such as Microsoft Project, or Primavera, or a scheduling component of Project Web site software specified in Division 01 Section 01 31 00 - Project Management and Coordination. Provide choice, type, and name of specific

software selected, for Windows XP or Windows Vista or selected current Windows operating system.

## **2.2 STARTUP CONSTRUCTION SCHEDULE**

- A. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule within (10) ten days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 ninety days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

## **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 (30) thirty days of date established for the Notice to Proceed. Base schedule on the startup construction schedule and additional information received since the start of Project.
- 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 months or longer to complete, indicate an estimated completion percentage in (10) ten percent increments within time bar.

## **2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)**

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Startup Network Diagram: Submit diagram within (14) fourteen days of date established for the Notice to Proceed. Outline significant construction activities for the first (90) ninety days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- C. CPM Schedule: Prepare Contractor's construction schedule using a time-scaled CPM network analysis diagram for the Work.
  - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than (30) thirty days after date established for the Notice to Proceed.
    - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.
  - 2. Conduct educational workshops to train and inform key Project personnel, including, but not limited to, subcontractors' personnel, in proper methods of

- providing data and using CPM schedule information.
3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
  4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to coordinate with the Contract Time. (Note: Unless unavoidable, critical activities shall be scheduled to avoid Fridays, esp. if Public Works or City Hall participation is required as both departments are closed on Fridays.)
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.
1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
    - a. Preparation and processing of submittals.
    - b. Mobilization and demobilization.
    - c. Purchase of materials.
    - d. Delivery.
    - e. Fabrication.
    - f. Utility interruptions.
    - g. Installation.
    - h. Work by Owner that may affect or be affected by Contractor's activities.
    - i. Testing.
    - j. Punch list and final completion.
    - k. Activities occurring following final completion.
  2. Critical Path Activities: Identify Critical Path activities, including, but not limited to, those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
  3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
  4. Format: Mark the Critical Path. Locate the Critical Path near center of network; locate paths with most float near the edges.
    - a. Subnetworks on separate sheets are permissible for activities clearly off the Critical Path.
  5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain Architect's approval prior to assigning costs to fabrication and delivery activities. Assign costs under main subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents and demonstration and training (if applicable), in the amount of **[5%] five** percent of the Contract Sum.
    - a. Each activity cost shall reflect an appropriate value subject to approval by Architect.
    - b. Total cost assigned to activities shall equal the total Contract Sum.

- E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.
- F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-Total Float." Identify critical activities. Prepare tabulated reports showing the following:
  - 1. Contractor or subcontractor and the Work or activity.
  - 2. Description of activity.
  - 3. Main events of activity.
  - 4. Immediate preceding and succeeding activities.
  - 5. Early and late start dates.
  - 6. Early and late finish dates.
  - 7. Activity duration in workdays.
  - 8. Total Float or slack time.
  - 9. Average size of workforce.
  - 10. Dollar value of activity (coordinated with the schedule of values).
- G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
  - 1. Identification of activities that have changed.
  - 2. Changes in early and late start dates.
  - 3. Changes in early and late finish dates.
  - 4. Changes in activity durations in workdays.
  - 5. Changes in the Critical Path.
  - 6. Changes in Total Float or slack time.
  - 7. Changes in the Contract Time.
- H. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
  - 1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
  - 2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
  - 3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
  - 4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
    - a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.Submit value summary printouts one week before each regularly scheduled progress meeting.

## 2.5 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
  - 1. List of subcontractors at Project site.
  - 2. List of separate contractors at Project site.
  - 3. Approximate count of personnel at Project site.



4. Equipment at Project site.
  5. Material deliveries.
  6. High and low temperatures and general weather conditions, including, but not limited to, presence of rain or snow.
  7. Accidents.
  8. Meetings and significant decisions.
  9. Unusual events (see special reports).
  10. Stoppages, delays, shortages, and losses.
  11. Meter readings and similar recordings.
  12. Emergency procedures.
  13. Orders and requests of authorities having jurisdiction.
  14. Change Orders received and implemented.
  15. Work Change Directives received and implemented.
  16. Services connected and disconnected.
  17. Equipment or system tests and startups.
  18. Partial completions and occupancies.
  19. Substantial Completions authorized.
- B. **Material Location Reports:** At monthly intervals, prepare and submit 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. Indicate the following categories for stored materials:
1. Material stored prior to previous report and remaining in storage.
  2. Material stored prior to previous report and since removed from storage and installed.
  3. Material stored following previous report and remaining in storage.
- C. **Site Condition Reports:** Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit 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.

## **2.6 SPECIAL REPORTS**

- A. **General:** Submit special reports directly to Owner within one (1) day 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, and response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.



## **PART 3 - EXECUTION**

### **3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE**

- A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
  - 1. In-House Option: At Owner's sole discretion, Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
  - 2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
  - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue 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, durations, actual starts and finishes, and activity durations.
  - 3. As the Work progresses, indicate final completion percentage for each activity.
- C. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, 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 01 32 00

## **SECTION 01 33 00 - SUBMITTAL PROCEDURES**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
  - 1. Division 01 Section 01 29 00 - Payment Procedures for submitting Applications for Payment and the schedule of values.
  - 2. Division 01 Section 01 31 00 - Project Management and Coordination for submitting Coordination Drawings.
  - 3. Division 01 Section 01 32 00 - Construction Progress Documentation for submitting schedules and reports, including, but not limited to, Contractor's construction schedule.
  - 4. Division 01 Section 01 78 23 - Operation and Maintenance Data for submitting operation and maintenance manuals.
  - 5. Division 01 Section 01 78 39 - Project Record Documents for submitting Record Drawings / Documents, record Specifications, and record Product Data.
  - 6. Division 01 Section 01 77 00 - Closeout Procedures for submitting warranties Project Record Documents and operation and maintenance manuals.
  - 7. Division 01 Section 01 79 00 - Demonstration and Training for submitting video recordings of demonstration of equipment and training of Owner's personnel.

#### **1.3 DEFINITIONS**

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

## **1.4 ACTION SUBMITTALS**

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
  - 1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
  - 2. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  - 3. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.
    - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
  - 4. Format: Arrange the following information in a tabular format:
    - a. Scheduled date for first submittal.
    - b. Specification Section number and title.
    - c. Submittal category: Action; informational.
    - d. Name of subcontractor.
    - e. Description of the Work covered.
    - f. Scheduled date for Architect's final release or approval.
    - g. Scheduled date of fabrication.
    - h. Scheduled dates for purchasing.
    - i. Scheduled dates for installation.
    - j. Activity or event number.

## **1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS**

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
  - 1. Architect may furnish Contractor specifically requested digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.
    - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.

- b. Digital Drawing Software Program: The Contract Drawings are available in AutoCAD.
  - c. Contractor shall execute a data licensing agreement in the form of an Agreement acceptable to Architect, as a pre-requisite for Architect providing electronic files. Architect's consultants may require additional agreements as condition for release of their electronic files.
    - 1) Contractor shall bind all parties receiving or using these files to the same agreements.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  - 3. Submit Action Submittals and Informational Submittals required by the same Specification Section as separate packages under separate transmittals.
  - 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow sufficient time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
  - 1. Initial Review: Allow 5 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  - 3. Resubmittal Review: Allow 5 days for review of each resubmittal.
  - 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 7 days for initial review of each submittal.
  - 5. Concurrent Review of Submittals: Where two or more submittals require concurrent review, Architect retains the right to hold submittals until all submittals required for concurrent review are received. Architect will notify Contractor of necessity for concurrent submittals after a submittal is received in absence of other related submittals required for concurrent review. The date of receipt of the last submittal required for concurrent review will be considered the date for the start of Architect's review time.
    - a. Examples of submittals for concurrent review include, but are not limited to: Exterior Lighting, Transformers, roofing or related flashing, accessories, and waterproofing installed by roofer; doors, door frames,

and hardware submittals; and window or glazing systems and glass.

- D. Transmittals for Paper and Electronic Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review or discard any submittals received from sources other than the Contractor. Provide transmittal form including, but not limited to, the following information:
1. Submittal number unique identifier, including, but not limited to, revision identifier, and with identification of submittal contents as follows:
    - a. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A), or next sequential letter.
    - b. Name of Specification Section, with brief description of submittal contents for sections requiring multiple submittals.
    - c. Include a list of number(s) of associated Specification Section(s) that are included in the submittal.
  2. Overall sequence number each submittal starting with number 1 for the first submittal transmitted to the Architect, 2 for the second and so forth, indicating the chronological submission of each submittal.
  3. Provide means for insertion to permanently record Contractor's review and approval markings. Indicate Contractor's completed review prior to submitting to Architect.
  4. Include the following information for processing and recording:
    - a. Project name.
    - b. Date of submission to Architect.
    - c. Name of Contractor.
    - d. Additionally, indicate names of the following, as applicable, including, but not limited to, indication of the entity that prepared each submittal:
      - 1) Name of subcontractor.
      - 2) Name of supplier / vendor.
      - 3) Name of manufacturer.
    - e. Drawing number and detail references, as appropriate.
    - f. Location(s) where product is to be installed, as appropriate.
    - g. Remarks and other necessary identification.
    - h. Signature of transmitter.
- E. Paper Submittals: Place a permanent label or title block on each submittal item for identification.
1. Number of Copies: Provide paper submittals with a minimum of 2 copies for submittals for Architect's review, with an additional copy for each of Architect's consultants that will also review each submittal. Architect, and each of Architect's consultants involved in review, will retain one copy each for their records, and return additional copies with annotations.
    - a. Submit additional copies if Contractor requires more than one paper copy returned for Contractor's use. When Shop Drawings are required to be annotated by Contractor for as-built conditions and submitted as Record Drawings / Documents, include a copy dedicated for this purpose.

- b. Submit additional copies as required by each other concurrent reviewer, as applicable, in addition to specified number of copies to Architect.
  2. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
- F. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
  1. Assemble complete submittal package into a single indexed .pdf format file, or .pdf files within a .zip file where multiple files cannot be avoided, incorporating submittal requirements of a single Specification Section and transmittal form. Name file according to Submittal number and contents identification.
  2. Architect, and Architect's consultants as applicable, will return electronic submittal with annotations containing their comments as applicable.
  3. Architect retains right to require a paper submittal for Shop Drawings or other complex submittals that may require substantial notation to be marked on submittal sheets or drawings, at Architect's discretion.
- G. Options: Circle or highlight options to be provided on Product Data and specification sheets. Identify options requiring selection by Architect with red colored boxes or text.
- H. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
  1. Note date and content of previous submittal.
  2. Note date and content of revision in label or title block and clearly indicate extent of revision.
  3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, and installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- K. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

## **PART 2 - PRODUCTS**

### **2.1 SUBMITTAL PROCEDURES**

- A. Organization: All required submittals for a specification section must be transmitted together complete as one submittal transmittal. Partial transmittals will not be accepted for review.
- B. Contractor's responsibilities:
  - 1. Contractor shall thoroughly check Shop Drawings, project data and samples for compliance with Contract Documents and list variances prior to submission.
  - 2. Contractor represents by approving and submitting Shop Drawings, Product Data and/or Samples that Contractor has or will coordinate and verify dimensions, all materials, field measurements, field construction criteria, catalog numbers and similar data with requirements of work and of Contract Documents prior to submitting.
  - 3. Submittals shall bear Contractor's stamp and initials certifying that they have been checked. Submittals without stamp & initials shall be returned un-reviewed.
  - 4. Contractor's responsibility for deviations or errors and omissions in submittals is not relieved by Architect/ Engineer review of submittals, unless Architect/ Engineer gives specific written acceptance of specific deviations.
  - 5. Do not proceed with purchasing, fabrication or delivery of Work which requires submittals until return of submittals with Architect/Engineer stamp and initials or signature evidencing final review and approval of submittals.
  - 6. Contractor is responsible for dimensions at job site, quantities, coordinating component parts and trades to effect unified construction and implement construction techniques, safety of incremental units, and Satisfactory performance of Work in accordance with Contract Documents.
  - 7. Delays caused by failure of Contractor to fully coordinate, review, and check Shop Drawings and to stamp with its approval shall be Contractor's responsibility.
  - 8. Coordinate preparation and processing of submittals with performance of work to avoid delays.
  - 9. No extension of time shall be allowed because of failure to properly coordinate and sequence submittals.
- C. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
  - 1. If other than Action or Informational, submit electronic submittals via email or FTP as PDF format electronic files.
    - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
  - 2. Action Submittals: Submit electronic and (2) two paper copies of each submittal unless otherwise indicated. Architect and his consultants involved



in review of each submittal will retain one copy each; and will annotate and return additional copies to Contractor.

3. Informational Submittals: Submit electronic and two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
  4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
    - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
    - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- D. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
  2. Mark each copy of each submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's catalog cuts.
    - b. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.
    - g. Notation of coordination requirements.
    - h. Availability and delivery time information.
  4. For equipment, include the following in addition to the above, as applicable:
    - a. Wiring diagrams showing factory-installed wiring.
    - b. Printed performance curves.
    - c. Operational range diagrams.
    - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
  5. Submit Product Data before or concurrent with Samples.
- E. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.



2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 x 11 inches, but no larger than 30 x 42 inches.
  3. Submit Shop Drawings in the following formats:
    - a. PDF electronic file.
    - b. Opaque paper copies of each submittal. Architect and his consultants involved in review will retain one copy each; remainder will be returned.
- F. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of applicable Specification Section.
    - e. Specification paragraph number and generic name of each item.
  3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
  4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Unless otherwise indicated, submit one (1) full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
    - b. Selector sheets printed by Contractor, and website information, are not acceptable samples for selection. Submit Manufacturer's selector sheets and samples with accurate color and texture representation as applicable.
  6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials;

complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

- a. Number of Samples: Unless otherwise indicated, submit three (3) sets of Samples. Architect will retain one (1) Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
  - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
  - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least **three (3)** sets of paired units that show approximate limits of variations.

## 2.2 INFORMATION SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
  1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.
  2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  3. Test and Inspection Reports: Comply with requirements in Division 1 Section 01 40 00 - Quality Requirements.
- B. Coordination Drawing Submittals: Comply with requirements specified in Division 01 Section – 01 31 00 Project Management and Coordination.
- C. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section 01 32 00 - Construction Progress Documentation.
- D. Application for Payment and Schedule of Values: Comply with requirements specified in Division 01 Section 01 29 00 - Payment Procedures.
- E. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section 01 40 00 - Quality Requirements.
- F. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section 01 77 00 - Closeout Procedures.
- G. Maintenance Data: Comply with requirements specified in Division 01 Section – 01 78 00 Operation and Maintenance Data.
- H. Qualification Data: Prepare written information that demonstrates capabilities and

experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

- I. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- J. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- K. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- L. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- M. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- N. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- O. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- P. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
  - 1. Name of evaluation organization.
  - 2. Date of evaluation.
  - 3. Time period when report is in effect.
  - 4. Product and manufacturers' names.
  - 5. Description of product.
  - 6. Test procedures and results.
  - 7. Limitations of use.
- Q. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

- R. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- S. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- T. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

## **2.3 DELEGATED-DESIGN SERVICES**

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
  - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

## **PART 3 - EXECUTION**

### **3.1 CONTRACTOR'S REVIEW**

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Division 01 Section 01 77 00 - Closeout Procedures.

- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

### 3.2 ARCHITECT'S ACTION

A. Action Submittals:

1. Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
  - a. No exceptions taken.
  - b. Make corrections as noted.
  - c. Revise and resubmit.
  - d. Rejected.
  - e. Other.
2. Submittals or items stamped "No exceptions taken" indicates that Architect does not require resubmittal, and may include comments such as Architect's selection of options.
3. Submittals or items stamped "Make corrections as noted" indicates that Architect does not require resubmittal if the annotated corrections are made. However, items or submittals with this action noted may require resubmittal if:
  - a. Contractor believes indicated corrections are not correct responses, and requires subsequent review. Resubmittal should indicate Contractor's reasons for concern and additional supporting information as applicable.
  - b. Contractor believes a resubmittal is required to address or confirm additional questions through subsequent review, related to items not considered by the original submittal or that were brought to light by Architect's previous review comments.
4. Revise and resubmit items or submittals stamped "revise and resubmit" and "rejected", to address all comments requiring resubmittal and the reasons for rejection.
5. When "Other" action is indicated, Architect will provide additional comment describing the subsequent action required.
6. Submittals may be stamped with more than one action regarding portions of the submittal, and may note that only portions of the original submittal are required to be resubmitted.

- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 01 33 00

## **SECTION 01 40 00 - QUALITY REQUIREMENTS**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General and Supplementary Conditions (as applicable) and Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's Quality-control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections include the following:
  - 1. Division 1 Section 01 32 00 - Construction Progress Documentation for developing a schedule of required tests and inspections.
  - 2. Division 2 SITEWORK Sections for additional specific test and inspection requirements.

#### **1.3 DEFINITIONS**

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect.

- C. Mockups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups are used to verify selections made under Sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Mockups establish the standard by which the Work will be judged.
- D. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- E. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### **1.4 DELEGATED DESIGN**

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

#### **1.5 CONFLICTING REQUIREMENTS**

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

#### **1.6 REGULATORY REQUIREMENTS**

- A. Copies of Regulations: Obtain copies of the following regulations and retain at Project site to be available for reference by parties who have a reasonable need:
  - 1. 2013 California Building Code, Volumes 1 & 2

#### **1.7 SUBMITTALS**



- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.
- C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
  - 1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
  - 2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Description of test and inspection.
  - 3. Identification of applicable standards.
  - 4. Identification of test and inspection methods.
  - 5. Number of tests and inspections required.
  - 6. Time schedule or time span for tests and inspections.
  - 7. Entity responsible for performing tests and inspections.
  - 8. Requirements for obtaining samples.
  - 9. Unique characteristics of each quality-control service.
- E. Reports: Prepare and submit certified written reports that include the following:
  - 1. Date of issue.
  - 2. Project title and number.
  - 3. Name, address, and telephone number of testing agency.
  - 4. Dates and locations of samples and tests or inspections.
  - 5. Names of individuals making tests and inspections.
  - 6. Description of the Work and test and inspection method.
  - 7. Identification of product and Specification Section.
  - 8. Complete test or inspection data.
  - 9. Test and inspection results and an interpretation of test results.
  - 10. Ambient conditions at time of sample taking and testing and inspecting.
  - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  - 12. Name and signature of laboratory inspector.
  - 13. Recommendations on retesting and reinspecting.

- F. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

## 1.8 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
  - 1. Requirement for specialists shall not supersede building codes and similar regulations governing the Work, nor interfere with local trade-union jurisdictional settlements and similar conventions.
- G. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
  - 1. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

- H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
  5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  6. Demolish and remove mockups when directed, unless otherwise indicated.

## 1.9 QUALITY CONTROL

- A. Owner Responsibilities: The Owner will hire and pay for tests and inspections, unless explicitly assigned to Contractor. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
1. Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
  2. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged by Owner and a description of the types of testing and inspecting they are engaged to perform.
  3. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
1. Contractor shall engage and pay for Mechanical HVAC systems testing adjusting and balancing services. Refer to Division 23 for Testing, Adjusting and Balancing specifications.
  2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ the same entity engaged by Owner, unless agreed to in writing by Owner.
  3. Notify testing agencies, Engineer & Architect at least 72 hours in advance of time when Work that requires testing or inspecting will be performed.
  4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

- C. **Manufacturer's Field Services:** Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- D. **Retesting/Reinspections:** Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspections, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
- E. **Associated Services:** Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
  - 1. Access to the Work.
  - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
  - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  - 4. Facilities for storage and field-curing of test samples.
  - 5. Delivery of samples to testing agencies.
  - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- F. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
  - 1. Contractor to assist Owner in the scheduling of times for tests, inspections, obtaining samples, and similar activities.

## **PART 2 - PRODUCTS**

Not used.

## **PART 3 - EXECUTION**

### **3.1 REPAIR AND PROTECTION**

- A. **General:** On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore primary and adjacent substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas (primary and adjacent) and extend restoration into adjoining areas in a manner that eliminates evidence of patching.

- B. Protect construction exposed by or for testing, inspecting, and/or quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

## **SECTION 01 42 00 - REFERENCE STANDARDS**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.2 DEFINITIONS**

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including, but not limited to, "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including, but not limited to, "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including, but not limited to, unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built. (Refer to PROJECT MANUAL, CONTRACTING REQUIREMENTS documents for applicable work restrictions, if any.)

### 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

### 1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.
  - 1. Where abbreviations and acronyms used in Specifications or other Contract Documents are not listed, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

AABC	Associated Air Balance Council www.aabc.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664

AASHTO	American Association of State Highway and Transportation Officials <a href="http://www.transportation.org">www.transportation.org</a>	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists <a href="http://www.aatcc.org">www.aatcc.org</a>	(919) 549-8141
ABMA	American Bearing Manufacturers Association <a href="http://www.americanbearings.org">www.americanbearings.org</a>	(202) 367-1155
ACI	American Concrete Institute (Formerly: ACI International) <a href="http://www.concrete.org">www.concrete.org</a>	(248) 848-3700
ACPA	American Concrete Pipe Association <a href="http://www.concrete-pipe.org">www.concrete-pipe.org</a>	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) <a href="http://www.aeic.org">www.aeic.org</a>	(205) 257-2530
AF&PA	American Forest & Paper Association <a href="http://www.afandpa.org">www.afandpa.org</a>	(800) 878-8878 (202) 463-2700
AGA	American Gas Association <a href="http://www.aga.org">www.aga.org</a>	(202) 824-7000
AHAM	Association of Home Appliance Manufacturers <a href="http://www.aham.org">www.aham.org</a>	(202) 872-5955
AHRI	Air-Conditioning, Heating, and Refrigeration Institute (The) <a href="http://www.ahrinet.org">www.ahrinet.org</a>	(703) 524-8800
AI	Asphalt Institute <a href="http://www.asphaltinstitute.org">www.asphaltinstitute.org</a>	(859) 288-4960
AIA	American Institute of Architects (The) <a href="http://www.aia.org">www.aia.org</a>	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction <a href="http://www.aisc.org">www.aisc.org</a>	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute <a href="http://www.steel.org">www.steel.org</a>	(202) 452-7100
AITC	American Institute of Timber Construction <a href="http://www.aitc-glulam.org">www.aitc-glulam.org</a>	(303) 792-9559
AMCA	Air Movement and Control Association International, Inc. <a href="http://www.amca.org">www.amca.org</a>	(847) 394-0150
ANSI	American National Standards Institute <a href="http://www.ansi.org">www.ansi.org</a>	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. <a href="http://www.aosaseed.com">www.aosaseed.com</a>	(607) 256-3313
APA	APA - The Engineered Wood Association <a href="http://www.apawood.org">www.apawood.org</a>	(253) 565-6600
APA	Architectural Precast Association <a href="http://www.archprecast.org">www.archprecast.org</a>	(239) 454-6989
API	American Petroleum Institute <a href="http://www.api.org">www.api.org</a>	(202) 682-8000



ARI	Air-Conditioning & Refrigeration Institute (See AHRI)	
ARI	American Refrigeration Institute (See AHRI)	
ARMA	Asphalt Roofing Manufacturers Association <a href="http://www.asphaltroofing.org">www.asphaltroofing.org</a>	(202) 207-0917
ASCE	American Society of Civil Engineers <a href="http://www.asce.org">www.asce.org</a>	(800) 548-2723 (703) 295-6300
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air- Conditioning Engineers <a href="http://www.ashrae.org">www.ashrae.org</a>	(800) 527-4723 (404) 636-8400
ASME	ASME International (American Society of Mechanical Engineers) <a href="http://www.asme.org">www.asme.org</a>	(800) 843-2763 (973) 882-1170
ASSE	American Society of Safety Engineers (The) <a href="http://www.asse.org">www.asse.org</a>	(847) 699-2929
ASSE	American Society of Sanitary Engineering <a href="http://www.asse-plumbing.org">www.asse-plumbing.org</a>	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) <a href="http://www.astm.org">www.astm.org</a>	(610) 832-9500
ATIS	Alliance for Telecommunications Industry Solutions <a href="http://www.atis.org">www.atis.org</a>	(202) 628-6380
AWEA	American Wind Energy Association <a href="http://www.awea.org">www.awea.org</a>	(202) 383-2500
AWI	Architectural Woodwork Institute <a href="http://www.awinet.org">www.awinet.org</a>	(571) 323-3636
AWMAC	Architectural Woodwork Manufacturers Association of Canada <a href="http://www.awmac.com">www.awmac.com</a>	(403) 453-7387
AWPA	American Wood Protection Association (Formerly: American Wood-Preservers' Association) <a href="http://www.awpa.com">www.awpa.com</a>	(205) 733-4077
AWS	American Welding Society <a href="http://www.aws.org">www.aws.org</a>	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association <a href="http://www.awwa.org">www.awwa.org</a>	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association <a href="http://www.buildershardware.com">www.buildershardware.com</a>	(212) 297-2122
BIA	Brick Industry Association (The) <a href="http://www.gobrick.com">www.gobrick.com</a>	(703) 620-0010
BICSI	BICSI, Inc. <a href="http://www.bicsi.org">www.bicsi.org</a>	(800) 242-7405 (813) 979-1991

BIFMA	International (Business and Institutional Furniture Manufacturer's Association) <a href="http://www.bifma.com">www.bifma.com</a>	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee <a href="http://www.bissc.org">www.bissc.org</a>	(866) 342-4772
BWF	Badminton World Federation (Formerly: International Badminton Federation) <a href="http://www.bwfbadminton.org">www.bwfbadminton.org</a>	60 3 9283 7155
CDA	Copper Development Association <a href="http://www.copper.org">www.copper.org</a>	(800) 232-3282 (212) 251-7200
CEA	Consumer Electronics Association <a href="http://www.ce.org">www.ce.org</a>	(866) 858-1555 (703) 907-7600
CFFA	Chemical Fabrics & Film Association, Inc. <a href="http://www.chemicalfabricsandfilm.com">www.chemicalfabricsandfilm.com</a>	(216) 241-7333
CFSEI	Cold-Formed Steel Engineers Institute <a href="http://www.cfsei.org">www.cfsei.org</a>	(866) 465-4732 (202) 263-4488
CGA	Compressed Gas Association <a href="http://www.cganet.com">www.cganet.com</a>	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association <a href="http://www.cellulose.org">www.cellulose.org</a>	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association <a href="http://www.cisca.org">www.cisca.org</a>	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute <a href="http://www.cispi.org">www.cispi.org</a>	(404) 622-0073
CLFMI	Chain Link Fence Manufacturers Institute <a href="http://www.chainlinkinfo.org">www.chainlinkinfo.org</a>	(301) 596-2583
CPA	Composite Panel Association <a href="http://www.pbmdf.com">www.pbmdf.com</a>	(703) 724-1128
CRI	Carpet and Rug Institute (The) <a href="http://www.carpet-rug.org">www.carpet-rug.org</a>	(706) 278-3176
CRRC	Cool Roof Rating Council <a href="http://www.coolroofs.org">www.coolroofs.org</a>	(866) 465-2523 (510) 485-7175
CRSI	Concrete Reinforcing Steel Institute <a href="http://www.crsi.org">www.crsi.org</a>	(800) 328-6306 (847) 517-1200
CSA	CSA International (Formerly: IAS - International Approval Services) <a href="http://www.csa-international.org">www.csa-international.org</a>	(866) 797-4272 (416) 747-4000
CSI	Construction Specifications Institute (The) <a href="http://www.csinet.org">www.csinet.org</a>	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau <a href="http://www.cedarbureau.org">www.cedarbureau.org</a>	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) <a href="http://www.cti.org">www.cti.org</a>	(281) 583-4087
CWC	Composite Wood Council (See CPA)	

DASMA	Door and Access Systems Manufacturers Association www.dasma.com	(216) 241-7333
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
ECA	Electronic Components Association www.ec-central.org	(703) 907-8024
ECAMA	Electronic Components Assemblies & Materials Association (See ECA)	
EIA	Electronic Industries Alliance (See TIA)	
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (703) 538-1616
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association (Electrostatic Discharge Association) www.esda.org	(315) 339-6937
ESTA	Entertainment Services and Technology Association (See PLASA)	
EVO	Efficiency Valuation Organization www.evo-world.org	(415) 367-3643 44 20 88 167 857
FM Approvals	FM Approvals LLC www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridarooft.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council U.S. www.fscus.org	(612) 353-4511
GA	Gypsum Association www.gypsum.org	(301) 277-8686
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GS	Green Seal www.greenseal.org	(202) 872-6400
HI	Hydraulic Institute www.pumps.org	(973) 267-9700
HI/GAMA	Hydronics Institute/Gas Appliance Manufacturers Association (See AHRI)	
HMMA	Hollow Metal Manufacturers Association (See NAAMM)	

HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAPSC	International Association of Professional Security Consultants www.iapsc.org	(415) 536-0288
IAS	International Approval Services (See CSA)	
ICBO	International Conference of Building Officials (See ICC)	
ICC	International Code Council www.iccsafe.org	(888) 422-7233 (202) 370-1800
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICPA	International Cast Polymer Alliance www.icpa-hq.org	(703) 525-0511
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IES	Illuminating Engineering Society (Formerly: Illuminating Engineering Society of North America) www.ies.org	(212) 248-5000
IESNA	Illuminating Engineering Society of North America (See IES)	
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 981-0100
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
IGSHPA	International Ground Source Heat Pump Association www.igshpa.okstate.edu	(405) 744-5175
Intertek	Intertek Group (Formerly: ETL SEMCO; Intertek Testing Service NA) www.intertek.com	(800) 967-5352
ISA	International Society of Automation (The) (Formerly: Instrumentation, Systems, and Automation Society) www.isa.org	(919) 549-8411
ISAS	Instrumentation, Systems, and Automation Society (The) (See ISA)	

ISFA	International Surface Fabricators Association (Formerly: International Solid Surface Fabricators Association) <a href="http://www.isfanow.org">www.isfanow.org</a>	(877) 464-7732 (801) 341-7360
ISO	International Organization for Standardization <a href="http://www.iso.org">www.iso.org</a>	41 22 749 01 11
ISSFA	International Solid Surface Fabricators Association (See ISFA)	
ITU	International Telecommunication Union <a href="http://www.itu.int/home">www.itu.int/home</a>	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association <a href="http://www.kcma.org">www.kcma.org</a>	(703) 264-1690
LMA	Laminating Materials Association (See CPA)	
LPI	Lightning Protection Institute <a href="http://www.lightning.org">www.lightning.org</a>	(800) 488-6864
MBMA	Metal Building Manufacturers Association <a href="http://www.mbma.com">www.mbma.com</a>	(216) 241-7333
MCA	Metal Construction Association <a href="http://www.metalconstruction.org">www.metalconstruction.org</a>	(847) 375-4718
MFMA	Maple Flooring Manufacturers Association, Inc. <a href="http://www.maplefloor.org">www.maplefloor.org</a>	(888) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. <a href="http://www.metalframingmfg.org">www.metalframingmfg.org</a>	(312) 644-6610
MHIA	Material Handling Industry of America <a href="http://www.mhia.org">www.mhia.org</a>	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America <a href="http://www.marble-institute.com">www.marble-institute.com</a>	(440) 250-9222
MMPA	Moulding & Millwork Producers Association (Formerly: Wood Moulding & Millwork Producers Association) <a href="http://www.wmmpa.com">www.wmmpa.com</a>	(800) 550-7889 (530) 661-9591
MPI	Master Painters Institute <a href="http://www.paintinfo.com">www.paintinfo.com</a>	(888) 674-8937 (604) 298-7578
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. <a href="http://www.mss-hq.org">www.mss-hq.org</a>	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers	(630) 942-6591

NACE	www.naamm.org NACE International (National Association of Corrosion Engineers International)	(800) 797-6223 (281) 228-6200
NADCA	www.nace.org National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	International Electrical Testing Association www.netaworld.org	(888) 300-6382 (269) 488-6382
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NHLA	National Hardwood Lumber Association www.nhla.com	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	National Oak Flooring Manufacturers Association (See NWFA)	
NOMMA	National Ornamental & Miscellaneous Metals Association www.nomma.org	(888) 516-8585
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International)	(800) 673-6275 (734) 769-8010

NSPE	www.nsf.org National Society of Professional Engineers	(703) 684-2800
NSSGA	www.nspe.org National Stone, Sand & Gravel Association	(800) 342-1415 (703) 525-8788
NTMA	www.nssga.org National Terrazzo & Mosaic Association, Inc. (The)	(800) 323-9736
NWFA	www.ntma.com National Wood Flooring Association	(800) 422-4556 (636) 519-9663
PCI	www.nwfa.org Precast/Prestressed Concrete Institute	(312) 786-0300
PDI	www.pci.org Plumbing & Drainage Institute	(800) 589-8956 (978) 557-0720
PLASA	www.pdionline.org PLASA (Formerly: ESTA - Entertainment Services and Technology Association)	(212) 244-1505
RCSC	www.plasa.org Research Council on Structural Connections	
RFCI	www.boltcouncil.org Resilient Floor Covering Institute	(706) 882-3833
RIS	www.rfci.com Redwood Inspection Service	(925) 935-1499
SAE	www.redwoodinspection.com SAE International (Society of Automotive Engineers)	(877) 606-7323 (724) 776-4841
SBCCI	www.sae.org Southern Building Code Congress International, Inc. (See ICC)	
SCTE	Society of Cable Telecommunications Engineers	(800) 542-5040 (610) 363-6888
SDI	www.scte.org Steel Deck Institute	(847) 458-4647
SDI	www.sdi.org Steel Door Institute	(440) 899-0010
SEFA	www.steeldoor.org Scientific Equipment and Furniture Association	(877) 294-5424 (516) 294-5424
SEI/ASCE	www.sefalabs.com Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SIA	Security Industry Association	(866) 817-8888 (703) 683-2075
SJI	www.siaonline.org Steel Joist Institute	(843) 293-1995
SMA	www.steeljoist.org Screen Manufacturers Association	(773) 636-0672
SMACNA	www.smainfo.org Sheet Metal and Air Conditioning Contractors' National Association	(703) 803-2980

SMPTE	<a href="http://www.smacna.org">www.smacna.org</a> Society of Motion Picture and Television Engineers	(914) 761-1100
SPFA	<a href="http://www.smppte.org">www.smppte.org</a> Spray Polyurethane Foam Alliance	(800) 523-6154
SPIB	<a href="http://www.sprayfoam.org">www.sprayfoam.org</a> Southern Pine Inspection Bureau	(850) 434-2611
SPRI	<a href="http://www.spib.org">www.spib.org</a> Single Ply Roofing Industry	(781) 647-7026
	<a href="http://www.spri.org">www.spri.org</a>	
SRCC	Solar Rating and Certification Corporation	(321) 638-1537
	<a href="http://www.solar-rating.org">www.solar-rating.org</a>	
SSINA	Specialty Steel Industry of North America	(800) 982-0355
	<a href="http://www.ssina.com">www.ssina.com</a>	(202) 342-8630
SSPC	SSPC: The Society for Protective Coatings	(877) 281-7772
	<a href="http://www.sspc.org">www.sspc.org</a>	(412) 281-2331
STI	Steel Tank Institute	(847) 438-8265
	<a href="http://www.steeltank.com">www.steeltank.com</a>	
SWI	Steel Window Institute	(216) 241-7333
	<a href="http://www.steelwindows.com">www.steelwindows.com</a>	
SWPA	Submersible Wastewater Pump Association	(847) 681-1868
	<a href="http://www.swpa.org">www.swpa.org</a>	
TCA	Tilt-Up Concrete Association	(319) 895-6911
	<a href="http://www.tilt-up.org">www.tilt-up.org</a>	
TCA	Tile Council of America (See TCNA)	
TCNA	Tile Council of North America, Inc. (Formerly: Tile Council of America)	(864) 646-8453
	<a href="http://www.tileusa.com">www.tileusa.com</a>	
TEMA	Tubular Exchanger Manufacturers Association, Inc.	(914) 332-0040
	<a href="http://www.tema.org">www.tema.org</a>	
TIA	Telecommunications Industry Association (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance)	(703) 907-7700
	<a href="http://www.tiaonline.org">www.tiaonline.org</a>	
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance (See TIA)	
TMS	The Masonry Society	(303) 939-9700
	<a href="http://www.masonrysociety.org">www.masonrysociety.org</a>	
TPI	Truss Plate Institute	(703) 683-1010
	<a href="http://www.tpinst.org">www.tpinst.org</a>	
TPI	Turfgrass Producers International	(800) 405-8873
	<a href="http://www.turfgrasssod.org">www.turfgrasssod.org</a>	(847) 649-5555
TRI	Tile Roofing Institute	(312) 670-4177
	<a href="http://www.tilerroofing.org">www.tilerroofing.org</a>	
UBC	Uniform Building Code (See ICC)	
UL	Underwriters Laboratories Inc.	(877) 854-3577



UNI	www.ul.com Uni-Bell PVC Pipe Association	(972) 243-3902
USAV	www.uni-bell.org USA Volleyball	(888) 786-5539
USGBC	www.usavolleyball.org U.S. Green Building Council	(719) 228-6800 (800) 795-1747
USITT	www.usgbc.org United States Institute for Theatre Technology, Inc.	(800) 938-7488 (315) 463-6463
WASTEC	www.usitt.org Waste Equipment Technology Association	(800) 424-2869 (202) 244-4700
WCLIB	www.wastec.org West Coast Lumber Inspection Bureau	(800) 283-1486 (503) 639-0651
WCMA	www.wclib.org Window Covering Manufacturers Association	(212) 297-2122
WDMA	www.wcmanet.org Window & Door Manufacturers Association	(800) 223-2301 (312) 321-6802
WI	www.wdma.com Woodwork Institute (Formerly: WIC - Woodwork Institute of California)	(916) 372-9943
WMMPA	www.wicnet.org Wood Moulding & Millwork Producers Association (See MMPA)	
WSRCA	www.wicnet.org Western States Roofing Contractors Association	(800) 725-0333 (650) 938-5441
WWPA	www.wsrca.com Western Wood Products Association	(503) 224-3930
	www.wwpa.org	

- B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

DIN	Deutsches Institut für Normung e.V. www.din.de	49 30 2601-0
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233
ICC-ES	ICC Evaluation Service, LLC www.icc-es.org	(800) 423-6587 (562) 699-0543

- C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

COE	Army Corps of Engineers <a href="http://www.usace.army.mil">www.usace.army.mil</a>	(202) 761-0011
CPSC	Consumer Product Safety Commission <a href="http://www.cpsc.gov">www.cpsc.gov</a>	(800) 638-2772 (301) 504-7923
DOC	Department of Commerce National Institute of Standards and Technology <a href="http://www.nist.gov">www.nist.gov</a>	(301) 975-4040
DOD	Department of Defense <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a>	(215) 697-2664
DOE	Department of Energy <a href="http://www.energy.gov">www.energy.gov</a>	(202) 586-9220
EPA	Environmental Protection Agency <a href="http://www.epa.gov">www.epa.gov</a>	(202) 272-0167
FAA	Federal Aviation Administration <a href="http://www.faa.gov">www.faa.gov</a>	(866) 835-5322
FG	Federal Government Publications <a href="http://www.gpo.gov">www.gpo.gov</a>	(202) 512-1800
GSA	General Services Administration <a href="http://www.gsa.gov">www.gsa.gov</a>	(800) 488-3111 (202) 619-8925
HUD	Department of Housing and Urban Development <a href="http://www.hud.gov">www.hud.gov</a>	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory Environmental Energy Technologies Division <a href="http://eetd.lbl.gov">http://eetd.lbl.gov</a>	(510) 486-4000
OSHA	Occupational Safety & Health Administration <a href="http://www.osha.gov">www.osha.gov</a>	(800) 321-6742
TRB	Transportation Research Board National Cooperative Highway Research Program <a href="http://www.trb.org">www.trb.org</a>	(202) 334-2934
USDA	Department of Agriculture Rural Utilities Service <a href="http://www.usda.gov">www.usda.gov</a>	(202) 720-2791
USDJ	Department of Justice Office of Justice Programs National Institute of Justice <a href="http://www.ojp.usdoj.gov">www.ojp.usdoj.gov</a>	(202) 307-0703
USP	U.S. Pharmacopeia <a href="http://www.usp.org">www.usp.org</a>	(800) 227-8772 (301) 881-0666
USPS	United States Postal Service <a href="http://www.usps.com">www.usps.com</a>	(202) 268-2000

- D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ABA /	Architectural Barriers Act	(800) 872-2253
ADA /	Americans with Disabilities Act	
ADAAG	Americans with Disabilities Act Accessibility Guidelines <i>Administered by the</i> United States Access Board <a href="http://www.access-board.gov/">http://www.access-board.gov/</a>	
CFR	Code of Federal Regulations Available from Government Printing Office <a href="http://www.gpo.gov/fdsys">www.gpo.gov/fdsys</a>	(866) 512-1800 (202) 512-1800
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a>	(215) 697-2664
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Department of Defense Single Stock Point <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a> Available from Defense Standardization Program <a href="http://www.dsp.dla.mil">www.dsp.dla.mil</a> Available from General Services Administration <a href="http://www.gsa.gov">www.gsa.gov</a> Available from National Institute of Building Sciences/Whole Building Design Guide <a href="http://www.wbdg.org/ccb">www.wbdg.org/ccb</a>	(215) 697-2664     (800) 488-3111 (202) 619-8925 (202) 289-7800
MILSPEC	Military Specification and Standards (See DOD)	
UFAS	Uniform Federal Accessibility Standards <i>Administered by the</i> United States Access Board <a href="http://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-aba-standards/ufas">http://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-aba-standards/ufas</a>	(800) 872-2253
USAB	United States Access Board <a href="http://www.access-board.gov">www.access-board.gov</a>	(800) 872-2253 (202) 272-0080
USATBCB	U.S. Architectural & Transportation Barriers Compliance Board (See USAB)	

- E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CBHF	State of California	(800) 952-5210
	Department of Consumer Affairs	(916) 574-2041
	Bureau of Electronic Appliance and Repair, Home Furnishings and Thermal Insulation <a href="http://www.bearhfti.ca.gov">www.bearhfti.ca.gov</a>	

CCR	California Code of Regulations Office of Administrative Law California Title 24 Energy Code <a href="http://www.calregs.com">www.calregs.com</a>	(916) 323-6225
CDHS	California Department of Health Care Services (Formerly: California Department of Health Services) (See CCR)	
CDPH	California Department of Public Health	
	Indoor Air Quality Program <a href="http://www.cal-iaq.org">www.cal-iaq.org</a>	
CPUC	California Public Utilities Commission <a href="http://www.cpuc.ca.gov">www.cpuc.ca.gov</a>	(800) 848-5580 (415) 703-2782
SCAQMD	South Coast Air Quality Management District <a href="http://www.aqmd.gov">www.aqmd.gov</a>	(909) 396-2000

## **PART 2 - PRODUCTS (Not Used)**

## **PART 3 - EXECUTION (Not Used)**

END OF SECTION 01 42 00

## **SECTION 01 45 00 – TESTING AND INSPECTION**

---

### **PART 1 - GENERAL**

#### **1.1 CONDITIONS AND REQUIREMENTS**

Refer to the Special Provisions and Additional Provisions of the Specifications.

#### **1.2 DESCRIPTION**

A. Work included:

1. Owner-provided testing laboratory services.
2. Contractor-provided testing and inspection services.

B. Related Work Described Elsewhere:

1. Soil Investigation Data
2. General Conditions: Inspections, testing, and approvals required by public authorities.
3. Section 017700: Closeout Procedures: Record documents.
4. Individual Specification Sections: Inspection and tests required, and standards for testing.

#### **1.3 REFERENCES**

- A. ANSI/ASTM D3740: "Practice for evaluation of agencies engaged in testing and/or inspection of soil and rock as used in engineering design and construction."
- B. ANSI/ASTM E329: "Standard recommended practice for inspection and testing agencies for concrete, steel, and bituminous materials as used in construction."

#### **1.4 SELECTION AND PAYMENT**

- A. Contractor will employ and pay for services to perform initial specified inspection and testing.
- B. Retesting: When initial tests indicate non-compliance with the contract documents, all subsequent retesting occasioned by the non-compliance shall be performed by the testing agency and the costs thereof will be deductible by the City from the contract sum.
- C. Inspecting and testing performed exclusively for the contractor's convenience shall be the sole responsibility of the contractor.
- D. Employment of testing laboratory shall in no way relieve contractor of obligation to perform work in accordance with requirements of contract documents.

## **1.5 LIMITS ON TESTING PERSONNEL AUTHORITY**

- A. Testing personnel may not release, revoke, alter or enlarge on requirements of contract documents.
- B. Testing personnel may not approve or accept any portion of the work.
- C. Testing personnel may not assume any duties of the contractor.
- D. Testing personnel have no authority to stop or to direct the work.

## **1.6 CONTRACTOR RESPONSIBILITIES**

- A. Deliver to laboratory at designated location adequate samples of materials proposed to be used which require testing, together with proposed mix designs.
- B. Cooperate with testing personnel, and provide access to the work and manufacturer's facilities.
- C. Provide incidental labor and facilities to provide access to work to be tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate test and inspections, and for storage and curing of test samples.
- D. Notify the City and laboratory 24 hours prior to expected time for operations requiring inspection and testing services.

## **1.7 SCHEDULE OF INSPECTIONS AND TESTS**

- A. Testing Costs Borne by Contractor.
  - 1. Certifications of materials, welders, etc.
  - 2. Tests to establish equivalence of substitutions or material not properly identified.
  - 3. Testing required to expedite contractor's operations or to correct errors and deficiencies (e.g., materials not meeting specified requirements). Testing relating to repair of work which fails to meet specifications.
  - 4. Testing and inspection required to correct damage to members in shipping and erection.
  - 5. Concrete: Design concrete mixes.
  - 6. Soil and Groundwater Testing for disposal if necessary.
- B. Testing Costs Borne by the City.
  - 1. Section 312300 Excavation and Fill. Grading observations and tests.
  - 2. Section 334000 Storm Drainage. Backfilling observations and tests.
  - 3. Section 333000 Sanitary Sewerage. Backfilling.
  - 4. Section 033000 Cast-in-Place Concrete.
    - a. Check certifications on cement and aggregates (waive testing).
    - b. Cast test cylinders.

- c. Test cylinders at 7 and 28 days.
- d. Hold third cylinder for possible later test.
- e. Slump tests.

**PART 2 - PRODUCTS (not used)**

**PART 3 - EXECUTION (not used)**

**PART 4 - BASE BID SCHEDULE (not used)**

END OF SECTION 01 45 00

## **SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (as applicable) and Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

- B. Temporary utilities include, but are not limited to, the following:

1.	Sanitary Sewers, Storm Drainage, or Pollution Control.
2.	Domestic or Irrigation or Grey water service and distribution.
3.	Sanitary facilities, toilets, wash facilities, and drinking-water facilities.
4.	Heating and cooling facilities.
5.	Ventilation.
6.	Electric power service.
7.	Lighting.
8.	Telephone (internet or low voltage) service/systems.

- C. Support facilities include, but are not limited to, the following:

1. Temporary roads and paving.
2. Dewatering facilities and drains.
3. Project identification and temporary signs.
4. Waste disposal facilities.
5. Field offices.
6. Storage and fabrication sheds.
7. Lifts and hoists.
8. Temporary elevator usage.
9. Temporary stairs.
10. Construction aids and miscellaneous services and facilities.

- D. Security and protection facilities include, but are not limited to, the following:

1. Environmental protection.
2. Stormwater control.
3. Tree and plant protection.
4. Pest control.
5. Site enclosure fence.
6. Security enclosure and lockup.



7. Barricades, warning signs, and lights.
  8. Covered walkways.
  9. Temporary enclosures.
  10. Temporary partitions.
  11. Fire protection.
- E. Related Sections include the following:
1. Division 1 Section 01 33 00 - Submittal Procedures for procedures for submitting copies of implementation and termination schedule and utility reports.
  2. Division 1 Section 01 73 00 - Execution for progress cleaning requirements.

### **1.3 DEFINITIONS**

- A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

### **1.4 USE CHARGES**

- A. General: Cost or use charges for temporary facilities are not chargeable to Owner or Architect and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
1. Owner's Authorized Representative and maintenance personnel.
  2. Occupants of Project.
  3. Architect.
  4. Testing and Inspection agencies.
  5. Personnel of authorities having jurisdiction.
- B. Sewer Service: Pay sewer service use charges for sewer usage, by all parties engaged in construction, at Project Site.
- C. Water Service: Pay water-service use charges for water used by all entities for construction operations.
- D. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

### **1.5 SUBMITTALS**

- A. Temporary Utility Reports: Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.

## **1.6 QUALITY ASSURANCE**

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
  - 1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
  - 2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

## **1.7 PROJECT CONDITIONS**

- A. Temporary Utilities: At earliest feasible time, after Substantial Completion, AND when acceptable to Owner, change over from use of temporary service to use of permanent service – except for temporary security and protection facilities, per this Section, paragraph 3.6 D. "Temporary Facility Changeover".
  - 1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
  - 1. Keep temporary services and facilities clean and neat.
  - 2. Relocate temporary services and facilities as required by progress of the Work.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.
- B. Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-

inch- OD top rails.

- C. Wood Enclosure Fence: Plywood, 6 feet high, framed with four 2-by-4- inch rails, with preservative-treated wood posts spaced not more than 8 feet apart.
- D. Portable Chain-Link Fencing: Minimum 2-inch 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide concrete or galvanized steel bases for supporting posts.
- E. Lumber and Plywood: Comply with ASTM and Industry standards as applicable AND with requirements in Division 6 Section – Rough Carpentry.
- F. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36.
- G. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively.
- H. Paint: Comply with ASTM and Industry standards as applicable AND with requirements in Division 9 Section - Painting.
- I. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- J. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- K. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches
- L. Water: Potable.

## 2.2 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Field Offices: Prefabricated Mobile units with lockable entrances, operable windows, and serviceable finishes; heated and air conditioned; on foundations adequate for normal loading.
- C. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Owner's Construction Manager, Owner's Authorized Representative, Architect and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:
  - 1. Furniture required for Project-site documents including, but not limited to, file cabinets, plan tables, chairs, plan racks, and bookcases.

2. Conference room of sufficient size to accommodate meetings of at least 10 individuals. Provide electrical power service Wi-Fi internet access and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and tack & marker boards.
  3. Drinking water.
  4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
  5. Lighting fixtures capable of maintaining average illumination of 20 fc.
- D. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations. Store combustible materials apart from building.
- E. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- F. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- G. Drinking-Water Fixtures: Containerized, tap-dispenser, bottled-water drinking-water units, including, but not limited to, paper cup supply.
- H. Heating Equipment: Unless Owner authorizes use of permanent heating system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
  2. Heating Units: Listed and labeled, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use for type of fuel being consumed.
  3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of [8] at each return-air grille in system and remove at end of construction and clean HVAC system as required in Division 01 Section - Closeout Procedures.
- I. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- J. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION, GENERAL**

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### **3.2 TEMPORARY UTILITY INSTALLATION**

- A. General: Engage appropriate local utility company to install temporary service or connect to existing service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.
  - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
  - 2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.
  - 3. Obtain easements to bring temporary utilities to Project site where Owner's easements cannot be used for that purpose.
- B. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed.
  - 1. Maintain a minimum temperature of 50 deg F in permanently enclosed portions of building for normal construction activities, and 65 deg F for finishing activities and areas where finished Work has been installed.
- C. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- D. Electric Distribution: Provide temporary electric power service as required for construction, including, but not limited to, receptacle outlets adequate for connection of power tools and equipment.
  - 1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

2. Provide warning signs at power outlets other than 110 to 120 V.
  3. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks, or other traffic areas.
  4. Provide metal conduit enclosures or boxes for wiring devices.
  5. Provide 4-gang outlets, spaced so 100-foot extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet.
- E. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.
1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
  2. Provide one 100-W incandescent lamp per 500 sq. ft., uniformly distributed, for general lighting, or equivalent illumination.
  3. Provide one 100-W incandescent lamp every 50 feet in traffic areas.
  4. Provide one 100-W incandescent lamp per story in stairways and ladder runs, located to illuminate each landing and flight.
  5. Install exterior-yard site lighting that will provide adequate illumination for construction operations, traffic conditions, and signage visibility when the Work is being performed.
  6. Install lighting for Project identification sign.
- F. Telephone Service: Provide temporary telephone service throughout construction period for common-use facilities used by all personnel engaged in construction activities. Install separate telephone line for each field office and first-aid station.
1. Provide additional telephone lines for the following:
    - a. In field office with more than two occupants, install a telephone for each additional occupant or pair of occupants.
    - b. Provide a dedicated telephone line for each facsimile machine and computer with Internet connection in the field office.
  2. At each telephone, post a list of important telephone numbers.
    - a. Police and fire departments.
    - b. Ambulance service.
    - c. Contractor's home office.
    - d. Architect's office.
    - e. Engineers' offices.
    - f. Owner's office.
    - g. Principal subcontractors' field and home offices.
  3. Provide an answering machine, voice-mail service, or messaging service on superintendent's telephone.
  4. Furnish superintendent with a portable cellular telephone for use in making and receiving telephone calls when away from field office.

### 3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:

1. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.
  2. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Traffic Controls: Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.
- C. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations.
1. Provide dust-control treatment that is nonpolluting and non-tracking. Reapply treatment as required to minimize dust.
- D. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
  2. Prepare subgrade and install sub-base and base for temporary roads and paved areas according to Divisions 1 General, and 2 Site Work.
  3. Recondition base after temporary use, including removing contaminated material, re-grading, proof-rolling, compacting, and testing.
  4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Division 2 – Site Work, (Section 02510 - Asphalt Concrete Paving).
- E. Dewatering Facilities and Drains: Comply with requirements in applicable Division 2 Sections for temporary drainage and dewatering facilities and operations not directly associated with construction activities included in individual Sections. Where feasible, use same facilities. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining property nor endanger permanent Work or temporary facilities.
  2. Before connection and operation of permanent drainage piping system, provide temporary drainage where roofing or similar waterproof deck construction is completed.
- F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section 01 73 00- Execution for progress



cleaning requirements. Comply with requirements specified in Division 1 Section - 01 74 00 Construction Waste Management.

1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.
  2. Develop a waste management plan for Work performed on Project. Indicate types of waste materials Project will produce and estimate quantities of each type. Provide detailed information for on-site waste storage and separation of recyclable materials. Provide information on destination of each type of waste material and means to be used to dispose of all waste materials.
- G. Lifts and Hoists: Provide facilities for hoisting materials and personnel. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- H. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate. Cover finished, permanent stairs with protective covering of plywood or similar material so finishes will be undamaged at time of acceptance.

### **3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION**

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project Site.
- B. Temporary Erosion and Sedimentation Control: Comply with requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Division 2 - SITE WORK, Section 02100 Site Clearing and Demolition.
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings or requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
  2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
  3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project Site during the course of Project.
  4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.



- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from construction damage. Protect tree root systems from damage, flooding, and erosion. Comply with requirements specified in Division 2 – SITE CONSTRUCTION, including, but not limited to, Section 02 10 00 Clearing, Grubbing & Stripping.
- F. Pest Control: Before deep foundation work has been completed, retain a local exterminator or pest-control company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Engage this pest-control service to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.
- G. Site Enclosure Fence: Before construction operations begin, install chain-link enclosure fence with lockable entrance gates. Locate where indicated, or enclose entire Project Site or portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering site except by entrance gates.
  - 1. Set fence posts in concrete bases.
  - 2. Provide gates in sizes and at locations necessary to accommodate delivery vehicles and other construction operations.
  - 3. Option in subparagraph below is only for projects connected to existing construction.
  - 4. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Provide Owner with one set of keys.
- H. Security Enclosure and Lockup: Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each day.
- I. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- J. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including, but not limited to, flashing red or amber lights.
  - 1. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch thick exterior plywood.
- K. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight

enclosure for building exterior – as applicable.

1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
2. Vertical Openings: Close openings of 25 sq. ft. or less with plywood or similar materials.
3. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
4. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.
5. Where temporary wood or plywood enclosure exceeds 100 sq. ft. in area, use fire-retardant-treated material for framing and main sheathing.

L. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 and NFPA 241.

1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
  - a. Field Offices: Class A stored-pressure water-type extinguishers or a combination of extinguishers of NFPA-recommended classes for exposures.
  - b. Other Locations: Class ABC dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for exposures.
  - c. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.
2. Store combustible materials in containers in fire-safe locations.
3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting. Provide temporary key boxes and knox padlocks for gates and secured areas throughout construction as required by authorities having jurisdiction.
4. Prohibit smoking on Project Site.
5. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
6. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
7. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project Site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
8. Provide hoses for fire protection of sufficient length to reach construction areas. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

9. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

### 3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
  1. Protect porous materials from water damage.
  2. Protect stored and installed material from flowing or standing water.
  3. Keep porous and organic materials from coming into prolonged contact with concrete.
  4. Remove standing water from decks.
  5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
  1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
  2. Keep interior spaces reasonably clean and protected from water damage.
  3. Periodically collect and remove waste containing cellulose or other organic matter.
  4. Discard or replace water-damaged material.
  5. Do not install material that is wet.
  6. Discard, replace, or clean stored or installed material that begins to grow mold.
  7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.
- D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
  1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
  2. Use permanent HVAC system to control humidity.
  3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits:
    - a. Hygroscopic materials that may support mold growth, including, but not limited to, wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record

- readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
- c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

### **3.6 OPERATION, TERMINATION, AND REMOVAL**

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
  1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
  2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.
- D. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- E. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
  2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
  3. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1 Section 01 77 00 - Closeout Procedures.

END OF SECTION 01 50 00

## **SECTION 01 60 00 - PRODUCT REQUIREMENTS**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General and Supplementary Conditions (as applicable) and Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
  - 1. Division 1 Section 01 21 00 - Allowances for products selected under an allowance.
  - 2. Division 1 Section 01 23 00 - Alternates for products selected as an alternate.
  - 3. Division 1 Section 01 25 00- Substitution Procedures for products selected as a substitute.
  - 4. Division 1 Section 01 42 00 - Reference Standards for applicable industry standards for products specified.
  - 5. Division 1 Section 01 77 00 - Closeout Procedures for submitting warranties for contract closeout.
  - 6. Divisions 2 through 33 for specific requirements for warranties on products and installations specified to be warranted.

#### **1.3 DEFINITIONS**

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.

3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including, but not limited to, make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.
- D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- E. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

## 1.4 SUBMITTALS

- A. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
  1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
  2. Form: Tabulate information for each product under the following column headings:
    - a. Specification Section number and title.
    - b. Generic name used in the Contract Documents.
    - c. Proprietary name, model number, and similar designations.
    - d. Manufacturer's name and address.
    - e. Supplier's name and address.
    - f. Installer's name and address.
    - g. Projected delivery date or time span of delivery period.
    - h. Identification of items that require early submittal approval for scheduled delivery date.
  3. Initial Submittal: Within 30 days after date of Notice to Proceed, submit 3 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.

- a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
  4. Completed List: Within 60 days after date of Notice to Proceed, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
  5. Architect's Action: Architect will respond in writing to Contractor within 15 working days of receipt of completed product list - whether there are or there are not objections to the list. Architect's response will include a list of unacceptable product selections (as applicable) and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement that products comply with the Contract Documents.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section 01 33 00 Submittal Procedures. Show compliance with requirements.

## **1.5 QUALITY ASSURANCE**

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
  2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

## **1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including, but not limited to, theft. Comply with manufacturer's written instructions.
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  3. Deliver products to Project Site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
  5. Store products to allow for inspection and measurement of quantity or counting of units.
  6. Store materials in a manner that will not endanger Project structure.



7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
8. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
9. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
10. Protect stored products from damage and liquids from freezing.
11. Provide a secure location and enclosure at Project Site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

## **1.7 PRODUCT WARRANTIES**

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
  1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
  2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Contractor to prepare a written document that contains appropriate terms and identification, ready for execution by Owner. Submit a draft to Owner for approval before final execution.
  1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  2. Refer to Divisions 2 through 33 for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section 01 77 00 Closeout Procedures.

## **PART 2 - PRODUCTS**

### **2.1 PRODUCT OPTIONS**

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.
  1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.



2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
  4. Where products are accompanied by the term "as selected," Architect will make selection.
  5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
  6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
  7. Or Equal: Where products are specified by name and accompanied by the term "or equal", "or approved equal", "or approved," or "acceptable substitution", comply with provisions in Article 2.2 "Comparable Products" to obtain approval for use of an unnamed product.
- B. Product Selection Procedures: Procedures for product selection include the following:
1. Product: Where Specification paragraphs or subparagraphs titled "Product" name a single product and manufacturer, provide the product named.
    - a. Substitutions may be considered, unless otherwise indicated.
  2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturer or from the source named that complies with requirements.
    - a. Substitutions may be considered, unless otherwise indicated.
  3. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
    - a. Substitutions may be considered, unless otherwise indicated.
  4. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
    - a. Substitutions may be considered, unless otherwise indicated.
  5. Available Products: Where Specification paragraphs or subparagraphs titled "Available Products" introduce a list of names of both products and manufacturers, provide one of the products listed or another product that complies with requirements. Comply with provisions in Article 2.2 "Comparable Products" to obtain approval for use of an unnamed product.
  6. Available Manufacturers: Where Specification paragraphs or subparagraphs titled "Available Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed or another manufacturer that complies with requirements. Comply with provisions in Article 2.2 "Comparable Products" to obtain approval for use of an unnamed product.
  7. Product Options: Where Specification paragraphs titled "Product Options" indicate that size, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide either the specific product or

- system indicated or a comparable product or system by another manufacturer. Comply with provisions in Section 01 25 00 Substitution Procedures and in Article 2.2 "Comparable Products.
8. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design Products" are included and also introduce or refer to a list of manufacturers' names, provide either the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Article 2.2 "Comparable Products" to obtain approval for use of an unnamed product.
    - a. Substitutions may be considered, unless otherwise indicated.
  9. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches satisfactorily.
    - a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.
  10. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, and textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.
    - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.
    - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.
  11. Allowances: Refer to individual Specification Sections and "Allowance" provisions in Division 1 for allowances that control product selection and for procedures required for processing such selections.

## **2.2 COMPARABLE PRODUCTS**

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
  1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, which it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
  2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as

performance, weight, size, durability, visual effect, and specific features and requirements indicated.

3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

### **PART 3 - EXECUTION**

Not Used.

END OF SECTION 01 60 00

## **SECTION 01 73 00 - EXECUTION**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (as applicable) and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Construction layout.
  - 2. Field engineering and surveying.
  - 3. Installation of the Work.
  - 4. Coordination of Owner-installed products.
  - 5. Progress cleaning.
  - 6. Starting and adjusting.
  - 7. Protection of installed construction.
  - 8. Correction of the Work.
- B. Related Requirements:
  - 1. Division 01 Section 01 10 00 - Summary for limits on use of Project site.
  - 2. Division 01 Section 01 33 00 - Submittal Procedures for submitting surveys.
  - 3. Division 01 Section 01 77 00 - Closeout Procedures for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

#### **1.3 DEFINITIONS**

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

#### **1.4 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For professional engineer.

- B. Certificates: Submit certificate signed by professional engineer certifying that location and elevation of improvements comply with requirements.
- C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- D. Certified Surveys: Submit **two (2)** copies signed by **professional engineer**.

## 1.5 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
  - 1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with applicable California Green Building Standards Code, CALGreen Code, USGBC, and U.S. Green Building Council design requirements.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
  - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
  - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project Site.
  - 3. In the event of any inconsistency or conflict, between existing conditions and the bidding documents, immediate notice of such inconsistency or conflict shall be given to the Architect. Do not undertake any phase of the Work affected by such inconsistency or conflict, pending the issuance of instructions

by the Architect.

- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 3. Verify compatibility with and suitability of substrates, including, but not limited to, compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
  - 1. Description of the Work.
  - 2. List of detrimental conditions, including, but not limited to, substrates.
  - 3. List of unacceptable installation tolerances.
  - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### **3.2 PREPARATION**

- A. Existing Utility Information: Furnish information promptly to Alameda Municipal Power (AMP), Pacific Gas & Electric (PG&E), the City of Alameda Public Works – including, but not limited to AT&T, Verizon, Comcast - that it is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Owner and other affected parties, not less than five days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Owner's written permission.
- C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. Space Requirements: Verify space requirements and dimensions of items shown

diagrammatically on Drawings.

- E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Division 01 Section - Project Management and Coordination.

### **3.3 CONSTRUCTION LAYOUT**

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a land surveyor or professional engineer to lay out the Work using accepted surveying practices.
  - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  - 2. Establish limits on use of Project Site.
  - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 4. Inform installers of lines and levels to which they must comply.
  - 5. Check the location, level and plumb, of every major element as the Work progresses.
  - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
  - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including, but not limited to, pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Elevations of existing grades, floors, tops of walls, parapets, beams and locations of existing columns, walls and the like are based on survey documents or on drawings of the existing building furnished by the Owner. The Architect assumes no responsibility for the accuracy of the information on existing drawings. It is the intent of the Contract Drawings to integrate new work with existing improvements and for the Contractor to verify actual conditions.
- E. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including, but not limited to, those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- F. Subcontractors shall verify with the General Contractor the exact field location of all rough-in dimensions, taking into account location of walls, partitions and equipment. Special attention should be paid to clearances as required for compliance with California Building Code Accessibility (Chapter 11B)



Requirements, including, but not limited to, any applicable revisions. Any cost in relocation of items

due to that subcontractor's error, will be borne by him at no additional cost to the Owner.

- G. Where equipment involving more than one subcontractor is installed at a common location and no specific location has been determined, it is the Contractor's responsibility to check with the Architect for the actual rough-in dimensions for such equipment. If for some reason the rough-in has not been checked and a subcontractor has installed his equipment, remaining subcontractors shall align their equipment as closely as possible to the installed equipment. Alignment shall mean centered vertically, equally space and centered horizontally. This alignment applies to bells, alarms, thermostats, switches, handles, access panels, etc. Any items not installed in alignment shall be relocated by the Contractor at his own expense with damaged surfaces properly repaired.
- H. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

### 3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points 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 Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
  - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Benchmarks: Establish and maintain a minimum of two (2) permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
  - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
  - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
  - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- D. Record Drawings and/or As-Built documents: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare Record Drawings and/or As-Built documents showing dimensions,



locations, angles, and elevations of construction and site work.

~~E. Final Property Survey: Engage a land surveyor or professional engineer to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor or professional engineer, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.~~

- ~~1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.~~

~~Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."~~

### 3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  1. Make vertical work plumb and make horizontal work level.
  2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
  4. Maintain minimum headroom clearance of 96 inch in occupied spaces and 90 inch in unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. 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.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately

located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  2. Allow for building movement, including, but not limited to, thermal expansion and contraction.
  3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including, but not limited to, sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project Site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### **3.6 OWNER-INSTALLED PRODUCTS**

- A. Site Access: Provide access to Project Site for Owner's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
  2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

### **3.7 PROGRESS CLEANING**

- A. General: Clean Project Site and work areas daily, including, but not limited to, common areas.  
Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
  3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- 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.
    1. Remove liquid spills promptly.
    2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
  - D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
  - E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
  - F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration through to Substantial Completion.
  - G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Division 01 Section 01 50 00 Temporary Facilities and Controls and Division 01 Section 01 74 00 Construction Waste Management.
  - H. 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.
  - I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
  - J. 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.

### **3.8 STARTING AND ADJUSTING**

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Division 01 Sections 01 78 23 Operation and Maintenance Data and 01 79 00 Demonstration and Training.
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section 01 40 00 Quality Requirements.

### **3.9 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 written instructions for temperature and relative humidity.

END OF SECTION 01 73 00

## **SECTION 01 74 00 - CONSTRUCTION WASTE MANAGEMENT**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including, but not limited to, General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Salvaging nonhazardous construction waste.
  - 2. Recycling nonhazardous construction waste.
  - 3. Disposing of nonhazardous construction waste.
- B. Related Sections include the following:
  - 1. Division 1 Section 01 10 00 - Summary of Contracts for coordination of responsibilities for waste management.
  - 2. Division 1 Section 01 50 00 - Temporary Facilities and Controls for environmental-protection measures during construction.
  - 3. Division 1 Section 01 85 00 – Recycling of Concrete and Asphalt Materials

#### **1.3 DEFINITIONS**

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

## 1.4 PERFORMANCE GOALS

- A. General: Develop waste management plan that results in end-of-Project rates for salvage/recycling of 75 percent by weight of total waste generated by the Work.
- B. Salvage/Recycle Requirements: Owner's goal is to salvage and recycle as much nonhazardous construction waste as possible including, but not limited to, the following materials:
- C. Salvage/Recycle Goals: Owner's goal is to salvage and recycle as much nonhazardous construction waste as possible. Owner has established minimum goals for the following materials:
  - 1. Construction Waste:
    - a. Site-clearing waste.
    - b. Masonry and CMU.
    - c. Lumber.
    - d. Wood sheet materials.
    - e. Wood trim.
    - f. Metals.
    - g. Roofing.
    - h. Insulation.
    - i. Carpet and pad.
    - j. Gypsum board.
    - k. Piping.
    - l. Electrical conduit.
  - m. Packaging: Regardless of salvage/recycle goal indicated above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
    - 1) Paper.
    - 2) Cardboard.
    - 3) Boxes.
    - 4) Plastic sheet and film.
    - 5) Polystyrene packaging.
    - 6) Wood crates.
    - 7) Plastic pails.

## 1.5 SUBMITTALS

- A. Waste Reduction & Recycling Plan: Submit three (3) copies of plan within seven (7) days of date established for the Notice to Proceed.
- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit three (3) copies of report. Include the following information:
  - 1. Material category.
  - 2. Generation point of waste.
  - 3. Total quantity of waste in tons.
  - 4. Quantity of waste salvaged, both estimated and actual in tons.
  - 5. Quantity of waste recycled, both estimated and actual in tons.
  - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.

7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- C. Waste Reduction Calculations: Before request for Substantial Completion, submit three (3) copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

## **1.6 QUALITY ASSURANCE**

- A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

## **1.7 WASTE MANAGEMENT PLAN (a.k.a. Waste Reduction & Recycling Plan)**

- A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Include separate sections in plan for demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  3. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including, but not limited to, sizes of containers, container labeling, and designated location on Project site where materials separation will be located.
- D. Forms: Prepare Waste Reduction & Recycling Plan using “Alameda.Wastetracking.com” (for forms or processing protocol). See also Section 01 85 00, Exhibit C, attached.

## **PART 2 - PRODUCTS (Not Used)**

## **PART 3 - EXECUTION**

### **3.1 PLAN IMPLEMENTATION**

- A. General: Implement Waste Reduction & Recycling Plan as approved by Owner. Provide handling, containers, storage, signage, transportation, and other items as required to implement Waste Reduction & Recycling Plan during the entire duration of the Contract.
1. Comply with Division 1 Section 01 50 00 Temporary Facilities and Controls for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of Waste Reduction & Recycling Plan. Coordinator shall be present at Project site full time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project Site.
1. Distribute Waste Reduction & Recycling Plan to everyone concerned within three (3) days of submittal return.
  2. Distribute Waste Reduction & Recycling Plan to entities when they first begin work on-site. Review Plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Designate and label specific areas on Project Site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
  2. Comply with Division 1 Section 01 50 00 - Temporary Facilities and Controls



for controlling dust and dirt, environmental protection, and noise control.

### **3.2 RECYCLING CONSTRUCTION WASTE, GENERAL**

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project Site to the maximum extent practical.
  - 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
    - a. Inspect containers and bins for contamination and remove contaminated materials if found.
  - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
  - 4. Store components off the ground and protect from the weather.
  - 5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

### **3.3 RECYCLING CONSTRUCTION WASTE**

- A. Packaging:
  - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
  - 2. Polystyrene Packaging: Separate and bag materials.
  - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
  - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.
- C. Wood Materials:
  - 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
  - 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- D. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.
  - 1. Clean Gypsum Board: Grind scraps of clean gypsum board using small

mobile chipper or hammer mill. Screen out paper after grinding.

### **3.4 DISPOSAL OF WASTE**

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
  - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn any waste materials.
- C. Disposal: Transport waste materials off Owner's property– via a permitted hauler - and legally dispose of them.

### **3.5 ATTACHMENTS (See “[Alameda.Wastetracking.com](http://Alameda.Wastetracking.com)” for information, directions on using online forms and instructions for ‘processing’.)**

END OF SECTION 01 74 00

## **SECTION 01 77 00 - CLOSEOUT PROCEDURES**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (as applicable) and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final completion procedures.
  - 3. Warranties.
  - 4. Final cleaning.
  - 5. Repair of the Work.
- B. Related Requirements:
  - 1. Division 01 Section 01 73 00 - Execution Requirements for progress cleaning of Project site.
  - 2. Division 01 Section 01 78 23 - Operation and Maintenance Data for operation and maintenance manual requirements.
  - 3. Division 01 Section 01 78 39 - Project Record Documents for submitting Record Drawings / Documents, record Specifications, and record Product Data.
  - 4. Division 01 Section 01 79 00 - Demonstration and Training for requirements for instructing Owner's personnel.
  - 5. Divisions 02 through 33 for specific closeout and special cleaning requirements for the Work in those Sections.

#### **1.3 ACTION SUBMITTALS**

- A. Product Data: For cleaning agents: At Substantial Completion submit list of all cleaning agents used at/by Substantial Completion.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Certificates of Release: From authorities having jurisdiction.

- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

## **1.5 MAINTENANCE MATERIAL SUBMITTALS**

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

## **1.6 SUBSTANTIAL COMPLETION PROCEDURES**

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
  - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  - 2. Submit closeout submittals specified in other Division 01 Sections, including, but not limited to, project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
  - 3. Submit closeout submittals specified in individual Divisions 02 through 33 Sections, including, but not limited to, specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  - 4. Submit maintenance material submittals specified in individual Divisions 02 through 33, including, but not limited to, tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
    - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including, but not limited to, name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
  - 5. Submit test/adjust/balance records.
  - 6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
  - 1. Advise Owner of pending insurance changeover requirements.
  - 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.

3. Complete startup and testing of systems and equipment.
  4. Perform preventive maintenance on equipment used prior to Substantial Completion.
  5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Division 01 Section - Demonstration and Training.
  6. Advise Owner of changeover in heat and other utilities.
  7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
  8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  9. Complete final cleaning requirements, including, but not limited to, touchup painting.
  10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of ten (10) days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect 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 Architect, 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.

## 1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Division 01 Section 01 29 00 Payment Procedures.
  2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of

construction that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

## **1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)**

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, but not limited to,, if necessary, areas disturbed by Contractor that are outside the limits of construction.
  1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
  2. Organize items applying to each space by major element, including, but not limited to, categories for ceiling, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.
  4. Submit list of incomplete items in the following format:
    - a. PDF electronic file. Architect will return annotated file.

## **1.9 SUBMITTAL OF PROJECT WARRANTIES**

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within fifteen (15) days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize entire collection of approved warranty documents into an orderly sequence based on the table of contents of Project Manual, with tabs between CSI division sections; i.e.; group all Division-2 site work components under one tab, group all Division-13 Special Construction components under another tab, etc.. Utilize CSI specification Divisions 2 through 33 for each division tab. Provide **three** copies of each Final Warranty binder.
  1. Bind warranties and bonds in heavy-duty, three-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 title page, Contractor's general One-Year Warranty (corrective period) with agreed upon date and signature of authorized representative, table of contents, and subcontractor list at the beginning of each binder. Provide same for Eight (8) Year Warranty for Synthetic Turf Playing Field, per

Specifications Division 2 Section 02540.

3. 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, but not limited to, the name of the product and the name, address, and telephone number of Installer.
  4. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
  5. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

## **PART 3 - EXECUTION**

### **3.1 FINAL CLEANING**

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project Site, yard, and grounds, in areas disturbed by construction activities, including, but not limited to, landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains,



- and other foreign deposits.
  - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
  - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
  - e. Remove snow and ice to provide safe access to building.
  - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
  - g. Remove debris and surface dust from limited access spaces, including, but not limited to, roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
  - h. Sweep concrete floors broom clean in unoccupied spaces.
  - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
  - j. Clean transparent materials, including, but not limited to, mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
  - k. Remove labels that are not permanent.
  - l. Wipe surfaces of mechanical and electrical equipment elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
  - m. Clean plumbing fixtures to a sanitary condition, free of stains, including, but not limited to, stains resulting from water exposure.
  - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
  - o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
    - 1) Clean HVAC system in compliance with NADCA Standard 1992-1. Provide written report on completion of cleaning.
  - p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
  - q. Leave Project clean and ready for occupancy.
- C. Pest Control: Comply with pest control requirements stipulated in Division 01 Section 01 50 00 Temporary Facilities and Controls and in the CONTRACTOR AGREEMENT Pest Management Policy and Checklist EXHIBITS. Prepare written reports as required.
- D. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section 01 50 00 Temporary Facilities and Controls and Division 01 Section 01 74 00 Construction Waste Management.



### 3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
  - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
  - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
    - a. Do not paint over "UL" and other required labels and identification, including, but not limited to, mechanical and electrical nameplates. Remove paint applied to required labels and identification.
  - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
  - 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 01 77 00

## **SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (as applicable) and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including, but not limited to, the following:
  - 1. Operation and maintenance documentation directory.
  - 2. Emergency manuals.
  - 3. Operation manuals for systems, subsystems, and equipment.
  - 4. Product maintenance manuals.
  - 5. Systems and equipment maintenance manuals.
- B. Related Requirements:
  - 1. Division 01 Section 01 10 00 - Summary for coordinating operation and maintenance manuals covering the Work of multiple contracts.
  - 2. Division 01 Section 01 33 00 - Submittal Procedures for submitting copies of submittals for operation and maintenance manuals.
  - 3. Divisions 02 through 33 for specific operation and maintenance manual requirements for the Work in those Sections.

#### **1.3 DEFINITIONS**

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
  - 1. Architect will comment on whether content of operations and maintenance submittals are acceptable.

2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:
1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
    - a. Name each indexed document file in composite electronic index with applicable item name. Include complete electronically linked operation and maintenance directory.
    - b. Enable inserted reviewer comments on draft submittals.
  2. Three (3) paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return two (2) copies.
- C. Initial Manual Submittal: Submit draft copy of each manual at least thirty (30) days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least fifteen (15) days before commencing demonstration and training. Architect will return copy with comments.
1. Correct or revise each manual to comply with Architect's comments. Submit three Final copies of each corrected manual within fifteen (15) days of receipt of Architect's comments and prior to commencing demonstration and training.

## **PART 2 - PRODUCTS**

### **2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY**

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
1. List of documents.
  2. List of systems.
  3. List of equipment.
  4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

## **2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS**

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
  - 1. Title page.
  - 2. Table of contents.
  - 3. Subcontractor list
  - 4. Manual contents.
- B. Title Page: Include the following information:
  - 1. Subject matter included in manual.
  - 2. Name and address of Project.
  - 3. Name and address of Owner.
  - 4. Date of submittal.
  - 5. Name and contact information for Contractor.
  - 6. Name and contact information for Construction Manager.
  - 7. Name and contact information for Architect.
  - ~~8. Name and contact information for Commissioning Authority.~~
  - 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
  - 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
  - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Subcontractor List: Organize subcontractor list by CSI specification section, as listed in the Project Manual table of contents. Provide contact name, street address (no P.O. Box numbers) and contact phone and fax number. If changes were made during the course of the Project, utilize final contract company for each component of the work. List all contractors used on Project, even if subcontracted to a different

subcontractor, i.e.; if earthwork subcontractor is contracted by the paving subcontractor, list both subcontractors.

- E. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- F. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
  - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
  - 2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- G. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
  - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
  - 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
  - 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
  - 4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
  - 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
    - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

- b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

## **2.3 EMERGENCY MANUALS**

- A. Content: Organize manual into a separate section for each of the following:
  1. Type of emergency.
  2. Emergency instructions.
  3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
  1. Fire.
  2. Flood.
  3. Gas leak.
  4. Water leak.
  5. Power failure.
  6. Water outage.
  7. System, subsystem, or equipment failure.
  8. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
  1. Instructions on stopping.
  2. Shutdown instructions for each type of emergency.
  3. Operating instructions for conditions outside normal operating limits.
  4. Required sequences for electric or electronic systems.
  5. Special operating instructions and procedures.

## **2.4 OPERATION MANUALS**

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
  1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
  2. Performance and design criteria if Contractor has delegated design responsibility.
  3. Operating standards.
  4. Operating procedures.
  5. Operating logs.

6. Wiring diagrams.
  7. Control diagrams.
  8. Piped system diagrams.
  9. Precautions against improper use.
  10. License requirements including, but not limited to, inspection and renewal dates.
- B. Descriptions: Include the following:
1. Product name and model number. Use designations for products indicated on Contract Documents.
  2. Manufacturer's name.
  3. Equipment identification with serial number of each component.
  4. Equipment function.
  5. Operating characteristics.
  6. Limiting conditions.
  7. Performance curves.
  8. Engineering data and tests.
  9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
  2. Equipment or system break-in procedures.
  3. Routine and normal operating instructions.
  4. Regulation and control procedures.
  5. Instructions on stopping.
  6. Normal shutdown instructions.
  7. Seasonal and weekend operating instructions.
  8. Required sequences for electric or electronic systems.
  9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

## **2.5 PRODUCT MAINTENANCE MANUALS**

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Product Information: Include the following, as applicable:

1. Product name and model number.
  2. Manufacturer's name.
  3. Color, pattern, and texture.
  4. Material and chemical composition.
  5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
  2. Types of cleaning agents to be used and methods of cleaning.
  3. List of cleaning agents and methods of cleaning detrimental to product.
  4. Schedule for routine cleaning and maintenance.
  5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

## 2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including, but not limited to, the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins.
  2. Drawings, diagrams, and instructions required for maintenance, including, but not limited to, disassembly and component removal, replacement, and assembly.
  3. Identification and nomenclature of parts and components.
  4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.



2. Troubleshooting guide.
  3. Precautions against improper maintenance.
  4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  5. Aligning, adjusting, and checking instructions.
  6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
  2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

## **PART 3 - EXECUTION**

### **3.1 MANUAL PREPARATION**

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
  2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings / Documents to ensure correct illustration of completed installation.
1. Do not use original project record documents as part of operation and maintenance manuals.
  2. Comply with requirements of newly prepared Record Drawings / Documents in Division 01 Section 01 78 39 Project Record Documents.
- G. Comply with Division 01 Section 01 77 00 Closeout Procedures for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

## **SECTION 01 78 39 - PROJECT RECORD DOCUMENTS**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (as applicable) and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for project record documents, including, but not limited to, the following:
  - 1. Record Drawings / Documents.
  - 2. Record Specifications.
  - 3. Record Product Data.
  - 4. Miscellaneous record submittals.
- B. Related Requirements:
  - 1. Division 01 Section 01 10 00 - Summary for coordinating project record documents covering the Work of multiple contracts.
  - 2. Division 01 Section 01 77 00 - Closeout Procedures for general closeout procedures.
  - 3. Division 01 Section 01 78 23 - Operation and Maintenance Data for operation and maintenance manual requirements.
  - 4. Divisions 02 through 33 for specific requirements for project record documents of the Work in those Sections.

#### **1.3 CLOSEOUT SUBMITTALS**

- A. Record Drawings / Documents: Comply with the following:
  - 1. Number of Copies: Submit one set of marked-up record prints.
  - 2. Number of Copies: Submit copies of Record Drawings / Documents as follows:
    - a. Initial Submittal:
      - 1) Submit one paper-copy set(s) of marked-up record prints.
      - 2) Submit PDF electronic files of scanned record prints and one of file prints.
      - 3) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
    - b. Final Submittal:
      - 1) Submit three (3) paper-copy sets of marked-up record prints.

- 2) Submit PDF electronic files of scanned record prints and three (3) sets of prints.
- 3) Print each drawing, whether or not changes and additional information were recorded.
- c. Final Submittal:
  - 1) Submit one (1) paper-copy set of marked-up record prints.
  - 2) Submit record digital data files and three (3) sets of record digital data file plots.
  - 3) Plot each drawing file, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit one (1) paper copy and annotated PDF electronic files of Project's Specifications, including, but not limited to, addenda and contract modifications.
- C. Record Product Data: Submit one (1) paper copy and annotated PDF electronic files and directories of each submittal.
  1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit one (1) paper copy and annotated PDF electronic files and directories of each submittal.
- E. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including, but not limited to, revisions, concealed conditions, field changes, product selections, and other notations incorporated.

## **PART 2 - PRODUCTS**

### **2.1 RECORD DRAWINGS / DOCUMENTS**

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
  1. Preparation: Mark record prints 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 provide information for preparation of corresponding 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 acceptable drawing technique.
    - c. Record data as soon as possible after obtaining it.
    - d. Record and check the markup before enclosing concealed installations.

- e. Cross-reference record prints to corresponding archive photographic documentation.
  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. Depths of foundations below first floor.
    - d. Locations and depths of underground utilities.
    - e. Revisions to routing of piping and conduits.
    - f. Revisions to electrical circuitry.
    - g. Actual equipment locations.
    - h. Duct size and routing.
    - i. Locations of concealed internal utilities.
    - j. Changes made by Change Order or Construction Work Change Directive.
    - k. Changes made following Architect's written orders.
    - l. Details not on the original Contract Drawings.
    - m. Field records for variable and concealed conditions.
    - n. Record information on the Work that is shown only schematically.
  3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Newly Prepared Record Drawings / Documents: Prepare new Drawings instead of preparing Record Drawings / Documents where Architect 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 Architect 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 / Documents 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 Prints: Organize record prints and newly prepared Record Drawings / Documents into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Format: Annotated PDF electronic file - with comment function enabled.

3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:
  - a. Project name.
  - b. Date.
  - c. Designation "PROJECT RECORD DRAWINGS / DOCUMENTS."
  - d. Name of Architect.
  - e. Name of Contractor.

## **2.2 RECORD SPECIFICATIONS**

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including, but not limited to, substitutions and product options selected.
  3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
  5. Note related Change Orders, record Product Data, and Record Drawings / Documents where applicable.
- B. Format: Submit record Specifications as annotated PDF electronic file, paper copy, and scanned PDF electronic files of marked-up paper copy of Specifications.

## **2.3 RECORD PRODUCT DATA**

- A. Preparation: 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 Specifications, and record Drawings where applicable.
- B. Format: Submit record Product Data as annotated PDF electronic file, paper copy, and scanned PDF electronic files of marked-up paper copy of Product Data.
  1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

## **2.4 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, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file, paper copy, and scanned PDF electronic files of marked-up miscellaneous record submittals.
  - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

## **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 revisions to project record documents as they occur; do not wait until 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 Architect's reference during normal working hours.

END OF SECTION 01 78 39

## **SECTION 01 79 00 - DEMONSTRATION AND TRAINING**

---

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (as applicable) and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including, but not limited to, the following:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
  - 3. Demonstration and training video recordings.
- B. Related Requirements:
  - 1. Divisions 02 through 33 for specific requirements for demonstration and training for products in those Sections.

#### **1.3 INFORMATIONAL SUBMITTALS**

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including, but not limited to, a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
  - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Qualification Data: For facilitator and instructor.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

#### **1.4 CLOSEOUT SUBMITTALS**



- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
  - 1. Identification: On each copy, provide an applied label with the following information:
    - a. Name of Project.
    - b. Name of Contractor.
    - c. Date of video recording.
  - 2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
  - 3. Transcript: Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to corresponding training components. Include name of Project and date of video recording on each page.
  - 4. At completion of training, submit complete training manual(s) for Owner's use in PDF electronic file format on compact disc.

## **1.5 QUALITY ASSURANCE**

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 01 Section 01 40 00 Quality Requirements, experienced in operation and maintenance procedures and training.

## **1.6 COORDINATION**

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

## **PART 2 - PRODUCTS**

## 2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
  - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    - a. System, subsystem, and equipment descriptions.
    - b. Performance and design criteria if Contractor is delegated design responsibility.
    - c. Operating standards.
    - d. Regulatory requirements.
    - e. Equipment function.
    - f. Operating characteristics.
    - g. Limiting conditions.
    - h. Performance curves.
  - 2. Documentation: Review the following items in detail:
    - a. Emergency manuals.
    - b. Operations manuals.
    - c. Maintenance manuals.
    - d. Project record documents.
    - e. Identification systems.
    - f. Warranties and bonds.
    - g. Maintenance service agreements and similar continuing commitments.
  - 3. Emergencies: Include the following, as applicable:
    - a. Instructions on meaning of warnings, trouble indications, and error messages.
    - b. Instructions on stopping.
    - c. Shutdown instructions for each type of emergency.
    - d. Operating instructions for conditions outside of normal operating limits.
    - e. Sequences for electric or electronic systems.
    - f. Special operating instructions and procedures.
  - 4. Operations: Include the following, as applicable:
    - a. Startup procedures.
    - b. Equipment or system break-in procedures.
    - c. Routine and normal operating instructions.
    - d. Regulation and control procedures.
    - e. Control sequences.
    - f. Safety procedures.
    - g. Instructions on stopping.
    - h. Normal shutdown instructions.
    - i. Operating procedures for emergencies.
    - j. Operating procedures for system, subsystem, or equipment failure.

- k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
- 5. Adjustments: Include the following:
  - a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
- 6. Troubleshooting: Include the following:
  - a. Diagnostic instructions.
  - b. Test and inspection procedures.
- 7. Maintenance: Include the following:
  - a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.
- 8. Repairs: Include the following:
  - a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Division 01 Section 01 78 23 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

### **3.2 INSTRUCTION**

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
  2. Owner will furnish an instructor to describe Owner's operational philosophy.
  3. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
1. Schedule training with Owner with at least seven (7) days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- F. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 01 79 00

## **SECTION 01 80 00 – PERMITS AND LICENSES**

### **1.1 PERMITS AND LICENSES**

The Contractor shall procure all permits and licenses, including, but not limited to, City of Alameda business licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the Work. However, the Contractor will be reimbursed for construction permit fees. The estimated cost shown as an allowance in the bid proposal, if provided, is only for bidding purposes. Payment shall be made for the actual cost of the permit. The cost for a City of Alameda business license is not reimbursable. Each Subcontractor shall have a current City of Alameda business license.

The following permit(s) and/or license(s) are required for this project:

1. **A City of Alameda Business License from the City of Alameda, 2263 Santa Clara Avenue, Finance Department, Room 220, Alameda.**
2. **“No Parking, Tow Away” signs and Excavation Permit from City Hall, 2263 Santa Clara Avenue, Planning and Building Services, Room 190, Alameda.**
3. Any, all permits or fees or licenses required for transport, delivery and/or installation of the modular Pre-engineered Premanufactured recreational building, from source to site.

END OF SECTION 01 80 00

## **SECTION 01 81 00 – PUBLIC CONVENIENCE AND SAFETY**

### **1.01 PUBLIC CONVENIENCE AND SAFETY**

The Contractor shall so conduct operations as to cause the least possible obstruction and inconvenience to public traffic. The Contractor shall furnish, erect and maintain such fences, barriers, lights and signs as are necessary or as required by the Engineer to give adequate warning to the public at all times that the Work is in progress and of any dangerous conditions to be encountered as a result of the Work or of the presence of the Contractor's equipment or machinery.

The use of Flex-o-Lite Model No. 501, or approved equal, will be permitted only in specifically approved locations and only to the extent of 50 percent of the total amount of necessary lighting. Other models of lesser candle power may be permitted in some approved locations at a lesser percentage.

If the work involves the construction of a street or highway, the following additional provisions shall apply:

All traffic shall be permitted to pass through the Work, unless other existing streets are stipulated as detours in the special provisions. Residents and businesses along the affected street or highway shall be provided passage as far as practicable; convenient access to driveways, houses and public buildings along the street or highway shall be maintained and temporary crossings shall be provided and maintained in good condition. No more than one cross or intersecting street or highway shall be closed at any time without the approval of the Engineer.

**Contractor shall submit to the Engineer at or before the pre-construction meeting a Traffic Control Plan for any work that will impact vehicular traffic in the area. The Contractor must have an approved plan prior to commencing of Work. All Traffic Control Plans must be in conformance with Caltrans regulations and guidelines.**

The Traffic Control Plan shall also conform to the following requirements for any construction, temporary or permanent, in the public right-of-way:

1. The traffic control plan shall follow the standards and guidelines provided by the most recent version of the CA MUTCD and Caltrans Standard Plans.
2. If a lane is to remain open, the lane width shall be at least 10 feet wide.
3. Base the taper lengths, delineator spacing, and sign spacing on a traffic speed equal to the posted speed limit plus 5 MPH.
4. Pedestrians shall be properly detoured at appropriate crossing locations whenever a sidewalk/crosswalk is closed. See the California MUTCD for guidance. (Consideration and accommodation for disable pedestrians to be implemented.) Only one crossing at an intersection shall be closed at any time.
5. Applicant (Contractor) shall conform to and be compliant with all ADA standards.
6. If flaggers are used in the detour plan, they shall be shown in the drawings.
7. The applicant (Contractor) must obtain approval from the property owner of any driveways being blocked.

8. If the work is encroaching onto private properties, the applicant (Contractor) shall request / receive approval from the appropriate property owners before proceeding with the work.
9. Applicant (Contractor) shall not park their vehicles on the street or on/over curbs or sidewalk or paths.

“No Parking” Signs: The posting of “No-Parking” signs, as applicable, is required 48 hours in advance of the work. “No-Parking” signs are available at the Planning and Building Department, Room 190, City Hall. A fee will be charged for the signs. Only City of Alameda issued “No-Parking” signs are permitted for use within the public right-of-way.

The Contractor shall furnish, install and maintain such facilities as barricades, traffic signs, and flagmen, as may be necessary to advise the public of construction hazards and to control traffic.

The Traffic Control Plan shall cover, at minimum, all phases of Work scheduled to occur in the first twenty (20) working days that will impact vehicular, pedestrian and bicycle traffic in the area. The Traffic Control Plan shall allow residents on the streets impacted ample “on street” parking within one (1) block of their homes. The Contractor shall have an approved Traffic Control Plan prior to commencing of work in the field. Contractor shall submit subsequent additions to the Traffic Control Plan in a timely manner to allow for the Engineer’s review and shall be in conformance with Caltrans regulations and guidelines.

At least 72 hours prior to beginning work on a section of street, curb or sidewalk that will affect use of the parking lane, the Contractor shall notify, by approved "No Parking - Tow Away" signs on barricades, all affected property owners, residents, businesses and agencies adjacent to that section of street. The “No-Parking” signs shall state the days, dates, and hours of parking lane closure, and shall be placed along the street on each side at no more than 50 feet spacing. The Contractor shall notify the Engineer at least one (1) working day in advance of the intent to post No-Parking signs, so that the timely posting can be verified by the Inspector. The Contractor is permitted to list up to one (1) working day before and one (1) working day after the scheduled days of work, as shown in the latest approved schedule on signs, in order to bracket the approved scheduled date of work. The Contractor shall remove the “No Parking” signs as soon as the parking lane is re-opened to parking.

If the Contractor is unable to meet the scheduled and noticed time for the work, the Contractor shall immediately notify the Engineer and remove the posted "No-Parking" signs. The Contractor shall submit a new scheduling request in writing to the Engineer. Upon written approval of the Engineer, the Contractor shall post signs at least 72 hours prior to beginning work per the revised schedule.

Work hours are limited between 8:00 A.M. and 5:00 P.M.

END OF SECTION 01 81 00

## **SECTION 01 82 00 – UTILITIES**

### **1.01 UTILITIES**

The location of railroad tracks, utility facilities and other structures shall be the responsibility of the Contractor. The Contractor shall contact the owners of those tracks, facilities and structures for any information that may be required. The Contractor shall contact Underground Services Alert (USA) at 800-642-2444 forty-eight (48) hours prior to commencement of Work.

Where existing sewers and storm drains cross or interfere in any way with construction under this Contract, they shall be left in place and the Contractor shall work around them, OR where feasible and practical, the Contractor may, with the permission of the City Engineer, remove and replace them at his/her own expense. Precautions shall be exercised to provide suitable support and bearing under and for existing sewer lines encountered to preclude settlement during or after the term of the Contract. In the event that some of these sewers are abandoned, they may, with the permission of the City Engineer, be removed and not replaced. The Contractor shall provide submittals for the Engineer's review and approval for supporting utilities.

Per Article 3.2, Section 01 73 00 Contractor to furnish information promptly to Alameda Municipal Power (AMP), Pacific Gas & Electric (PG&E), the City of Alameda Public Works – including, but not limited to AT&T, Verizon, Comcast - that it is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. The owners of pipes, wires, conduits, vaults and other utilities (other than sewers) located in the City streets which could conflict with the proposed Work will be notified by the City Engineer to remove or adjust the same, without cost to the Contractor, to such extent as will allow the prosecution of the work described herein according to the necessities thereof and in accordance with these specifications. Wherever and whenever the Contractor anticipates working in an area from which utilities must be removed at the expense of others, he/she shall notify the City Engineer sufficiently in advance (a minimum of ten (10) working days) to permit the owners thereof to rearrange or abandon such utilities, and he/she shall cooperate with the owners thereof in the performance of the work under this contract.

The Work will be so prosecuted that a minimum of damage will result to utility services. In the event that utility services are damaged or interrupted, the Contractor shall immediately, at his/her own expense, restore such services in a manner satisfactory to the City Engineer. In the event that an interruption of utility services is sustained for a period of longer than one-half hour, it shall be the responsibility of the Contractor to notify the occupants of the premises to which said services are connected, so that no damage will accrue on or to said premises.

The Contractor shall perform all work in such manner as to prevent damage to utilities lying outside of or below a required excavation of trench area.

END OF SECTION 01 82 00



## **SECTION 01 83 00 – SOUND CONTROL REQUIREMENTS**

### **1.01 SOUND CONTROL REQUIREMENTS**

Sound control shall conform to ARTICLE II. NOISE REGULATIONS, Section 4-10 NOISE CONTROL, of the Alameda Municipal Code, which – among other things - prohibits weekday construction activities between 7:00 pm and 7:00 am.

END OF SECTION 01 83 00

## **SECTION 01 84 00 – CONSTRUCTION SITE CONTROLS**

### **1.1 CONSTRUCTION SITE CONTROLS / WATER POLLUTION PREVENTION PLAN WPPP / SWPPP**

No less than five days prior to the date the work is to commence, pursuant to the NTP, the Contractor shall re-familiarize themselves with a) this Spec Section 01 84 00, b) the City of Alameda's erosion, sediment and discharge-control standards and c) the Best Management Practices ("BMPs") contained within this spec section and forward any questions, comments or concerns to the City's representatives to be resolved before any/all construction site erosion and sediment control measures are installed.

Within five (5) business days of the date the work is to commence pursuant to the NTP the Contractor shall submit an Erosion Control Plan to the City Engineer for review and approval by the Public Works Department. The Plan shall use the City's EROSION AND SEDIMENT CONTROL Standards AND shall make use of and build upon the POLLUTION PREVENTION plan sheet C0.4, included in the Construction Bid Documents, as a template to follow. The Contractor shall also provide, implement, and incorporate any and all appropriate erosion and sediment control measures to effectively prevent the entry of soil, dirt, debris and other pollutants to storm water runoff, the storm drain system, lagoons and the bay/estuary during construction. Such measures to be aligned with and in conformance to the EROSION AND SEDIMENT CONTROLS incorporated into the Construction Documents.

~~Within five (5) business days of the date the work is to commence pursuant to the NTP the Contractor shall ALSO prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the San Francisco Bay Regional Water Quality Control Board, shall follow all requirements of the Plan, and shall update (the SWPPP) as necessary. A copy of the SWPPP shall remain on site throughout construction. The SWPPP shall be submitted to the Public works Department Clean Water Dept. Program for review and approval prior to issuance of the Building Permit.~~

No work in the field under this Contract may begin until these measures are approved and in place and the City Engineer has approved the Contractor's Erosion Control Plan SWPPP.

The Erosion and Sediment Control Plans/sheets shall indicate the specifications and maintenance schedules for the installation and upkeep of the erosion control mechanisms. Specifications shall be provided for the erosion control practices, perimeter protection(s), any silt fencing and fiber rolls to be used, storm drain inlet protections, stabilized construction entrance(s) and exits, site and excavation dewatering activities, vehicle tire wash area(s), vehicle and equipment servicing area(s), and the materials handling and storage area(s). These specifications should meet the same level of erosion and sediment control effectiveness established by practices identified in the San Francisco Bay Regional Water Quality Control Board's Erosion and Sediment Control Field Manual (510-622-2465), the Association of Bay Area Government's Manual of Standards for

Erosion and Sediment Control (510-464-7900) and/or the California Stormwater Quality CAssociation's Stormwater Best Management Practice Handbook – Construction (2003) ([www.cabmphandbooks.com](http://www.cabmphandbooks.com)). Contact City Public Works Department Clean Water Program Specialist James Barse (510-747-7950) for additional assistance in obtaining copies of these reference documents.

**The Contractor is responsible for ensuring that all of his/her workers and subcontractors are aware of and implement the specific stormwater quality control measures iterated in a) this Spec Section 01 84 00, b) contained in the City of Alameda's erosion, sediment and discharge-control standards, c) identified in the Best Management Practices ("BMPs") contained within this spec section and d) incorporated into the Contractor's submitted and approved Erosion Control Plan.** The Contractor(s) shall avoid creating excess dust when breaking asphalt/concrete and during excavation and grading. If water is to be used as a measure for dust control, use as little as possible. All wash water shall be kept out of streets, gutters and storm drains. Controls shall be implemented before construction begins and maintained until the end of construction at which time they shall be removed.

**Failure to comply with the following approved construction Best Management Practices ("BMPs") shall result in the issuance of correction notices, citations and/or a Project stop order:**

1. Gather all construction debris on a regular basis and place it in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution. After breaking old pavement, remove all pieces to avoid contact with rainfall or runoff.
2. Remove on-site piles from the site on a regular basis. Only temporary storage is allowed. All temporary soil or other stockpiles on site shall be securely covered with a tarp, plastic sheeting or similar material.
3. Remove all dirt/mud, gravel, rubbish, refuse and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site daily and prior to rain. Clean up leaks, drips and spills immediately. Avoid unnecessary driving on unpaved areas during wet weather.
4. Install and maintain stabilized construction entrances to minimize the tracking of dirt, mud, dust and debris onto the public right-of-way. **(For this project the primary Construction Entrance is assumed to be to the south west, off of Otis Drive, located to keep construction traffic away from the student and pedestrian traffic to be expected from Otis Elementary School. Construction Entrances off of Court or Calhoun Streets, or High Street, are not recommended.)**
5. Broom-sweep the sidewalk and public street pavement adjoining the project site daily and prior to rain. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the completion of work the street shall be washed and the wash water collected and disposed offsite.
6. Install filter materials (such as block and gravel bags, sandbags, filter fabric) at the storm drain inlets surrounding the project site. Such inlet protections shall be

installed before: the start of the rainy season (October 1<sup>st</sup>), site de-watering activities, saw-cutting activities, or any other activity that may result in the discharge of material to the storm drain. Filter materials shall be maintained and/or replaced as necessary to minimize short-cutting and to remove sediment deposits and buildup. Accumulated sediment/debris shall be disposed of properly.

7. Vacuum saw-cutting slurry and remove from site. Do not allow saw-cut slurry to enter the storm water conveyance system.
8. Create a contained and covered area on the site for the storage of cement bags, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by wind, exposure to rainfall or in the event of a material spill.
9. Never clean machinery, tools, brushes, etc. or rinse containers into a street, gutter, storm drain or stream. See the *Building Maintenance and Remodeling* BMP flyer and ACCWP BMP brochures for more information. Contact the Public Works Department at 747-7950 for assistance with obtaining these documents.
10. Ensure that concrete/gunite supply trucks or concrete/plaster finishing operations do not discharge wash water into street gutters or drains. Concrete trucks shall have a self-contained washout system or discharge to a dedicated, secure site washout in order to avoid the possibility of debris on city streets or discharge of wash water to the storm water conveyance system.
11. Minimize removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Re-plant the area, and stabilize all cut and fill slopes as soon as possible after grading is completed. At a minimum, 4,000 pounds/acre of straw with tackifier should be placed on all exposed soils including, but not limited to, those within active work areas and flat lots. **No site grading shall occur between October 1 and May 31 unless approved erosion and sedimentation control measures are in place.**
12. Provide erosion “prevention” and perimeter protection measures (soil stabilization) such as fiber rolls, silt fence, and/or sediment traps or basins. Ensure control measures are adequately maintained and in operable condition. Sediment controls, including, but not limited to, inlet protection, are necessary but should be a secondary defense behind good erosion control and site perimeter measures.
13. Design site de-watering operations to prevent the discharge of any sediment, debris or other pollutants to the municipal storm water conveyance system.
14. Maintain and if necessary, repair, all erosion prevention and sediment control measures throughout the contract term. Replacement supplies should be kept on site. Site inspections shall be conducted before and after each storm event, and every 24 hours for extended storm events, to identify areas that contribute to erosion and sediment problems or any other pollutant discharges. If additional measures are needed, inform the City Engineer immediately and document all inspection findings and actions taken.
15. Conduct visual observations before, during, and after storm events. Any breach, malfunction, leakage, or spill observed that could result in the discharge

of pollutants to surface waters that might not be visually detectable in stormwater could trigger the collection of a samples of discharge at the Contractor's cost. The following procedures shall be followed during sampling:

Sampling Procedures:

- For all construction activity, identify a sampling and analysis strategy and sampling schedule for potential discharges discovered through visual monitoring.
  - Any breach, malfunction, leakage, or spill observed during visual monitoring which could result in the discharge of pollutants to surface waters that would not be visually detectable in stormwater shall trigger the collection of a sample of discharge.
  - Samples shall be collected at all discharge locations which drain the areas identified by the visual observations and which can be safely accessed.
  - Personnel trained in water quality sampling procedures shall collect stormwater samples.
  - An uncontaminated sample shall be collected for comparison with the discharge sample.
  - Sampling shall be conducted during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.
  - The uncontaminated sample shall be compared to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and TDS
  - All field and/or analytical data shall be kept in the SWPPP document, which is to remain at the construction site at all times.
16. Contact the City of Alameda Public Works Department at 510-747-7930 in the event of any slope failure, sediment pond overflow, or any other malfunction resulting in sediment-laden runoff. The City shall, in turn, report such incidents to the Regional Water Quality Control Board.
17. Clearly mark with the words, "No Dumping! Drains to Bay" or the equivalent, using methods approved by the City of Alameda, onto the on-site storm drain inlets. All on-site storm drains must be inspected and, if necessary, cleaned, at least once a year immediately prior to the rainy season. Additional cleaning may be required by the City of Alameda.
18. Require all concrete trucks used in the performance of the work to have a self-contained washout system, rather than do washout on the site. The idea is to avoid:
- a. An undesirable pile of concrete on the jobsite, and
  - b. The possibility of debris on city streets.

The objective of these Standard Conditions is to ensure that the City's municipal storm water Permit, the National Pollutant Discharge Elimination System (NPDES) Permit provisions and additional Regional Water Quality Control Board requirements are adequately enforced.

These recommendations are intended to be used in conjunction with the State's Best Management Practices Municipal and Construction Handbooks, local program guidance materials from municipalities, Section 7.1.01, of the Standard Specifications and any other appropriate documents on storm water quality controls for construction. If you need assistance in checking these documents, contact Clean Water Program Specialist at 510-747-7930.

Failure to comply with the above program will result in issuance of noncompliance notices, citations, project stop orders or fines. The fine for noncompliance of the above program is two hundred and fifty dollars (\$250.00) per occurrence per day. The State under the Federal Clean Water Act can also impose a fine on the Contractor.

END OF SECTION 01 84 00

## **SECTION 01 85 00 – RECYCLING OF CONCRETE AND ASPHALT MATERIALS**

### **1.01 RECYCLING OF CONCRETE AND ASPHALT MATERIALS**

The Contractor shall dispose of at least 80% of the removed concrete, rock, brick, asphalt or other similar materials to an approved materials recycling location other than a landfill. The 80% shall be determined by weight of materials. All disposal and recycling weight/receipt tags shall be submitted to the Engineer. Attached is a suggested list of facilities that will accept construction and demolition waste materials (Exhibit A). The Contractor shall submit a request, along with proof in writing, to the City Engineer of the Contractor's inability to comply with this requirement.

The City of Alameda Administrative Instruction 36 requires that contractors doing business with the City of Alameda shall comply with the guidelines for use of recycled materials (Exhibit B). The Contractor shall submit a Waste Reduction and Recycling Plan (WRRP, Exhibit C) prior to construction. The WRRP must be submitted for review and approved by the Public Works Staff before demolition. A Waste Reduction and Recycling Plan Final Summary Report (Exhibit D) must be filled out and signed by the Contractor at the project completion. The Contractor shall also submit a Waste Management Report (Exhibit E).

END OF SECTION 01 85 00

**LIST OF PROCESSORS BY MATERIAL**

This guide is a listing of facilities/processors that accept construction and demolition waste materials. This is not a complete and comprehensive list; it is intended to be a quick reference guide to assist contractors and the general public recycle their construction and demolition debris.

Please call each facility for accepted materials, hours of operation, and the terms and conditions prior to delivering your materials.

**ASPHALT & CONCRETE**

**AMAN ENVIRONMENTAL CONSTRUCTION** (510) 553-0110

8300 Baldwin Street, Oakland

- . Clean asphalt
- . Clean concrete

**CALMAT** (925) 485-1279

501 El Charo Road, Pleasanton

- . Clean asphalt
- . Clean concrete

**COUNTY QUARRY PRODUCTS, INC.** (510) 682-0707

5501 Imhoff Drive, Martinez

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

**CURTNER QUARRY** (510) 793-8861

2000 Scott Creek Road, Milpitas

- . Clean concrete
- . Clean asphalt (broken or grindings)
- . Concrete roofing
- . Tiles, gravel, porcelain

**DAVIS STREET TRANSFER STATION** (510) 638-2303

2615 Davis Street, San Leandro



**DORN RECYCLERS**

(925) 449-9328

Livermore

(May pickup: large quantities)

**DUTRA MATERIALS**

(510) 887-8070

4001 West Winton Avenue, Hayward

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

**LA VISTA QUARRY**

(510) 538-5085

28814 Mission Boulevard, Hayward

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

**RAISCH PRODUCTS**

(408) 227-9222

2122 Old Calaveras Road, Milpitas

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

**RAISCH PRODUCTS**

(408) 734-4245

1444 Borregas Avenue

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

**RAISCH PRODUCTS**

(510) 623-5870

7010 Auto Mall Parkway, Fremont

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

**RAISCH PRODUCTS**

(408) 227-9222

55 Hillsdale Avenue, San Jose

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

**RECYCLED BUILDING MATERIALS- WHOLE  
HOUSE SALVAGE**

(650) 856-0634

- . Cinder blocks
- . Roofing tiles

**SPECIALTY CRUSHING**

(510) 986-0964

Oakland

- . Clean asphalt
- . Clean concrete
- . Cinder blocks

**SRDC, Inc.**

(415) 367-7324

195 Seaport Boulevard, Redwood City

- . Clean asphalt
- . Clean concrete

**SYAR INDUSTRIES, INC.**

(510) 215-1114

Foot of Parr Boulevard, Richmond

- . Clean asphalt
- . Clean concrete

**THE REUSE PEOPLE**

(510) 567-8525

2615 Davis Street, San Leandro

- . Reuse/free drop-off;
- . Useable, whole cinder blocks
- . Roofing tile

**VASCO ROAD LANDFILL &  
RECYCLING DROPOFF**

(925) 447-0491

4001 North Vasco Road, Livermore

- . Clean asphalt
- . Clean concrete

**WRT WASTE MANAGEMENT**

(415) 822-2175

895 Egbert Avenue, San Francisco

- . May pickup; asphalt, concrete

**ZANKER RESOURCE MANAGEMENT**

(408) 263-2383

705 Los Esteros Way, San Jose

- . Clean asphalt
- . Clean concrete
- . Concrete with rebar
- . Concrete roofing
- . Tiles, gravel, porcelain

Recycled materials, if deemed acceptable, by the Engineer, for the requirements of these specifications will be considered for building materials. Contractor shall submit a request in writing for the Engineer's use. The written request shall include all specification information required by the Engineer that provides him/her assurance that the proposed materials are an equal or better to those specified herein.

For further information regarding materials and vendors, Contractor may call Waste Management at (510) 747-7960.

**EXHIBIT “B”****RECYCLED CONTENT STANDARDS**

ITEM	MINIMUM % OF RECOVERED MATERIAL	MINIMUM % OF POSTCONSUMER MATERIAL
<b>BINDERS</b>		
Press board cover	up to 100%	20%
Paperboard in plastic covering	up to 100%	75%
Solid plastic cover	up to 100%	25%
Plastic covering	25%	not set
<b>COPIER PAPER</b>	up to 100%	20%
<b>FIBERGLASS INSULATION</b>	30% cullet	not set
<b>FILE STORAGE BOXES</b>	up to 100%	50%
<b>FLEXIBLE DELINEATOR POSTS</b>	up to 100%	25%
<b>INTEROFFICE ENVELOPES</b>	up to 100%	20%
<b>PAPER TOWELS</b>	up to 100%	40%
<b>PLAYGROUND SURFACES</b>	90%	90%
<b>PLASTIC FOOD SERVICE TRAYS</b>		
Durable plastic	up to 100%	25%
Disposable polystyrene	up to 100%	25%
Disposal paper	80%	not set
<b>PLASTIC LUMBER BENCHES</b>	up to 100%	50%
<b>RE-FINED MOTOR OIL</b>	up to 100%	70%
<b>SOIL AMENDMENT - COMPOST</b>	80%	not set
<b>TRASH CANS/ROLLING CARTS</b>		
Plastic	up to 100%	20%
Paper	up to 100%	50%
Plastic rolling cart	up to 100%	10% body, 50% lid
<b>TRASH CANS LINERS</b>	up to 100%	30%
<b>UNBOUND AGGREGATES</b>	up to 100%	not set

# CITY OF ALAMEDA

## Waste Reduction & Recycling Plan (Form)

Submit to: City of Alameda  
Public Works Department  
Environmental Services Division  
950 West Mall Square, #110  
Alameda, CA 94501-7752

Permit No. \_\_\_\_\_

Project Name \_\_\_\_\_

Approved

Not Approved

Staff Initials \_\_\_\_\_

Staff Phone # \_\_\_\_\_

*for City's use only*

Project _____	Name _____	of _____	Address: _____
Manager: _____	Project _____		
Phone Number: _____	_____		
Cellular _____	Phone _____	Number: _____	
_____ Fax Number: _____			

Please provide the following information:

(a) What type is this project? Please check all that apply.

- |                     |               |               |
|---------------------|---------------|---------------|
| 1. New Construction | 2. Repair     | 3. Addition   |
| 4. Move             | 5. Alteration | 6. Demolition |

(b) What is the size of this project? \_\_\_\_\_ sq. ft.

(c) What is the permit valuation of this project? \$ \_\_\_\_\_

2. Briefly state how materials will be sorted for recycling, reuse or salvage on the job site.

---

---

---

---

---

3. Briefly state how you plan to inform and ensure participation by your workers and any sub-contractors of your Waste Reduction and recycling Plan.

---

---

---

---

---

4. Complete page 2 of this Form.

## WASTE REDUCTION AND RECYCLING PLAN

For this project identify the materials and quantities that you estimate can be recycled, reused or salvaged. Estimate the amount of solid waste that will be generated and disposed in landfills.

**Goal: Reduce materials going to the landfills by 50%**

Material Type	Est. Amount (tons/yards)	Proposed Processing Methods (Check all that apply)			
		B Recycle	C Reuse	D Salvage	Landfill
Asphalt & Concrete					
Brick/Tile					
Building Fixtures (Doors, Windows, Fixtures, etc.)					
Corrugated Cardboard					
Dirt/Clean Fill					
Drywall					
Padding- Carpet/Foam					
Scrap Metal					
Unpainted Wood & Pallets					
Yard Trimmings (Brush, Trees,					
Other (list)					
Garbage-Solid Waste Trash, and Rubbish					
<b>Total</b>					

Do columns (B+C+D) = 50% of column A?

YES      NO      If NO, please explain why.

---



---



---



---

\_\_\_\_\_  
General Contractor's Signature

\_\_\_\_\_  
Date

# CITY OF ALAMEDA

## Waste Reduction & Recycling Plan FINAL SUMMARY REPORT (Form)

At project completion submit to:

City of Alameda  
Public Works Department  
Environmental Services Division  
950 West Mall Square, Room #110  
Alameda, CA 94501-7552

Permit No. \_\_\_\_\_

Project Name: \_\_\_\_\_

Address: \_\_\_\_\_

Review results:

50% diversion attained

Good faith effort

Non-attained

Staff Initials: \_\_\_\_\_

Staff Phone # \_\_\_\_\_

- (1) List the estimated amounts from your WRRP form for this project.
- (2) Indicate actual quantities of materials that were recycled, reused or salvaged from this project.
- (3) Describe the handling procedure and destination of each material.
- (4) Indicate the **actual** amount of solid waste produced and disposed in a landfill.

**Goal: Materials going to the landfills are reduced by 50%**

Material Type	Est. Amount From WRRP (tons/yards)	Actual Quantities				Handling Procedure/Destination
		B Recycled	C Reused	D Salvaged	Landfilled	
Asphalt & Concrete ( <i>Example</i> )	70 tons		65 tons		5 tons	ground on-site and resized as fill
Brick/Tile						
Building Fixtures (Doors, Windows, Fixtures, etc.)						
Corrugated Cardboard						
Dirt/Clean Fill						
Drywall						

Padding-Carpet Foam						
---------------------	--	--	--	--	--	--

Material Type	Est. Amount From WRRP (tons/yards)	Actual Quantities				Handling Procedure/Destination
		B Recycled	C Reused	D Salvaged	Landfilled	
	A					
Scrap Metal						
Unpainted Wood & Pallets						
Yard Trimmings (Brush, trees, stumps, etc.)						
Other (list)						
Garbage, Solid Waste Trash, Rubbish,						
<b>Total</b>						

- (1) Do Columns (B+C+D) = 50% of column A?      YES      NO
- (2) If estimated amounts from the WRRP were not recycled, reused, or salvaged, please provide a justification.

---



---



---

- (3) Please list any recommendation that would help further construction and demolition recycling in Alameda.

---



---



---

\_\_\_\_\_  
Contractor Signature

\_\_\_\_\_  
Date



**EXHIBIT "E"**

**WASTE MANAGEMENT REPORT  
FOR CONTRACTORS**

The City of Alameda is requesting that all contractors document materials generated (reused, recycled or landfilled).

Please complete this form each time materials are removed from the site or reused on-site.

\_\_\_\_\_

JOB SITE LOCATION: \_\_\_\_\_ DATE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

MATERIAL: \_\_\_\_\_

\_\_\_\_\_

WAS THE MATERIAL RECYCLED?      YES              NO

VOLUME/WEIGHT: \_\_\_\_\_ HAULER: \_\_\_\_\_

RECYCLING COMPANY OR DISPOSAL SITE: \_\_\_\_\_

\_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

\_\_\_\_\_

PHONE NUMBER: \_\_\_\_\_

## **CONSULTANTS' TECHNICAL SPECIFICATIONS**

## **SECTION 018113 - SUSTAINABLE DESIGN REQUIREMENTS**

### **CALGREEN COMMERCIAL**

#### **PART 1 - GENERAL**

##### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

##### **1.2 SUMMARY**

- A. Section includes general requirements and procedures for compliance with California Green Building Standards Code – CALGreen Section 703.1 Documentation.
- B. Related Sections include the following:
  - 1. Section 01 74 00 - Construction Waste Management: Administrative and procedural requirements for salvaging, recycling, and disposing of demolition and construction waste.
  - 2. Divisions 1 through 35 Sections for CALGreen requirements specific to the Work of each of those Sections. These requirements may or may not include reference to CALGreen.
- C. 2016 California Green Building Standards Code (CALGreen): This project is subject to all mandatory measures of CALGreen.

##### **1.3 DEFINITIONS**

- A. CALGreen: California Green Building Standards Code 2016, California Code of Regulations, Title 24, Part 11.
- B. Chain-of-Custody (COC): A tracking procedure for a product from the point of harvest or extraction to its end use, including all successive stages of processing, transformation, manufacturing, and distribution.
- C. Chain-of-Custody Certification: Awarded to companies that produce, sell, promote, or trade forest products after audits verify proper accounting of material flows and proper use of the Forest Stewardship Council name and logo.
- D. Chain-of-Custody Certificates: Certificates signed by manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship." Certificates shall include evidence that manufacturer is certified for chain of custody by an FSC-accredited certification body.
- E. Recycled Content: The proportion, by mass, of pre-consumer or postconsumer recycled material in a product (ISO 14021).
  - 1. Postconsumer Recycled Content: The percentage of material in a product that was consumer waste. The recycled material was generated by household, commercial, industrial, or institutional end-users and can no longer be used for its intended purpose.

2. Preconsumer Recycled Content (formerly known as postindustrial content): The percentage of material in a product that is recycled from manufacturing waste.

- F. Regional Materials: Materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles (800 km) of Project site. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Respond to questions and requests from Architect regarding CALGreen compliance that are the responsibility of the Contractor, that depend on product selection or product qualities, or that depend on Contractor's procedures until the AHJ has made its determination on the project's CALGreen compliance. Document responses as informational submittals.

#### 1.5 ACTION SUBMITTALS

- A. General: Submit CALGreen submittals listed herein and additional CALGreen submittals as required by other Specification Sections.
- B. CALGreen submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated CALGreen requirements.
- C. CALGreen Division 5, Section 5.408.1: Construction Waste Management: See Section 017400.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. CALGreen Compliance Documentation Submittals:
  1. CALGreen Division 5, Section 5.106.4.1.1: Short-Term Bicycle Parking: Product Data for bicycle parking racks.
  2. CALGreen Division 5, Section 5.106.8: Light Pollution Reduction: Product Data for interior and exterior lighting fixtures that stop direct-beam illumination from leaving the building site.
  3. CALGreen Division 5, Section A5.201.1 Energy Star Equipment and Appliances: Product Data for equipment and appliances indicating Energy Star compliance and labeling.
  4. CALGreen Division 5, Section 5.303.1 Metering: Product Data for metering of water usage throughout building.
  5. CALGreen Division 5, Section 5.303.2, 5.303.3, and 5.303.6 Indoor Water Use: Product Data for plumbing fixtures, fittings, and appliances indicating water consumption.
  6. CALGreen Division 5, Section 5.408.1.4 Construction Waste Reduction, Disposal and Recycling: Submit construction and demolition management plan and completed waste management report showing that a minimum of 50% of nonhazardous construction and demolition debris has been recycled and/or salvaged for reuse. See Section 017419.
  7. CALGreen Division 5, Section 5.410.4.2 and 5.410.4.3 Testing Systems: Documentation showing development of a written plan of procedures for testing and adjusting systems, with procedures listed demonstrating compliance with requirements of AHJ.
  8. CALGreen Division 5, Section 5.504.1 Temporary Ventilation during Construction: Product Data for methods used to control indoor chemical and pollutant sources.

9. CALGreen Division 5, Section 5.504.3 covering of duct openings and protection of mechanical equipment during construction:
  - a. Construction indoor air quality management plan.
  - b. Product Data for temporary filtration media.
  - c. Product Data for filtration media used during construction.
  - d. Construction Documentation: Six photographs at three different occasions during construction along with a brief description of the SMACNA approach employed, documenting implementation of the IAQ management measures, such as protection of ducts and on-site stored or installed absorptive materials.
10. CALGreen Division 5, Section 5.504.4.1, Adhesives, Sealants and Caulks: Product Data for adhesives, sealants and caulks used inside the weatherproofing system indicating VOC content in g/L of each product used.
11. CALGreen Division 5, Section 5.504.4.3, 5.504.4.3.1 Aerosol Paints and Coatings, and 5.504.8.3.2 Verification: Product Data for paints and coatings used inside the weatherproofing system indicating chemical composition and VOC content in g/L of each product used.
12. CALGreen Division 5, Section 5.504.4.4 Carpet Systems, 5.504.4.4.1 Carpet Cushion, 5.504.8.4.2 Carpet Adhesive: Product Data for carpet, carpet cushion, carpet adhesives and resilient flooring products indicating VOC content in g/L of each product used.
  - a. Product Data for filtration media used during flush-out and prior to occupancy.
13. CALGreen Division 5, Section 5.504.4.5 Composite Wood Products, and 5.504.4.5.2 Documentation: Product Data for composite wood and agrifiber products indicating that products contain no added urea-formaldehyde resin. For CALGreen, submit at least one of the following: product certification and specifications, chain of custody certifications, or other methods acceptable to the enforcing agency.
  - a. Include statement indicating adhesives and binders used for each product.
14. CALGreen Division 5, Section 5.504.4.6 Resilient Flooring Systems: Product Data for resilient flooring products showing resilient flooring materials meet pollutant emission limits.
15. CALGreen Division 5, Section 5.504.5.3 Filters: Product Data for air filtration media installed in mechanical distribution system.
16. CALGreen Division 5, Section 5.506.1 Outside Air Delivery and Section 5.506.2 Carbon Dioxide (CO<sub>2</sub>) Monitoring: Product Data and Shop Drawings for HVAC system showing compliance with California Energy Code and for carbon dioxide monitoring system.
17. CALGreen Division 5, Section 5.507.4.3 Interior Sound Transmission: Product Data for acoustical materials used to provide a minimum STC of 40.
18. CALGreen Division 5, Section 5.508.1: Product Data for new HVAC equipment indicating absence of CFC refrigerants and Product Data for fire suppression equipment indicating absence of halons.

## PART 2 - PRODUCTS

### 2.1 MATERIALS, GENERAL

- A. Provide products and procedures necessary to meet CALGreen provisions required in this Section. Although other Sections may specify some requirements that contribute to CALGreen, the Contractor shall determine additional materials and procedures necessary to meet CALGreen provisions indicated.

### 2.2 RECYCLED CONTENT OF MATERIALS

- A. CALGreen Division 5, Section 5.408.1: Recycle and salvage for reuse a minimum of 50% of nonhazardous construction and demolition waste:

1. Recycled content of materials shall be defined according to the International Organizations of Standards document, ISO 14021, Environmental labels and declarations – Self-declared environmental claims (Type II environmental labeling).

## 2.3 POLLUTION CONTROL

- A. CALGreen, Division 5, Section 5.504.4.1, adhesives, sealants and caulks (Table 5.504.4.1): For compliance, for field applications that are inside the weatherproofing system, use adhesives and sealants that comply with the following limits for VOC content in compliance with the local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits as shown (such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds – chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene – except for aerosol products as specified in CALGreen Division 5, Section 5.504.8.1.2:

1. Architectural Applications:
  - a. Indoor Carpet Adhesives: 50 g/L.
  - b. Carpet Pad Adhesives: 50 g/L.
  - c. Outdoor Carpet Adhesives: 150 g/L.
  - d. Wood Flooring Adhesive: 100 g/L.
  - e. Rubber Floor Adhesives: 60 g/L.
  - f. Subfloor Adhesives: 50 g/L.
  - g. Ceramic Tile Adhesives: 65 g/L.
  - h. VCT and Asphalt Tile Adhesives: 50 g/L.
  - i. Gypsum Board and Panel Adhesives: 50 g/L.
  - j. Cove Base Adhesives: 50 g/L.
  - k. Multipurpose Construction Adhesives: 70 g/L.
  - l. Structural Glazing Adhesives: 100 g/L.
  - m. Single-Ply Roof Membrane Adhesive: 250 g/L.
2. Specialty Applications:
  - a. PVC Welding Compounds: 510 g/L.
  - b. CPVC Welding Compounds: 490 g/L.
  - c. ABS Welding Compounds: 325 g/L.
  - d. Plastic Cement Welding Compounds: 250 g/L.
  - e. Adhesive Primer for Plastic: 550 g/L.
  - f. Contact Adhesive: 80 g/L.
  - g. Special-Purpose Contact Adhesive (contact adhesive that is used to bond melamine-covered board, metal, unsupported vinyl, rubber, or wood veneer 1/16 inch or less in thickness to any surface): 250 g/L.
  - h. Structural Wood Member Adhesive: 140 g/L.
  - i. Top and Trim Adhesive: 250 g/L.
3. Substrate-Specific Applications:
  - a. Metal-to-Metal Adhesives: 30 g/L.
  - b. Plastic Foam Adhesives: 50 g/L.
  - c. Adhesives for Porous Materials (Except Wood): 50 g/L.
  - d. Wood Glues: 30 g/L.
  - e. Fiberglass Adhesives: 80 g/L.
4. Sealants:
  - a. Architectural Sealants: 250 g/L.
  - b. Marine Deck Sealant: 760 g/L.
  - c. Nonmembrane Roof Sealants: 300 g/L.
  - d. Roadway Sealant: 250 g/L.
  - e. Single-Ply Roof Membrane Sealants: 450 g/L.
  - f. Other Sealants: 420 g/L.
5. Sealant Primers:
  - a. Architectural, Nonporous Substrates: 250 g/L.
  - b. Architectural, Porous Substrates: 775 g/L.

- c. Modified Bituminous Sealant Primers: 500 g/L.
  - d. Other Sealant Primers: 750 g/L.
- B. CALGreen, Division 5, Section 5.504.4.3, Paints and Coatings (Table 5.504.8.3): Use paint and coatings that comply with the 2007 California Air Resources Board Suggested Control Measure unless local limits that are more stringent apply. Aerosol paints and coatings shall meet the PWMIR limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520, and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49:
- 1. Flat Paints and Coatings: VOC not more than 50 g/L.
  - 2. Non-Flat Paints and Coatings: VOC not more than 100 g/L.
  - 3. Non-Flat High Gloss Paints and Coatings: VOC not more than 150 g/L.
  - 4. Specialty Coatings:
    - a. Aluminum Roof Coatings: 400 g/L.
    - b. Basement Specialty Coatings: 400 g/L.
    - c. Bituminous Roof Coatings: 50 g/L.
    - d. Bituminous Roof Primers: 350 g/L.
    - e. Bond Breakers: 350 g/L.
    - f. Concrete Curing Compounds: 350 g/L.
    - g. Concrete/Masonry Sealers: 100 g/L.
    - h. Driveway Sealers: 50 g/L.
    - i. Dry Fog Coatings: 150 g/L.
    - j. Faux Finishing Coatings: 350 g/L.
    - k. Fire Resistive Coatings: 350 g/L.
    - l. Floor Coatings: 100 g/L.
    - m. Form-Release Compounds: 250 g/L.
    - n. Graphic Arts Coatings (Sign Paints): 500 g/L.
    - o. High Temperature Coatings: 420 g/L.
    - p. Industrial Maintenance Coatings: 250 g/L.
    - q. Low Solids Coatings: 120 g/L.
    - r. Magnesite Cement Coatings: 450 g/L.
    - s. Mastic Texture Coatings: 100 g/L.
    - t. Metallic Pigmented Coatings: 500 g/L.
    - u. Multi-Color Coatings: 250 g/L.
    - v. Pre-Treatment Wash Primers: 420 g/L.
    - w. Primers, Sealers, and Undercoaters: 100 g/L.
    - x. Reactive Penetrating Sealers: 350 g/L.
    - y. Recycled Coatings: 250 g/L.
    - z. Roof Coatings: 50 g/L.
    - aa. Rust Preventative Coatings: 250 g/L.
    - bb. Shellacs:
      - 1) Clear: 730 g/L.
      - 2) Opaque: 550 g/L.
    - cc. Specialty Primers, Sealers, and Undercoaters: 100 g/L.
    - dd. Stains: 250 g/L.
    - ee. Stone Consolidants: 450 g/L.
    - ff. Swimming Pool Coatings: 340 g/L.
    - gg. Traffic Marking Coatings: 100 g/L.
    - hh. Tub and Tile Refinish Coatings: 420 g/L.
    - ii. Waterproofing Membranes: 250 g/L.
    - jj. Wood Coatings: 275 g/L.
    - kk. Wood Preservatives: 350 g/L.
    - ll. Zinc-Rich Primers: 340 g/L.

5. Restricted Components: Paints and coatings shall not contain any of the following:
  - a. Acrolein.
  - b. Acrylonitrile.
  - c. Antimony.
  - d. Benzene.
  - e. Butyl benzyl phthalate.
  - f. Cadmium.
  - g. Di (2-ethylhexyl) phthalate.
  - h. Di-n-butyl phthalate.
  - i. Di-n-octyl phthalate.
  - j. 1,2-dichlorobenzene.
  - k. Diethyl phthalate.
  - l. Dimethyl phthalate.
  - m. Ethylbenzene.
  - n. Formaldehyde.
  - o. Hexavalent chromium.
  - p. Isophorone.
  - q. Lead.
  - r. Mercury.
  - s. Methyl ethyl ketone.
  - t. Methyl isobutyl ketone.
  - u. Methylene chloride.
  - v. Naphthalene.
  - w. Toluene (methylbenzene).
  - x. 1,1,1-trichloroethane.
  - y. Vinyl chloride.
  
- C. CALGreen, Division 5, Section 5.504.4.4 Carpet Systems: Carpet and carpet cushion must comply with Carpet and Rug Institute's Green Label Plus Program.
  
- D. CALGreen, Division 5, Section 5.504.4.5 Composite Wood Products: Do not use composite wood and agrifiber products that contain added urea-formaldehyde resin. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies must not contain added urea-formaldehyde resin.
  
- E. CALGreen, Division 5, Section 5.504.4.6 Resilient Flooring Systems: No less than 80% of floor area receiving resilient flooring material must comply with the Resilient Floor Covering Institute (RFCI) FloorScore program.

### PART 3 - EXECUTION

#### 3.1 CONSTRUCTION WASTE MANAGEMENT

- A. Comply with CALGreen, Division 5, Section 5.408.1 and Section 017400 "Construction Waste Management and Disposal."

#### 3.2 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

- A. CALGreen Division 5, Section 5.504.3:
  1. Covering of duct openings and protection of mechanical equipment during construction.
  2. During construction, meet or exceed the recommended control measures of the Sheet Metal and Air Conditioning National Trade Contractors Association (SMACNA)



IAQ Guidelines for Occupied Buildings under Construction, 2<sup>nd</sup> Edition 2007, ANSI/SMACNA 008-2008 (Chapter 13).

3. Protect stored on-site and installed absorptive materials from moisture damage.
  4. If permanently installed air handlers are used during construction, filtration media with a minimum efficiency reporting value of MERV 8 must be used at each return air grille, as determined by ASHRAE Standard 52.2-1999 (with errata but without addenda). Replace all filtration media immediately prior to occupancy.
- B. CALGreen Division 5, Section 5.504.5.3:
1. Filters: in mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value of MERV 8.

END OF SECTION 018113

## SECTION 021000

### CLEARING, GRUBBING AND STRIPPING

#### PART 1 - GENERAL

##### 1.1 WORK INCLUDED

- A. Clearing the entire area within the limits of work of all rubbish, debris and other objectionable material, and disposal of same.
- B. Stripping the entire area within the limits of work of all swamp grass, shrubs, weeds, and other vegetative growth of any nature, and disposal of same.
- C. Grubbing the entire area within the limits of work of all vegetative material and disposal of same.
- D. Removal of trees and preservation, care, and pruning of trees to remain in place.
- E. Trimming of tree (limbs and tree roots) as may be required to construct the improvements.
- F. Dust alleviation and control.
- G. The work shall include the provision of all labor, materials, equipment and apparatus not specifically mentioned herein or noted on the plans, but which are incidental and necessary to complete the work specified.

##### 1.2 JOB CONDITIONS

- A. The Contractor will be held responsible for any damage to trees injured during construction, i.e., limb breakage, tearing of bark along trunk or excessive root damage.
- B. Contractor shall provide adequate dust alleviation and control measures at all times during the course of the work.

##### 1.3 QUALIFICATIONS

- A. All tree pruning and removal performed shall be executed by a company, having in full-time employment, an Arborist certified by the Western Chapter International Society of Arboriculture. Certification must be verified, and the Arborist must be directly responsible for decisions made, and should visit the work sites daily.
- B. Pruning shall be performed to the standards of the International Society of Arborists Pruning Guidelines, and to ANSI A-300.

##### 1.4 APPLICABLE PUBLICATIONS

- A. Trees and Building Sites: Official Publication of the International Society of Arboriculture.
- B. Arboriculture: The care of trees and shrubs by Dr. Richard Harris.

## **PART 2 - PRODUCTS**

**NONE**

## **PART 3 - EXECUTION**

### **3.1 PERFORMANCE**

- A. Ground cover of every nature including grass, shrubs, weeds, and vegetation shall be removed.
- B. At sites where the excavation has taken place near trees to remain, and many living roots remain exposed to the air, the contractor shall cover the exposed roots within 2 hours with sand, soil, moist burlap or other means acceptable to the Engineer.
- C. Spoil resulting from clearing, grubbing and stripping operations shall be removed from the entire limits of work and properly disposed of from the work site.

### **3.2 TREE PRUNING**

- A. Tree pruning shall be performed to balance the crown and eliminate hazards. The main work performed shall be to reduce the sail effect through thinning, reducing end weights, shortening long heavy limbs, removing deadwood, weak limbs and sucker growth. Limbs shall be pruned back to an appropriate lateral branch.
- B. All final cuts shall be made at the outer edge of the branch collar. The pruning work shall be performed in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards.
- C. The Contractor shall be responsible for the preservation of all public and private property. Pruning includes the cutting of limbs, cleanup, removal and disposal of cuttings and debris. Elm logs must be properly disposed of per State Quarantine. Work shall be performed by a two-man crew with one climber, one ground person, a dumping chipper truck and chipper, and any other necessary saws, lines, tools and safety equipment. The work area shall have appropriate cones and signs for safe pedestrian and vehicle traffic.

### **3.3 TREE REMOVAL**

- A. Trees designated by the Engineer for removal shall be removed prior to the construction of the new improvements. The work shall be performed in a safe manner, adhering to CAL-OSHA and ANSI Standards. The work area shall have appropriate cones and signs for safe vehicle and pedestrian traffic. The contractor shall be responsible for the preservation of all public and private property. All wood shall be properly disposed of.
- B. Stumps shall be ground to a minimum 8" below finished subgrade, including the removal of surface roots within 24" of the tree trunk, all woody portions and stump debris.
- C. For sidewalk repair work, trees shall be removed in the order designated by the Engineer, approximately 2 weeks prior to start of work.

### **3.4 ROOT PRUNING**

- A. Tree roots greater than 3" in diameter and less than 12" below ground level shall not be

cut without approval of the Engineer.

- B. Roots shall be cut cleanly, as far from the trunk of the tree as possible, and not underneath any newly constructed sidewalk. Root pruning shall be to a depth of 18".
- C. Root pruning shall be performed using a Vermeer Root Cutting Machine. Alternate equipment or techniques must be approved by the Engineer. Root pruning shall be completed prior to base or subgrade preparation.
- D. Root pruning shall be completed prior to base or subgrade preparation, or to any excavation adjacent to the tree.
- E. Excavation in an area where roots are present shall not cause the tearing or ripping of tree roots. Roots must first be cleanly severed prior to continuing with the excavation, or tunneled around to prevent damage to the root.
- F. Tree roots shall not remain exposed to drying out. Root ends shall be covered with soil or burlap and kept moist until the final backfill or grade is established.

### **3.5 TREE PROTECTION**

- A. Construction materials, debris, and supplies shall not be stored within the drip line or protective fencing area under any tree.
- B. Vehicles under any tree shall not be parked within the drip line or protective fencing area.
- C. Woodchips or another cushioning surface material approved by the Engineer shall be placed over areas where roots are present and construction traffic occurs.
- D. Where called for on the plans, place storm fence or other approved protective barriers around trees to be saved.

### **3.6 DUST ALLEVIATION AND CONTROL**

- A. Contractor shall be responsible for providing pollution and dust abatement and control measures continuously during the course of the work.
- B. Contractor shall utilize reclaimed water or dust palliatives for dust control.

### **3.7 CLEANUP**

- A. Upon completion of clearing and stripping operations, the entire work site shall be cleaned of all construction debris, waste and rubbish of any nature.
- B. Construction debris, waste and rubbish remaining on-site upon completion of clearing and stripping operations shall become the property of the Contractor, and must be removed from the work site and disposed of in a lawful manner.

**END OF SECTION**

## **SECTION 022000**

### **TRENCHING AND BACKFILL**

#### **PART 1 - GENERAL**

##### **1.1 WORK INCLUDED**

- A. This section covers trenching and backfill requirements for buried piping systems specified in Water System -Section 02660; Storm Drainage -Section 02720; Sanitary Sewers -Section 02730.
- B. This Section also covers requirements for excavation and for compaction of succeeding layers after backfill has been placed around pipe.

##### **1.2 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the general designation only.
- B. American Society for Testing and Materials (ASTM) Publications:
  - C -33 Specification for Concrete Aggregates
  - C -136 Sieve Analysis of Fine and Coarse Aggregates
  - C -150 Portland Cement
  - C -260 Air Entraining Admixtures
  - D -424 Plastic Limit and Plasticity Index of Soils
  - C -618 Fly Ash and Raw or Calcined Natural Pozzolan for use as a Mineral Admixture in Portland Cement
  - D -1557 Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10-lb. (4.54 KG) Rammer and 18-in. (457 mm) Drop
  - D -2419 Sand equivalent Value of Soils and Fine Aggregate
  - D -2487 Classification of soils for Engineering purposes
  - D -3017 Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth)

##### **1.3 SUBMITTALS**

- A. Certified test reports for permeable material backfill tested in accordance with ASTM C 136.
- B. Samples: Submit 1 gallon size sample of permeable material for approval.
- C. Shoring and Sheet Piling Plan: Before starting work submit a CAL-OSHA permit for the shoring and sheet piling plan when trench excavation is five feet deep or more.
- D. Dewatering Plan: If required in the Special Conditions, before starting work submit a dewatering plan describing the basic components of the dewatering including silt control, etc.
- E. Traffic Plan: When work will occur on or adjacent to the right-of-way submit a Traffic Control Plan 72 hours in advance for approval prior to starting work.

## **1.4 QUALITY ASSURANCE**

- A. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted backfill material to the maximum dry density of the material as determined by the procedure set forth in ASTM Designation D1557. For field density tests, ASTM D-3017 may be used.
- B. D-load or class of pipe requirements shown or called for on the plans shall be the minimum acceptable.

## **1.5 JOB CONDITIONS, PROTECTION, AND SHORING**

### **A. EXISTING UTILITIES**

- 1. Unless shown to be removed, protect active utility lines shown on the Plans or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at the Contractor's expense. Pothole as required to verify utility location. Contractor shall be responsible for contacting all utility companies and coordinating any work which requires relocation or abandonment of existing utilities.
- 2. If active utility lines are encountered and are not shown on the Plans or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
- 3. If a known service is interrupted as a result of work under this section, immediately restore service by repairing the damaged utility at Contractor's expense. If foreseen or unforeseen existing utilities are newly found to interfere with the permanent facilities being constructed under this Contract, immediately notify the Engineer for directions.
- 4. Do not proceed with permanent repair or relocation of utilities until written instructions are received from the Engineer.
- 5. No construction water shall be disposed of in the storm drain system.

### **B. PROTECTION OF PERSONS & PROPERTY**

- 1. Install all necessary underpinning, shoring, lagging, cribbing, and bracing of ample strength to support adjoining soils, paving and structures. All such items shall be so constructed that they will not interfere with the building of any structural elements, and shall be removed upon completion of the shoring operation.
- 2. Barricade open depressions and holes occurring as part of this work, and post warning lights on property adjacent to or with public access.
- 3. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
- 4. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by operations of Contractor.
- 5. No trenches shall be left open during non-working hours.

6. Install fences and barricades to secure the area from the public.

**C. SHORING**

1. The Contractor is solely responsible for all bracing and shoring. The Contractor shall forward their application for shoring to the California Division of Industrial Safety for their review. Contractor's application shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a Civil Engineer registered in California.
2. If an application for a shoring permit is required, no excavation in trench section or around structures shall proceed until the approved shoring plan has been received by the Engineer.

**D. DEWATERING**

1. Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods.
2. Keep excavations and site construction area free from water.

**E. DUST CONTROL**

1. Use means necessary to control dust on and near the work, and on and near off-site areas, if such dust is caused by the Contractor's operations during performance of the Work, or if resulting from the condition in which the Contractor leaves the site.
2. Thoroughly moisten surfaces as required to prevent dust being a nuisance to the public, neighbors, and personnel performing other work on the site.
3. Use dust palliatives or reclaimed water (not potable water).

**F. Maintain access to adjacent areas at all times.**

**G. Maintain and/or replace all bench marks, monuments, construction stakes and other reference points.**

**H. Repair or restore damage to any portion of the work resulting from movement of the sides or bottom of trenches or other excavation which is attributable to the Contractor's acts or omissions, whether sides are braced or not.**

## **PART 2 - PRODUCTS**

### **2.1 GENERAL SOIL MATERIALS**

- A. In general, soils used for backfill shall be select material free of debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, frozen, deleterious, or objectionable materials, satisfactory to the Engineer, free of stones or lumps exceeding 3 inches in greatest dimension.

## **2.2 PIPE BEDDING AND INITIAL BACKFILL MATERIAL**

- A. Pipe bedding and initial backfill up to six inches above the top of the pipe shall be sand.
- B. Bedding and backfill material shall be subject to the approval of the Engineer.

## **2.3 SELECT BACKFILL ABOVE INITIAL BACKFILL OR BEDDING**

- A. In non-paved areas unless otherwise shown on plans, select backfill shall conform to the requirements for soil materials above, and shall be classified as (GW), (GP), (GM), (SW), (SP) or (SM) by ASTM D 2487 and meet the following:
  - 1. Sand equivalent shall not be less than 25 when tested in accordance with ASTM D 2419, plasticity index shall not exceed 15 when tested in accordance with ASTM D 424, and not more than 25% by weight shall be finer than the No. 200 sieve.
  - 2. On-site native material may be used as backfill if it conforms to 2.3A.1. above.
- B. In paved areas select backfill shall be Class 2 aggregate base, 3/4" maximum size gradation conforming to Section 25 of the Standard Specifications.

## **2.4 NOT USED**

## **2.5 SUBDRAIN MATERIAL**

- A. Where required for trench drainage and for subsurface drains, bedding shall conform to the requirements of Class 1, Type A Permeable material per Section 68 of State Standard Specifications.

## **2.6 NOT USED**

# **PART 3 - EXECUTION**

## **3.1 GENERAL TRENCHING AND EXCAVATING**

- A. Trenches may be excavated either by hand, or by machine. Trenches shall be cut with vertical sides, and shall be of sufficient width to provide adequate space for working therein; such space shall be a minimum clear distance of six (6) inches of shoring and a maximum of nine (9) inches clear of shoring on each side of the pipe barrel when the pipe is properly placed and aligned in conformity with the plans. Glory hole excavation or vee trenches will not be allowed. Trench sides shall be parallel to and at equal distance from the center-line of the pipe, when aligned in conformity with the plans.
- B. Excavated material shall be loaded into trucks immediately upon removal from the trench to prevent stockpiling on roadways or walkways.
- C. Where the excavated trench exceeds the widths specified above, furnish higher strength pipe, or other methods of construction as approved by the Engineer, to adequately provide for the increased loading, which the trench widening will cause. Stepped trenches shall meet the approval of the Engineer.



- D. Pipe trenches shall be excavated to a depth below the bottom of the pipe sufficient to provide for pipe bedding materials as required by Section 3.02.
- E. Where a trench has been excavated below the designed grade, the bottom of the trench shall be refilled to proper subgrade with approved material well compacted in place, in an approved manner.
- F. The Engineer shall have the right to limit the amount of trench which is opened or partially opened at any one time; and also to limit the amount of trench left without backfill, at any one time.
- G. No trench or holes shall be left open overnight. Use steel plating to protect open trenches overnight.
- H. Excavation for thrust blocks shall be neat to the line and dimensions shown or called for on the plans.
- I. Provide for dewatering trenches and excavations and subsequent control of ground water, utilizing such pumps or other equipment as may be necessary to control ground water and seepage until backfilling is completed.

### **3.2 GENERAL BEDDING**

- A. Utilities shall be laid on a firm layer of firm bedding material not less than four (4) inches in depth as shown or as noted on the plans and detail drawings, except that bedding shall not be required for utilities two (2) inches or less in nominal diameter. Compact as specified herein.
- B. Upon completion of bedding operations and, prior to the installation of pipe or appurtenances, notify the Engineer who will then inspect the bedding layer. Pipe laying shall not commence until the bedding has been approved.

### **3.3 GENERAL BACKFILLING**

- A. Backfill shall be as shown on the plans. Place in 6-inch maximum loose lifts to one foot above pipe unless otherwise specified. Bring up evenly on each side, and for the full length of the structure. Ensure that no damage is done to structures or protective coatings thereon. Place the remainder of the backfill in 8-inch maximum loose lifts unless otherwise specified. Compact each loose lift as specified in Paragraph "General Compaction" before placing the next lift. Where unacceptable settlements occur in trenches and pits due to improper compaction, excavate to the depth necessary to rectify the problem, then backfill and compact the excavation as specified herein and restore the surface to the required elevation.
- B. No backfill shall be placed until the line has been inspected and approved for backfilling.

### **3.4 GENERAL COMPACTION**

- A. Use hand-operated plate type vibratory or other suitable hand tampers in areas not accessible to larger rollers or compactors. Be careful to avoid damaging pipes and protective pipe coatings. Compaction shall be in accordance with the following unless otherwise specified. If necessary, the Contractor's selected equipment and construction

procedure shall be altered, changed or modified in order to meet the specified compaction requirements.

- B. Initial backfill and bedding shall be carefully packed under the haunches of the pipe and brought up simultaneously on both sides so as to obviate any displacement of the pipe from its true alignment. Bedding shall be compacted in layers not more than eight (8) inches in thickness in a manner that will preclude moving the pipe, to not less than 95% of maximum dry density as determined by the procedure set forth in ASTM Designation D1557. Jetting of backfill material will not be permitted.
- C. Select backfill above the initial backfill shall be placed in loose lifts not exceeding eight (8) inches in thickness before compaction, and compacted by the use of pneumatic tampers or other mechanical means approved. Water or dry, as required, to bring the soils as close as practicable to the optimum moisture content for proper compaction. Compaction equipment or methods that produce horizontal or vertical earth pressures which may cause excessive displacement or may damage the pipeline will not be permitted. Lifts of backfill shall be compacted to not less than 95% of maximum dry density as determined by the procedure set forth in ASTM Designation D1557. Jetting of backfill material will not be permitted.
- D. Backfill will be inspected and tested by the Engineer during placement. Contractor shall cooperate with the Engineer and shall provide working space for such tests in his operations. Backfill not compacted in accordance with these specifications shall be recompacted, or removed as necessary and replaced to meet specified requirements prior to proceeding with the work.

### **3.5 GENERAL BRACING AND SHORING**

- A. The Contractor shall furnish, place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; and to prevent damage to adjacent structures or facilities.
- B. Upon completion of the work, all bracing and shoring shall be removed, unless otherwise directed by the Engineer. Current requirements are for a maximum depth of 5 feet without CAL-OSHA approved shoring.

### **3.6 NOT USED**

### **3.7 NOT USED**

### **3.8 NOT USED**

### **3.9 SPECIAL EARTHWORK REQUIREMENTS FOR SUBSURFACE DRAINS**

- A. Excavate to the dimensions indicated.
- B. Provide a bedding surface of uniform density consisting of permeable material as indicated.
- C. Backfill around and over the pipes after pipe installation has been approved with permeable material to the depth indicated. Place in maximum loose lifts of 8 inches.
- D. Compact each lift with mechanical tampers or rammers. Compact bedding and backfill

materials to 90% of ASTM D1557, Method D, maximum density. Place the remainder of the trench backfill as specified.

**3.10 NOT USED**

**3.11 FIELD QUALITY CONTROL**

- A. The Engineer will inspect, test and approve trench backfill layers before further construction is permitted thereon. Number of tests required will be determined by the Engineer.
- B. If backfill has been placed, that is below the specified density, provide additional compaction with subsequent retesting until successful compaction is achieved.

**3.12 DUST ALLEVIATION AND CONTROL**

- A. Contractor shall be responsible for and shall provide pollution and dust abatement and control measures satisfactorily during the course of the work.
- B. The Contractor shall utilize reclaimed water, or dust palliatives.

**3.13 FINISH OPERATIONS**

- A. Pipes shall be laid to finished grades indicated on the plans.
- B. Dispose of all surplus material or material unsuitable for filling or grading off the site in a legal manner.
- C. Satisfactorily restore any existing improvements, paving, landscaping, and other utilities disturbed during the course of constructing the improvements.
- D. Existing traffic markings and control devices damaged or disturbed during construction shall be replaced or repaired to the satisfaction of the Engineer.

**END OF SECTION**

## SECTION 026000

### PAVEMENTS

#### PART 1 - GENERAL

##### 1.1 WORK INCLUDED

- A. Furnishing, spreading and compacting aggregate base material.
- B. Furnishing, spreading and compacting asphalt concrete pavement.
- C. Providing prime coat and tack coat.
- D. Dust alleviation and control.
- E. Cleanup and disposal of debris.
- F. The work shall include the provision of all materials, equipment and apparatus not specifically mentioned herein or noted on the plans but which are obviously necessary to complete the work specified.

##### 1.2 WORK COVERED UNDER OTHER SECTIONS

- A. For subgrade preparation see Section 02200 titled, "Earthwork".

##### 1.3 QUALITY ASSURANCE

- A. Codes and Standards
  - 1. Aggregate base material shall conform to the applicable provisions of Section 26 of the Standard Specifications and these Specifications.
  - 2. Asphalt concrete shall conform to the applicable provisions of Section 39 of the Standard Specifications and these Specifications.
- B. Allowable Tolerances
  - 1. Finish surface of the aggregate base courses shall not vary more than 0.05 feet from the grade established by the Plans.
  - 2. The cross section of the finished pavement shall be free of ridges and valleys and shall not vary more than 0.02 feet above or below the grade established by the Plans.
  - 3. Thickness of finished pavement section shall not be less than the planned thickness at any point in any layer.
  - 4. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the in-place dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM Designation D1557.
- C. Certificate of Materials

1. Provide the Public Works Inspector or Construction Manager with one (1) copy of a material certificate signed by the material producer certifying that each material item complies with or exceeds the specified requirements, daily, for each type of material delivered.
2. Provide the Public Works Inspector or Construction Manager with one (1) copy of certified plant load out slips for each load of material delivered showing net weight of aggregate base or asphalt concrete delivered to the job site, which load slips are to be attached to the appropriate material certificate.
3. Test reports for materials shall be available for review in accordance with Sections 92-1.03 and 93 of the Caltrans Standard Specifications.

D. Mix Design

Before producing asphalt concrete the Contractor shall submit, in writing, to the Construction Manager a mix design for their approval in accordance with Section 39 of the Standard Specifications.

- E. All equipment used to place asphalt concrete shall be submitted for approval twenty-four (24) hours prior to work.

**1.4 JOB CONDITIONS**

- A. Aggregate base material shall not be placed until the subgrade has been approved by the Geotechnical Engineer and the City.
- B. Contractor shall provide dust alleviation and control measures satisfactory to the City continuously during the course of work in accordance with Section 02000 titled, "Dust Control".
- C. Prime or tack coat materials shall not be applied unless the ambient temperature is above 50° F and has not been below 35° F during the twelve (12) hours immediately prior to application. Prime or tack coats shall not be applied when the surface to be coated is wet or contains an excess of moisture.
- D. Dense graded asphalt concrete shall not be applied unless the ambient temperature is above 50° F and the base course has been approved by the Geotechnical Engineer and the Public Works Inspector.
- E. Fog seal coat shall not be required on new asphalt concrete.

**PART 2 - PRODUCTS**

**2.1 AGGREGATE BASE**

- A. Aggregate base material shall be free from organic matter and other deleterious substance and shall conform to the material, grading, and quality requirements shown under Section 26 of the Standard Specifications for Class 2 aggregate base.

**2.2 ASPHALT CONCRETE**

- A. Asphalt concrete shall conform to Section 39 of the Standard Specifications.

- B. Asphalt to be mixed with aggregate shall be performance graded asphalt, grade PG 64-10, conforming to the requirements of Section 92 of the Standard Specifications.
- C. Aggregate for asphalt concrete shall be Type A conforming to the requirements of Section 39-1.02E of the Standard Specifications with the following special provisions:
  - 1. Grading of combined aggregates for new asphalt concrete pavement, walkways, and overlays two (2) inches or more in thickness shall be 1/2-inch maximum size, medium grading.
  - 2. Grading of combined aggregate for asphalt concrete pavement, walkways, and overlays less than two (2) inches in thickness shall be 1/2-inch maximum size, medium grading.
- D. Prime coat and paint binder (tack coat) shall conform to Section 39-1.09 of the Standard Specifications. Prime coat shall be liquid asphalt, grade MC-70, conforming to Section 93 of the Standard Specifications. Paint binder shall be SS-1h asphalt emulsion conforming to Section 94 of the Standard Specifications.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A. Subgrade Preparation: See Section 02200 titled "Earthwork".
- B. Aggregate Base
  - 1. Base material shall be placed, spread and compacted in conformance with the applicable requirements of Section 17-3, 26-1.03C and 26-1.03D of the Standard Specifications.
  - 2. Base material shall be compacted to 90% relative compaction in accordance with ASTM D1557.
  - 3. Finished aggregate base material shall be the minimum depth shown on the Plans. Finished grade shall not vary above or below the established grade by more than 0.05 feet.
- C. Asphalt Concrete
  - 1. Asphalt concrete shall be proportioned, mixed, placed, spread, and compacted in conformance with the applicable requirements of Section 39 of the Standard Specifications, with the following special provisions.
    - a. In addition to the compaction requirements described in Section 39 of the Standard Specifications, each layer of asphalt concrete (surface or base) shall be compacted to a density no less than 95 percent of that obtained in the laboratory according to ASTM Test Method D2041 (latest edition).
    - b. Asphalt concrete for streets and parking areas shall be placed in layers. The top one and one-half (1-1/2) inch layer of all new roadways shall be the final wearing surface layer and shall not be placed until near the end of construction. The City and Contractor shall mutually establish a point in time when the final wearing surface is applied. Placement of asphalt concrete

prior to this final lift shall be in layers that shall not be less than one and one-half (1-1/2) inches nor more than three (3) inches in compacted thickness.

- c. Wearing surface course shall be placed by means of a self-propelled asphalt paving machine. Contractor shall place and compact all courses with equipment conforming to the requirements of Section 39-1.10 of the Standard Specifications.
  - d. Where an asphalt concrete paved surface is to drain into abutting Portland cement concrete gutter, the finish surface of the asphalt concrete wearing course shall be constructed to a height one-quarter (1/4) inch above the abutting edge of the gutter.
  - e. Existing manholes, lampholes, valve, and monument covers, or other such structures in the line of the work shall be adjusted to grade with concrete collars or approved adjusting rings after completion of paving operations in accordance with Section 15-2.04 of the Standard Specifications. The concrete collar shall be circular and shall be covered with a minimum of two (2) inches of asphalt concrete to blend in with the adjacent surfacing.
2. Immediately prior to applying prime coat or tack coat (paint binder), the surface to be paved shall be cleaned of all loose material by means of powered brooms supplemented by hand brooms as required. Liquid asphalt prime coat shall then be applied to the aggregate base course in conformance with the requirements of Section 39-1.09 of the Standard Specifications. Prime coat shall be applied at the rate of 0.25 gallons per square yard unless otherwise directed by the City. After the liquid asphalt has penetrated the base course, any excess standing on the surface shall be absorbed with a suitable coating of clean sand.
3. Tack coat (paint binder) shall be applied to all vertical surfaces of existing pavement, curbs, gutters, catch basins, manhole frames, and construction joints in the surfacing; to the surface of all existing pavements to be resurfaced; and other surfaces designated by the City. Asphaltic paint binder shall be provided in sufficient quantity to produce a thin, uniform black, glossy coat of asphalt. Pools in unevenly distributed areas shall be redistributed by means of hand brooms. Tack coat shall be applied in conformance with the applicable requirements of Section 39-1.09 of the Standard Specifications.

#### **END OF SECTION**

## **SECTION 026600**

### **WATER SYSTEMS**

#### **PART 1 - GENERAL**

##### **1.1 WORK INCLUDED**

- A. See Section 02202 for trenching, groundwater control, pipe bedding, backfill and compaction of backfill, dust alleviation and control, and cleanup/restoration.
- B. Installation of domestic water lines and appurtenances.
- C. Disinfection and testing.
- D. Supplying all labor, materials, equipment and apparatus not specifically mentioned herein or noted on the plans, but which are incidental and necessary to complete the work specified.

##### **1.2 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text only by their general designation.
- B. American Society for Testing and Materials (ASTM) Publications:
  - A – 276 Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
  - A – 536 Standard Specifications for Ductile Iron Castings.
  - D - 638 Standard Test Method for Tensile Properties of Plastics.
  - D - 790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
  - D - 1248 Specifications for Polyethylene Plastics Molding and Extrusion Materials.
  - D - 505 Test Methods for Density of Plastics by Density Gradient Technique.
  - D - 1603 Test Method for Carbon Black in Olefin Plastics.
  - D - 1693 Test Methods for Environmental Stress Cracking Ethylene Plastics.
  - D - 2737 Specification for Polyurethane (PE) Plastic Tubing
  - D – 2774 Standard Recommended Practice for Underground Installation of Thermoplastic Pipe
  - D - 3015 Standard Practice for Microscopical Examination of Pigment Dispersion in Plastic Compounds.
  - D - 3035 Standard Specification for Polyethylene (PE) Plastic Pipe. (SDRPR) Based on Controlled Outside Diameter.
  - D - 3261 Standard Specifications for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.
  - D -3350 Specifications for Polyethylene Plastic Pipe and Fittings Materials.
  - F -477 Elastomeric Seals (Gaskets) for joining Plastic Pipe.
- C. American Water Works Association (AWWA) Publications:
  - C - 153 Ductile-Iron Fittings 3" through 48" for Water and Other Liquids.
  - C - 111 Rubber Gasket Joints for Ductile Iron and Gray-Iron Pressure Pipe and Fittings.
  - C - 219 Bolted, Sleeve-Type Couplings for Plain-End Pipe.



C - 502	Dry Barrel Fire Hydrants.
C - 503	Standard for Wet-Barrel Fire Hydrant.
C - 504	Rubber-sealed Butterfly Valves.
C - 509	Resilient Seated Gate Valves, 3 through 12 NPS for Water and Sewage Systems.
C - 550	Protective Epoxy Interior Coatings for Valves and Hydrants.
C - 601	Disinfecting Water Mains.
C - 900	Polyvinyl Chloride (PVC) Pressure Pipe, 4" through 12" for Water.
C - 905	Polyvinyl Chloride (PVC) Water Transmission Pipe, Nominal Diameters 14" through 36".
M - 23	PVC Pipe Design and Installation.

### **1.3 QUALITY ASSURANCE**

- A. All Work shall be done to the satisfaction of the representative of the Geotechnical Consultant and shall meet the approval of the Engineer.
- B. Class of pipe requirements shown or called for on the plans shall be the minimum acceptable.
- C. Water mains, services and appurtenances shall be subject to hydrostatic and leakage tests.
- D. Water mains, services, and appurtenances shall be disinfected by the Contractor prior to connecting to existing systems.
- E. Submit manufacturer's data on the pipe material, fittings, restrained joints, valves, fire hydrants, and service material prior to beginning of any pipe installation.
- F. Submit a plan showing the locations of all restrained joints and thrust blocks prior to installation of these devices.
- G. The maximum allowable deflection (out of roundness) of PVC pipe under superimposed loads shall be 5%, or 75% of the manufacturers recommended maximum, whichever is smaller.
- H. The Engineer may require manufacturer's certificates showing conformance with this specification for any of the pipe materials, fittings, valves and appurtenances delivered to the job site.
- I. For Fire Service lines, the lines shall be subject to a high velocity flushing test. Methods of flushing shall be approved in advance by the Engineer.

### **1.4 JOB CONDITIONS**

- A. Comply and conform with conditions and requirements indicated and specified under Section 02202 of these specifications.
- B. Contractor shall conduct operations and schedule cleanup in a manner to cause the least possible obstruction and inconvenience to traffic, pedestrians and to adjacent property owners or tenants.

## **PART 2 – PRODUCTS**

## 2.1 PVC PIPE MATERIALS

- A. PVC water mains 12" in diameter or less shall be PVC pressure pipe conforming to the applicable requirements of AWWA C900 for class 200 pipe having a dimension ratio (DR) of 14 and a ductile iron pipe equivalent outside diameter.
- B. Pipes 14" in diameter or larger shall be PVC transmission pipe conforming to AWWA C905. Pipe shall be Class 235 psi, having a DR of 18 and ductile iron pipe equivalent outside diameter.
- C. Maximum length of each section of pipe between elastomeric rings shall be twenty (20) feet.
- D. Each length of pipe shall have the words "DOMESTIC WATER" stenciled with 1-5/8" high lettering in permanent ink, at 2-foot spacing along its length.
- E. The Contractor may substitute pressure-sensitive tape in lieu of stenciling. Adhesive Backed Pipe Labeling Tape shall be PVC Plastic tape manufactured specifically for direct placement onto pipe, cable or conduit for warning and identification. Tape shall be a minimum of 2.2 mils, an adhesive strength of 26 psi, and with tensile strength of 32 lb. per inch of width. Tape shall be of the type provided in rolls, color coded for the utility involved with warning and identification imprinted in bold letters continuously and repeatedly over entire tape length. Code and letter coloring shall be permanent, unaffected by moisture or other substances contained in trench material.

## 2.2 COUPLINGS AND RESTRAINING DEVICES FOR PVC PIPE

- A. All couplings for use on PVC pipe for water lines shall be manufactured from the same materials and in compliance with the specifications set forth herein before for PVC pipe for water lines. Each coupling shall be equipped with two rubber rings, which fit into individual grooves formed in the inner wall of the coupling to eliminate blowouts or leaks.
- B. Rubber rings for use with PVC pipe couplings, fittings and appurtenances shall be manufactured from properly vulcanized rubber compounds to a uniform cross-section free from porosity, pits and blisters in conformance with the requirements of ASTM Designation F-477.
- C. High Deflection Stop Couplings and Closure Couplings for connecting new PVC pipe to existing PVC pipe of identical outside diameter shall be Certainteed or approved equal.
- D. Flexible Couplings and Flange Coupling Adaptors:
  - 1. Conform to AWWA C-219 Standard.
  - 2. Sleeve: Ductile iron, conforming to ASTM A-536 Standard for flange coupling adaptors and flexible couplings.
  - 3. Followers: Ductile iron, conforming to ASTM A-536 Standard for flange coupling adaptors and flexible couplings.
  - 4. Sleeve bolts and nuts: Type 316L stainless steel for flexible couplings and flange coupling adaptors.

5. Coating: Fusion epoxy lined and coated, sleeve and followers for flange coupling adaptors. The flange coupling adaptors including bolt assembly shall be cathodically protected using the Petrolatum Wax Tape System. See Technical Specifications Section 02661.
6. Pressure rating: Greater than or equal to the associated pipe rating, but not less than 150 psi.
7. Buried flexible coupling sleeve: Long barrel. For pipes 12" and larger, minimum sleeve length shall be 12".
8. Gaskets: Nitrile (BUNA-N), conforming to National Sanitation Foundation (NSF) Standard No. 61.
9. Manufacturers:
  - a. Flexible couplings:
    - 1) Connecting pipe with identical outside diameters: Smith-Blair 411 or approved equal.
    - 2) Connecting pipe with slightly different outside diameters: Smith-Blair 441, or approved equal.
    - 3) Connecting pipe with outside diameter differences up to 2-3/4": Smith-Blair R441 Reducing Couplings or approved equal.
  - b. Flange coupling adaptors:
    - 1) Connecting plain end pipe to flanged fittings: Series 2100 by EBBA Iron; or approved equal.

E. Restraining Devices:

1. Conforming to ANSI/AWWA C111/A21.11 or ANSI/AWWA C153/A21.53.
2. Ductile iron castings shall conform to ASTM A-536 Standard.
3. Bolts, nuts, washers and rods shall be Type 316L Stainless Steel.
4. Pressure rating of greater than or equal to the associated pipe pressure rating, but no less than 150 psi.
5. Metallic portion shall have a factory-applied fusion epoxy coating per AWWA C213.
6. Entire restraining device, including associated adjacent fitting and valves, shall be cathodically protected with Petrolatum Wax Tape System. See Section 02661.
7. Series 1600 by EBBA Iron (4" to 12"); Series 2800 by EBAA Iron (14" to 48"); or approved equal for PVC pipe bell and spigot joints.
8. Series 2000 PV by EBBA Iron; or approved equal for PVC pipe mechanical joints restraints at pipe fittings.
9. For Ductile Iron Pipe, mechanical joint restraints shall be EBBA Iron Megalug

Series 1100.

10. The restraint length requirements are shown on the Drawings.

### **2.3 FITTINGS FOR PVC PIPE**

- A. Fittings for use on PVC pressure pipe shall be ductile iron castings conforming to the applicable requirements of AWWA Standard C153 for two-hundred fifty (250) psi working pressure. Joints shall be rubber gasketed per AWWA C-111. Fittings for use on PVC pipe shall be Tyler Union or approved equal.
- B. Tapping sleeves shall be Smith Blair 663 or approved equal, all type 316L stainless steel, with flat-faced flange to mate with standard tapping valves, with  $\frac{3}{4}$ " NPT test plug.
- C. Fittings shall be fusion-epoxy lined and coated as specified in Section 02661 of these Specifications.
- D. All bolt-up sets (nuts, bolts and washers) and tie rods for buried valves and fittings shall be stainless steel, ASTM A-276 type 316L.
- E. Isolated fitting and associate adjacent restraints shall be cathodically protected with a Petrolatum Wax Tap System. See Section 02661.

### **2.4 VALVES AND VALVE BOXES**

- A. Gate valves shall conform to the requirements of AWWA C509 for resilient-seated valves. Stems shall be, fitted with a 2" x 2" square wrench nut and shall be manufactured to open counter-clockwise. Stem extensions shall be installed to bring the operating nut to within two (2) feet of finish grade where the depth from finished grade to operating nut exceeds four (4) feet. Gate valves shall be used for all valves ten (10) inches and smaller and shall be fusion epoxy lined and coated in conformance with the requirements of Section 02661 of these Specifications. Gate valves shall be as manufactured by Mueller Company, or approved equal.
- B. Butterfly valves shall be used for all valves 12 inches and larger and shall comply with the latest revision of AWWA Standard C504, Class 150-B having Cast Iron Bodies, Cast or Ductile Iron discs, Stainless Steel Shafts, adjustable field replaceable rubber seats mating against Stainless Steel seat rings, and field-replaceable seals. End connections shall be flanged or Mechanical Joint. Wafer type valves shall not be allowed. Valve actuators shall be of the traveling nut type designed for buried service, sized to operate the valves against 150 psi unbalanced line pressure, with field adjustable and stops capable of withstanding input torque of 450 ft. lbs. All internal and external surfaces of butterfly valves shall be covered with a factory applied 2-part, polyamide cured, epoxy coating applied over a sand blasted "near white" metal surface per SSPC-SP10 to a minimum of 8 mils and a maximum of 12 mils, in compliance with AWWA Standard C550. Butterfly valves shall be as manufactured by Mueller Company, or approved equal.
- C. Combination Air Valves: Combination air release valves, Cla-Val Series 36; equivalent by APCO; or equal.
  - 1. Materials: Cast iron body, Buna-N seat, stainless steel float and plug, and stainless steel operating parts. Fusion bonded epoxy coated and lined, 8 to 10 mils minimum.

- 2. Operating pressure: 20 to 150 psi.
- D. All bolts, nuts and washers throughout the bodies of the gate and butterfly valves shall be stainless steel, ASTM A276, Type 316L. The square wrench nut and valve stem shall be bronze, ASTM B62, containing not more than 5% zinc and 2% aluminum. The wrench nut cap screw attaching the square wrench nut to the stem shall be stainless steel, ASTM A276, Type 316L.
- E. Valves shall be provided with traffic valve boxes and risers and circular cast iron traffic covers labeled "water", set in a concrete base as shown on the Drawings.

## **2.5 WATER SERVICES**

- A. Commercial water service lines four (4) inches in diameter and larger shall be PVC pressure pipe and couplings conforming to the requirements of AWWA Standard C900 for Class 200 pipe and couplings as herein specified for PVC pressure water mains.
- B. Commercial, irrigation, and residential water service lines two (2) inches in diameter or less, shall be polyethylene Plastic Pipe Class 200, conforming to the requirements of ASTM Designation D2737 for the size indicated on the plans.
- C. Fittings, couplings and water service material 2 inches in diameter or less shall be bronze and all nipples shall be brass of the size and type called for on the plans.
- D. Service Saddles shall be double strap bronze service saddles as manufactured by Mueller Company, or approved equal.
- E. All new water meters will be provided by East Bay Municipal Utility District, and installed by the District.
- F. Meter box and cover assembly shall be provided by the Contractor for each water meter as shown on the plans, and shall conform to the size and type shown on the plans.
- G. Meter box and cover assembly shall be made of solid fiberglass reinforced polymer concrete (RPC) material, in color of "concrete gray". The meter box and cover shall be manufactured by Armocast Products Company or approved equal. Cover shall have "WATER" logo showing on top, touch read hole, with indentation of 4-1/8"x1/8" deep and a hole with 1-3/4" diameter. The RPC material shall be resistant to chemicals commonly found in the soil or in the operating environment, and shall be tested in accordance with ASTM D-543. The polymer concrete material shall be resistant to sunlight and any climatic condition and shall be tested in accordance with ASTM D-756, procedure "E". Each meter box and cover assembly shall withstand a vertical test load of 20,800 lbs. (16,000 lbs. Plus 30% impact factor) load over a 10"x20"x1" thick steel plate centered on the cover area and backed with a 10"x20"x1/2" rubber plate. The test loading shall not cause any failure to the box per cover. Traffic rating cover shall be used in traffic area.

## **2.6 FIRE HYDRANTS**

- A. All fire hydrant service runs shall be PVC pressure pipe as herein specified and shall be six (6) inches in diameter.
- B. Fire hydrant assemblies shall consist of a six (6) inch gate valve, the run of six (6) inch pipe, ductile-iron bury, and the hydrant. Use break off bolts to fasten the hydrant to the bury.

- C. Fire Hydrants shall be one of the four (4) different types depending on location and the size of the watermain.
  - 1. Type A -Mueller A-423 dry barrel or approved equal fusion epoxy lined and coated; provided with two 2-1/2" and one 4-1/2" outlets, conforming to AWWA C502.
  - 2. Type B – Clow 92 low silhouette, wet barrel or approved equal fusion epoxy lined and coated; provided with two 2-1/2" and one 4-1/2" outlets, conforming to AWWA C503.
  - 3. Type C – Clow 76 wet barrel or approved equal fusion epoxy lined and coated; provided with two 2-1/2" and one 4-1/2" outlets, conforming to AWWA C503.
  - 4. Type D – Clow 865 wet barrel or approved equal fusion epoxy lined and coated; provided with one 2-1/2" and two 4-1/2" outlets, conforming to AWWA C503.
- D. All exterior metal parts of the hydrant from the ground up shall be painted with two coats of paint, or one coat of primer and one coat of paint, in "LIME YELLOW", (DTM Mid Tone Base B66W102 enamel and #B66W1 primer). Paint colors are available from Sherwin Williams Company.
- E. Wet barrel fire hydrants, burys and extension spools shall be epoxy lined and coated as herein specified for fittings.
- F. All fire hydrant heads, burys and extension spools shall be bolted with stainless steel bolts, and washers, as herein specified for fittings.

## **2.7 LOCATOR WIRE**

- A. Locator wire for use with plastic pipe installations shall be stranded copper, eight (8) gauge type TW or THHN electrical wire with solid blue jacket.
- B. Connect locator wire to metallic fittings with brass wire split nuts. All exposed metallic wires and fittings shall be protected with Royston Handy Cap, or equal.

## **2.8 CONCRETE FOR THRUST BLOCKING**

- A. Reinforcement for concrete thrust blocking shall be deformed steel bars conforming to Section 02550 of these Specifications.
- B. Concrete for thrust blocking shall be Portland Cement Concrete conforming to the applicable requirements of Section 02550 of these Specifications.

## **2.9 PIPE BEDDING AND BACKFILL MATERIAL**

- A. Shall conform to Section 02202 of these Specifications.

# **PART 3 – EXECUTION**

## **3.1 TRENCHING, BACKFILLING AND SHORING**

- A. Shall conform to Section 02202 of these Specifications.

### **3.2 PVC PIPE INSTALLATION**

- A. Installation: Install pipe, valves, fittings and appurtenances in accordance with manufacturer's instructions, and in conformance with the applicable requirements of the AWWA Standards. Rotate each length of PVC pipe so that the stenciled or taped words "DOMESTIC WATER" will be located on the top of the pipe.
- B. Handling: Handle pipe, valves, and fittings carefully during hauling, unloading, and placing operations, so as to avoid breakage or damage. Use strap-type slings for lifting and placing; no chains or hooks will be permitted. Broken or damaged pipe or appurtenances will be rejected by the Engineer and shall thereupon be removed by the Contractor from the work and replaced. Repair damaged coating in accordance with coating manufacturer's recommendations.
- C. Alignment: All pipe shall be accurately laid in conformity with the prescribed lines and grades as established by the Engineer. Joint each length to the preceding section as specified, and after said jointing has been completed, there shall be no movement of the pipe in subsequent operations.
- D. Pipe Deflections: The laying of pipe on curved alignment will be permitted up to one-half the deflection as recommended by the respective pipe manufacturer. Pipe shall not be bent against the trench side wall.
- E. Cleaning: Before each new length of pipe is placed, carefully clean the interior of the preceding pipe of all dirt and debris. When pipe laying is not in progress, close all open pipe ends with watertight plugs in a satisfactory manner.
- F. Bearing: Provide continuous uniform bearing of pipe in the trench along its bottom, except at bell holes. Place blocking used to support the pipe during laying at the end of the section and remove before laying the next section. Before lowering pipe into the trench, the Contractor shall remove all stakes, debris, loose rock and other hard material from the bottom of the trench.
- G. Positioning: After the final positioning, hold the pipe in place in the trench with compacted backfill material placed equally on both sides of the pipe at as many locations as are required to hold the pipe section in place. After joints are completed, redistribute the backfill material and compact as herein required.
- H. Closure: At the end of each day and when work is not in progress, close the open ends of pipe installed in the line with watertight plugs or caps.
- I. Thrust Blocking: Concrete thrust blocks of the form and dimensions shown or noted on the plans shall be provided by the Contractor at all changes in horizontal or vertical alignment and at such other points as may be called for on the plans. Thrust blocks shall be installed by the Contractor in strict conformance with the details shown or noted on the plans. When no thrust blocks are shown on the plans, the Contractor shall provide restrained joints at all bends.
- J. Restrained Joint: Install per manufacturer's instructions. Length of restraint as shown on Drawings. Install Petrolatum Wax Tape System per Section 02661.



- K. System Connections: Unless separately listed on the bid schedule, Contractor shall make all required connections to existing facilities and improvements at no additional cost, and compensation for such work shall be deemed as included in the price bid for pipe installation.

### **3.3 COUPLING INSTALLATION**

- A. Flexible Couplings and Flange Coupling Adaptors: Prior to installation, thoroughly clean oil, scale, rust, and dirt from the pipe to provide a clean seat for the gasket. Take care that the gaskets are wiped clean before they are installed. If necessary, lubricate flexible couplings and flanged coupling adapter gaskets with manufacturer's standard lubricant before installation on the pipe ends. Install in accordance with the manufacturer's recommendations. Tighten bolts progressively, drawing up bolt on opposite sides a little at a time until all bolts have a uniform tightness. Workers tightening bolts shall be equipped with torque-limiting wrenches or other favorably reviewed type. Install anchor studs on restrained flanged coupling adapters so as to lock into holes drilled through pipe wall in accordance with manufacturer's recommendation.
- B. Flexible Expansion Joints: Install in accordance with manufacturer's instructions.

### **3.4 CONNECTIONS TO EXISTING SYSTEMS**

- A. Do not make connections to existing systems until the new mains have been satisfactorily disinfected and have passed all tests specified herein.
- B. Perform connection of new water main to existing distribution system no later than 48 hours after Bacteriological Examination Results have been received and approved by the Engineer. If the system connection is not performed within this period of time, repeat Disinfection and Bacteriological Examination processes.
- C. If the total length of the connection from the end of the new watermain to the existing watermain is equal to one pipe length (20 feet) or less, the Contractor shall disinfect the new pipes, fittings and valves by means of spraying or swabbing the interior with a minimum 1-5% solution of chlorine just prior to be installed.
- D. If the total length of the connection from the end of the new watermain to the existing watermain is greater than one pipe length (20 feet), the Contractor shall set the pipe aboveground, and perform disinfection and bacteriological test as outlined in paragraph 3.06 of this specification section. Between the time the satisfactory bacteriological results are receipt and the time that the connection piping is installed, the ends of the piping must be sealed with watertight plugs or caps.

### **3.5 PRESSURE AND LEAKAGE TESTS**

- A. Preparation:
1. The Contractor shall install temporary blow-offs as necessary for testing purposes and provide all necessary material and equipment, and shall perform all work required in connection with the testing of the water system, as specified herein.
  2. Hydrostatic and leakage tests shall be made by the Contractor only after the trenches have been backfilled sufficiently to hold the pipe firmly in position.



3. The Contractor shall provide all water necessary for filling, flushing, disinfection and any required tests including all labor and equipment required.

B. Hydrostatic and Leakage Test Procedures:

1. Contractor shall fill the new water main with water making sure that air is being released at all high points. If chlorine tablets have been attached inside the pipe as work progresses, the main line shall be filled very slowly in order to avoid dislodging the tablets.
2. The Contractor shall connect a pressure pump at the lowest elevation of the main to be tested. The pump must have a pressure gauge and connection to a small tank of makeup water.
3. Apply partial pressure and verify that all air has been released. Allow the pipe to stand with pressure at least 24 hours to stabilize.

C. Test Pressure:

1. Perform pressure and leakage tests at the same time. Subject all water pipe to a hydrostatic test of at least fifty percent higher than the normal expected operating pressure or 150 psi, whichever is larger, unless otherwise specified or directed.
2. The minimum hydrostatic and leakage pressure for fire service lines is 200 psi.

D. Allowable Leakage:

1. For domestic water and fire service lines, the duration of each leakage test shall not be less than two (2) hours, unless otherwise specified, and during the test the pipe shall be continuously subject to hydrostatic pressure, as specified, and measured at the lowest elevation.
2. Satisfactorily apply the specified test pressure by means of a pump connected to the pipe. Maintain the test pressure for the specified time and do not allow the pressure to drop more than 5 psi during which all exposed pipe, couplings, fittings, valves and hydrants shall be examined carefully.
3. No PVC pipe installation will be accepted if the leakage for the section of tested line is more than the amount determined by the formula below:

$$L = (ND (P)^{0.5})/7400$$

Where: L = allowable leakage, gallons per hour  
N = number of joints in the length of pipeline tested  
D = nominal diameter of pipe, inches.  
P = average test pressure during the leakage test, psig

4. When test results indicate leakage beyond that allowed, Contractor shall conduct a leak survey of the line and repair any leaks found. The method used for leak survey shall be approved by the Engineer. If the Contractor does not have the appropriate leak detection equipment, a specialized firm shall be hired. After all leaks have been repaired, the leakage test shall be repeated by the Contractor until satisfactory conformance to this specification is demonstrated.

5. Any flaw disclosed by any of the above-referenced tests shall be repaired and satisfactorily retested by Contractor, even if the test is passed.

### 3.6 DISINFECTION AND BACTERIOLOGICAL TEST

- A. Following the Pressure and Leakage Tests and before being placed in service, all new water lines shall be chlorinated, flushed and tested by Contractor in accordance with the requirements of AWWA Standard C651-99, and as directed.

1. Disinfection: The Contractor shall have the option of applying chlorine with tablet method, continuous-feed method or slug method to the entire water content of the line, including services, fire hydrants and stubs, in sufficient quantity as stipulated in the above mentioned AWWA Standard.
  - a. If the Contractor elects to employ the use of the "Tablet" form of chlorination by mounting tablets into the pipe sections as they are installed, he shall determine the minimum number of tablets per AWWA C651-99 requirement. This method may be used only if the pipes and appurtenances are left clean and dry during construction. The tablets shall be attached to the ceiling of the pipe by a food-grade adhesive. In the event that adequate disinfection is not obtained using said minimum number of tablets, it shall be the Contractor's responsibility for re-chlorination until a satisfactory result is obtained.
  - b. The tablet method and the continuous feed method shall be applied at an average chlorine dose of 25 mg/L and provide a minimum residual of 10mg/L after 24 hours retention.
2. Final Flushing: After chlorination has been satisfactorily completed thoroughly flush the lines until the chlorine content in all parts of the system has been proven by test to be comparable to the chlorine content of the MMWD system.
  - a. Prior to flushing, the Contractor shall thoroughly neutralize the free and combined chlorine residuals. The chemical product used for dechlorination shall provide consistent elimination of residual chlorine without affecting water quality. Sulfur Dioxide gas or Liquid Sodium Metabisulfite systems shall not be allowed. The product used by Contractor for this purpose shall be Bio-Neutralizer, with 35% concentration Sodium Sulfite dechlorination tablets as produced by NORWECO, or approved equal. The Contractor shall submit product information sheet for review and approval by the City before performing any flushing.
  - b. Before discharge, the pH of the water shall be within the range of 6.5 to 8.5. Neutralized water may be discharged into the storm drainage system upon satisfactory testing.
  - c. Disposal of flushed water shall comply with the National Pollution Discharge Elimination System (NPDES).
  - d. Contractor shall use caution to avoid flooding or damage to adjacent properties or facilities.
3. Bacteriological Test: After flushing the chlorine from the water system and prior

to placing line in service, the Contractor shall engage the services of an approved Commercial Testing Laboratory, approved by the State of California Department of Health Services, to gather an approved number of representative water samples, the location and number of which shall be determined by the Engineer.

- a. Samples shall be taken of water that has stood in the watermain for at least 16 hours after Final Flushing.
- b. No section of water systems will be allowed to be connected to the MMWD existing water system when any sample of water tests indicate coliform bacteria as tested by the 24 Hour Membrane Filtration Method. Should the laboratory report show that any sample taken was not acceptable (Heterotrophic plate count greater than 0), Contractor shall re-chlorinate and test the water again as herein before specified. This process shall be repeated by Contractor until a satisfactory disinfection has been accomplished.
- c. Contractor shall direct the laboratory to send the original report of Bacteriological Examination to the Engineer.

### **3.7 HIGH VELOCITY FLUSH TEST**

- A. This test is required for individual, dedicated fire service lines only and is to be done in the presence of the Fire Department Inspector.
- B. The purpose of the test is to clean the pipe of debris and sediment. If a large amount of sediment is trapped in the filter, then the test shall be re-done as directed.
- C. The test shall be done under maximum flow conditions, and the flushed water shall be filtered to collect any debris in the line.
- D. The test may be combined with other flushing of the water main following disinfection.

### **END OF SECTION**

## SECTION 026610

### CATHODIC PROTECTION

#### PART 1 – GENERAL

##### 1.1 WORK INCLUDED

- A. Cathodic protection for metallic water mains, fittings and appurtenances.
- B. Trenching, drilling, and other excavation.
- C. Installation of anodes, cables, junction boxes and test stations.
- D. Backfill and compaction of backfill.
- E. Protective coating or wrap for metallic pipe, fittings, restraining devices, and appurtenances.
- F. Dust alleviation and control.
- G. Cleanup and restoration of surface in improved areas.
- H. Supplying all labor, materials, equipment and apparatus not specifically mentioned herein or noted on the Plans, but which are incidental and necessary to complete the Work specified.

##### 1.2 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the general designation only.
- B. American Society for Testing and Materials (ASTM) Publication:
  - B – 418 Specification for Cast and Wrought Galvanic Zinc Anodes.
  - D - 1248 Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable.
  - C - 94 Standard Specification for Ready-Mixed Concrete.
  - B - 3 Standard Specification for Soft or Annealed Copper Wire.
  - B - 8 Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
  - D - 2220 Standard Specification for Polyvinyl Chloride (PVC) Insulation for Cable and Wire.
- C. American Association of State Highway and Transportation Officials  
AASHTO H20 Specification for Highway Bridges
- D. NACE International, The Corrosion Society:
  - RP - 0169 Recommended Practice, Control of External Corrosion on Underground or Submerged Metallic Piping Systems.
  - RP - 0286 Electrical Insulation of Cathodically Protected Pipelines.
  - TM - 0497 Measurement Techniques Related to Criteria for Cathodic Protection on Underground or Submerged Metallic Piping System.
  - RP - 0375 Wax Coating Systems for Underground Piping Systems.
- C. American Water Works Association (AWWA) Publications:

- C - 213 Fusion Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines.
- C - 550 Protective Epoxy Interior Coatings for Valves and Hydrants.

### **1.3 QUALITY ASSURANCE**

- A. Cathodic protection components shall be new, of the highest quality, and standard products from a manufacturer regularly engaged in the production of such material or equipment. Bring all cathodic protection materials to the job site in original sealed containers. Cathodic protection components shall be subject to testing to ensure proper installation and operation. The Contractor shall correct all deficiencies and perform any required re-testing.
- B. Brands or trade names are mentioned in these Specifications to set standards of quality; use no substitute materials unless approved by the Engineer in writing. Approval of substitute materials does not relieve the Contractor of responsibility for providing a workable and functioning system as designed.

### **1.4 REFERENCED SPECIFICATIONS, CODES, AND STANDARDS**

- A. The Contractor shall install the entire cathodic protection system in a workmanlike and professional manner and in strict conformance with the latest edition of the following standards:
  - 1. NEMA National Electrical Manufacturers Association
  - 2. ASTM American Society for Testing and Materials
  - 3. IEEE Institute of Electrical and Electronic Engineers
  - 4. IPCEA Insulated Power Cable Engineers Association
  - 5. OSHA Occupational Safety and Health Administration
  - 6. NACE National Association of Corrosion Engineers
- B. All electrical equipment and materials and the design, construction and installation thereof shall comply with all applicable provisions of the National Electrical Code (NEC) and applicable local codes and regulations.

### **1.5 SUBMITTALS**

- A. A complete list of cathodic protection equipment and material, including name and manufacturer, catalog number, size, finish and any other pertinent data necessary for proper identification and to establish conformance with these specifications.
- B. The submitted data shall be marked with a clear indication of the Contractor's choice of the specific item or items, or class of items proposed, in order to establish written record of the Contractor's intent. A list of items indicating "as specified" will not suffice.

## **PART 2 – PRODUCTS**

### **2.1 ZINC GALVANIC ANODES**

- A. Galvanic anodes shall be zinc anodes having a Type II chemical composition conforming to the requirements of ASTM Designation B418. Bare anode weight shall be as indicated on the Project Detail Sheets.
- B. Anodes shall be cast with a galvanized steel core strap. One end of the anode shall be recessed to provide access to the rod for connection of the lead wire. The lead wire shall be silver brazed to the rod, making a mechanically secure connection. The connection shall be insulated to a 600-volt rating by filling the recess with asphalt. The asphalt material shall be extended over the lead wire insulation by not less than 1/2 inch. Contractor shall repair all damaged lead wire insulation as directed.
- C. The entire soldered connection and core shall be sealed with epoxy. The zinc anode shall be prepackaged in a cloth bag containing a low resistivity backfill consisting of 75% hydrated gypsum, 20% bentonite and 5% sodium sulfate.

## **2.2 WIRE**

- A. Wires utilized for test stations shall be solid single conductor copper wire Type THHN insulation, No.10 AWG, as shown.
- B. Wires for joint bonds shall be stranded single conductor copper wire Type HMW/PE insulation No. 8 AWG. Two joint bonds shall be used for each joint.
- C. All wire test leads and anode leads shall extend a minimum of 18 inches above grade after connection to the test station panel board.

## **2.3 PANEL BOARDS**

- A. Test station panel boards shall be made of 4-inch x 4-inch x 1/4-inch fabric reinforced Micarta. Double-nutted nickel plated brass studs shall be installed on the panel boards as shown on the Drawings. Tinned copper ring terminals shall be soldered to the ends of all wires terminated in the test station.

## **2.4 SHUNTS**

- A. Shunts for all sacrificial anode test stations shall be 0.01 ohm, 6-ampere capacity, manganin wire type.

## **2.5 EXOTHERMIC WELD EQUIPMENT**

- A. Cable connections to pipe and fittings shall be made with exothermic weld kits specifically designed by the manufacturer for welding the types of materials and shapes indicated by each installation unless otherwise specified on the plans. Connections to ductile iron and cast iron pipe or fittings shall use the weld metal and mold for exothermic connections to cast iron pipe. The mold and weld metal shall be supplied by the same manufacturer. Weld metal shall be Type XF manufactured by Erico, Inc. or approved equal.
- B. Exothermic weld equipment shall be as manufactured by "Cadweld" Erico Products, "Thermoweld" Continental Industries, Inc., or approved equal.
- C. All welds shall be made utilizing copper wire sleeves and individual components shall not be interchanged between different manufacturers.

## **2.6 BITUMASTIC COATING**

- A. Bitumastic Coating shall be TC Mastic, as manufactured by Tapecoat Company; Bitumastic 50, as manufactured by Koppers Company, Inc., or an approved equal.

## **2.7 INSULATING FLANGE**

- A. Insulating flange gaskets shall be Neoprene-faced phenolic, suitable for the Work as indicated on the details shown on the plans. Sleeves shall be full length and of a material indicated by the manufacturer as suitable for domestic water. Flange bolts, nuts and washers shall be stainless steel and shall fit within the bolt facing of the flange.
- B. Contractor shall provide two sets of insulating washers which are 1/8 inch thick laminated phenolic. Insulating washers shall fit within the bolt facing the flange over the outside diameter of the sleeve.
- C. Insulating sleeves shall be spiral wound Mylar, 1/32-inch thick.
- D. Underground dielectric insulating flanges shall be covered with petrolatum wax tape.

## **2.8 PETROLATUM WAX TAPE SYSTEM (FOR ISOLATED FITTINGS AND ALL RESTRAINING DEVICES)**

- A. Petrolatum wax tape system for coating buried insulating flanges shall be Trenton Primer and #1 Wax-tape, as manufactured by Trenton Corp., or Denso Paste and Densyl Tape by Denso North America, Inc., or approved equivalent.
- B. Petroleum Tape System Primer: Saturated petroleum hydrocarbon, non-drying, non-hardening.
- C. Mastic: Saturated petroleum hydrocarbon, non-hardening, self-supporting compound.
- D. Tape: Non-woven synthetic fabric, fully impregnated and coated with neutral petroleum-based compound.
- E. Overwrap: Plasticized PVC tape with natural and synthetic rubber adhesive.

## **2.9 TEST STATION BOX**

- A. The traffic valve box for test stations shall be an H10 rated, G5 Utility Box as manufactured by Christy Concrete Products, Inc., or approved equal.
- B. The traffic box covers for insulating test stations shall be cast iron with the legend "ANODE" as indicated on the Drawings.

## **2.10 COATING AND LINING**

- A. All cast-iron and steel valves, burys, spool pieces, flanged adapters, reducers, tees, crosses and other buried, ferrous metallic fittings, shall require a fusion epoxy coating and lining prepared from a 100% dry epoxy resin applied by either the fluidizing bed method or electrostatically, in accordance with AWWA C213 for fittings and with AWWA

C550 for valves. The minimum coating thickness shall be 8 mils and the maximum coating thickness shall be 24 mils.

- B. For valves, lining materials shall not be applied to valve stems, valve discs or parallel disc seats. Lining materials shall not be built up in thickness so as to interfere with joint assembly or with operation of the valve being epoxy lined, and in any case, should not be greater than 12 mils.
- C. Inspection shall be carried out to determine the dry film thickness of the coating and or lining of each fitting. Any fitting not meeting this specification shall be replaced.
- D. Holidays in the protective coating shall be repaired in the field as directed.

### **PART 3 – EXECUTION**

#### **3.1 EXCAVATION AND BACKFILL**

- A. Refer to Section 02202 of these Specifications.

#### **3.2 FOREIGN STRUCTURE INTERFERENCE**

- A. Prevent electrical contact between the metallic pipe and/or fittings being cathodically protected and other existing buried metal structures at the time of the installation of the cathodic protection system. Where necessary, or required by the Engineer, the Contractor shall install appropriately sized micarta sheeting, 1/4 inch in thickness between the two metallic surfaces.

#### **3.3 INSULATED FLANGED JOINTS**

- A. Insulating components of each insulation flange kit shall be cleaned of all dirt, grease, oil, and other foreign materials immediately prior to assembly. Bolt holes in mating flanges shall be properly aligned at the time bolts and insulating sleeves are inserted to prevent damage to the insulation. After flange bolts have been tightened, each insulating washer shall be inspected and replaced by Contractor if cracked or other damaged.
- B. Install insulated flanged joints at flanges connecting above-ground installations, and at other locations shown on plans.

#### **3.4 JOINT BONDING**

- A. For metallic pipe, joint bond all non-welded rubber gasket joints, mechanical joints, and fusion epoxy coated flanged joints as indicated on the details shown on the plans to provide electrical continuity between all metallic sections of the facility to be protected.
- B. All buried fusion-bonded epoxy coated pipe fittings shall be bonded for continuity. Joint bonds, for fusion-bonded epoxy coated pipe fittings shall be installed with a wire loop extended above the bonded joint. The overall length of the conductor shall permit sufficient flexibility of each fitting across the joint without transferring any tensile stress to the bond cable. Cable to fitting connections shall be in conformance with these specifications. Coat all exposed surfaces of each fitting with liquid epoxy patch kit, as supplied by the pipe coating manufacturer.



### **3.5 EXOTHERMIC WELDS**

- A. Exothermic weld connections shall be installed in the manner and at the locations shown on the plans. Coating materials shall be removed from the surface over an area just sufficient to make the connection. The steel surface shall be cleaned to white metal by grinding or filing prior to welding the conductor. Resin impregnated grinding wheels will not be allowed.
- B. No connections to the structures or piping shall be buried until the Engineer has inspected the connections and given permission to backfill. Connections made in violation of this provision will be rejected.
- C. Exothermic welds shall be tested by the Contractor for adherence to the pipe and for electrical continuity between the pipe and wires.
- D. A 22-ounce hammer shall be used for testing adherence by striking a blow to the weld. Take care to avoid hitting the wires.
- E. After welding, coat all bonds with Bitumastic coating as directed. Protect all exposed wires and welds with Royston Handy Cap, or equal.

### **3.6 WIRES**

- A. Wires buried in the ground shall be laid straight, without kinks, and provide a minimum cover of 24 inches. Keep the bottom of the finished trench free from stones, roots or other materials that might injure the insulation of the conductors.
- B. Each cable run shall be continuous in length and free of joints or splices, unless otherwise specified or shown on the Drawings. Care shall be used during installation to avoid punctures, cuts and similar damage to the insulation. Any damage to insulation will require replacement of the entire cable length by Contractor. Copper ring terminals shall be crimped and soldered to the ends of the test leads, drain wires and anode leads terminated in the test station.
- C. At least 18 inches of slack shall be left for each conductor at each test station housing. Slack shall be that amount of wire which, when the cover is removed and the wire extended, protrudes beyond the opening of the box or enclosure. No wire bend shall have a radius of less than eight (8) times the diameter of that wire. Copper terminal rings sized for wire and stud shall be used to make all wire connections to terminal studs.

### **3.7 GALVANIC ZINC ANODES**

- A. Excavate a hole to a minimum of 3 inches larger than the packaged sacrificial anode diameter, and to a depth 1 foot below the fittings to be protected. Excavate the lead wire trench to the depth indicated on the details shown on the plans, and backfill in conformance with these specifications.
- B. Exercise care to preclude damaging the cloth bag and lead wire insulation on the sacrificial anode. Do not lift or support anode by the lead wire. Plastic or paper bags shall be removed from the anode before lowering into the hole.

### **3.8 PETROLATUM WAX TAPE**

- A. Install per manufacturer's instructions.

- B. Wire brush dirt and loose rust from substrate, apply primer by brush and work in to obtain a full film cover on substrate.
- C. Install mastic to contour all sharp edges and irregular profiles.
- D. Spirally apply tape with minimum 55% overlay smooth tape to exclude voids and seal overlaps.

### **3.9 ANODE TEST STATION**

- A. Anode test stations shall be installed at the locations shown or called for on the Drawings. Two test leads shall be connected at the nearest pipe joint to the test station.
- B. All connections of test lead wires to metal surfaces at the point of connection shall be cleaned by grinding or filing prior to welding the conductor. Cover finished connections with bitumastic.
- C. Anode test station boxes shall be installed using a concrete collar satisfactory to prevent settlement. Set this concrete collar level and flush with the top of curb or finish grade.
- D. No more than one test station is allowed in each test station box.

### **3.10 SYSTEM TESTING**

- A. System testing will be performed by the Engineer.
- B. After installation of the sacrificial anode system, testing shall be conducted to verify proper operation of the cathodic protection system. This testing shall include, and not be limited to the following: bond continuity tests, sacrificial anode current output, pipe-to-soil potentials and other tests deemed necessary to verify proper operation of the systems.
- C. Upon completion of testing, a detailed written report shall be submitted to the Contractor describing any deficiencies detected. All such deficiencies shall be corrected by the Contractor at the Contractor's expense.
- D. Upon completion of any corrections or repairs, the system will be re-tested.

**END OF SECTION**

**SECTION 027300**  
**SANITARY SEWERS**

**PART 1 – GENERAL**

**1.1 WORK INCLUDED**

- A. Trenching and other excavation.
- B. Ground water control.
- C. Pipe bedding.
- D. Installation of sanitary sewers and appurtenances.
- E. Backfill and compaction of backfill.
- F. Infiltration and leakage testing for gravity sewers.
- G. Hydrostatic and leakage testing for force mains.
- H. Dust alleviation and control.
- I. Cleanup and restoration of surface in improved areas.
- J. Supplying all labor, materials, equipment and apparatus not specifically mentioned herewith or noted on the plans, but which are incidental and necessary to complete the work specified.

**1.2 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the general designation only.
- B. American Society for Testing and Materials (ASTM) Publications:
  - A - 48 Gray Iron Castings.
  - A - 276 Standard Specifications for Stainless and Heat-Resisting Steel Bars and Shapes.
  - C - 478 Precast Reinforced Concrete Manhole Sections.
  - D - 1784 Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
  - D - 3034 Type PSM Poly (Vinylchloride) (PVC) Sewer Pipe and Fittings.
  - F - 477 Elastomeric Seals (Gaskets) for joining Plastic Pipe.
  - F - 679 Standard Specification for Poly (Vinyl Chloride) (PVC) large Diameter Plastic Gravity Sewer Pipe and fittings.
- C. American Water Works Association (AWWA) Publications:
  - C -110 Gray-Iron and Ductile-Iron Fittings 3" through 48" for Water and other Liquids.
  - C -111 Rubber Gasket Joints for Ductile-Iron and Gray Iron Pressure Pipe and Fittings.
  - C - 900 Polyvinyl Chloride (PVC) Pressure Pipe, 4" through 12", for Water.

### 1.3 QUALITY ASSURANCE

- A. Sanitary sewer gravity mains shall be subject to a ball, infiltration and leakage tests. Sanitary sewer force mains shall be subject to air testing, and hydrostatic and leakage tests.
- B. Class of pipe requirements shown or called for on the plans shall be the minimum acceptable.
- C. Submit manufacturer's data on the pipe material, fittings and service material.
- D. Construction practices for PVC pipe shall comply with Uni-Bell's "Handbook of PVC Pipe".
- E. The Engineer may require manufacturer's certificates showing conformance with this specification with any shipment of materials to the job site.

### 1.4 JOB CONDITIONS

- A. Note and conform with conditions and requirements indicated and specified under Section 02202 of these Specifications.
- B. Contractor shall conduct operations and schedule cleanup in a manner to cause the least possible obstruction and inconvenience to traffic, pedestrians and to adjacent property owners or tenants.

## PART 2 - PRODUCTS

### 2.1 PIPE MATERIALS

- A. All PVC pipe and fittings for sanitary sewers and laterals shall conform to the requirements of ASTM D-3034 or ASTM F – 679 with SDR rating of 26. All the pipe and fittings shall be made of PVC plastic having a minimum cell classification of 12454-B as defined in specification ASTM D – 1784. The size of pipe shall be as designated on the plans and the size indicated shall be the internal clear diameter of the pipe. Individual pipe lengths shall not exceed twenty (20) feet in length. All pipe shall be stenciled with the words "SANITARY SEWER" in 1-5/8" high block lettering with permanent ink. The words shall be repeated at 2-foot spacing along the pipe length.
- B. The Contractor may substitute pressure-sensitive tape in lieu of stenciling. Adhesive-backed Pipe Labeling Tape shall be PVC Plastic tape manufactured specifically for direct placement onto pipe, cable or conduit for warning and identification. Tape shall be a minimum of 2.2 mils, an adhesive strength of 26 psi, and with tensile strength of 32 lb. per inch of width. Tape shall be of the type provided in rolls, color coded for the utility involved with warning and identification imprinted in bold letters continuously and repeatedly over entire tape length. Code and letter coloring shall be permanent, unaffected by moisture or other substances contained in trench material.
- C. Joints shall be with either a factory provided, rubber gasketed coupling, or integral bell; couplings or bells shall have a solid rubber ring conforming to ASTM F-477, factory assembled and locked into place to prevent displacement during installation, with continuous stainless steel shear rings supplied by Mission Rubber Company, or approved equal.

- D. Wye branches at the cleanout and the cleanout riser shall be PVC conforming to ASTM D-3034, DR 26.

## **2.2 ADDITIONAL REQUIREMENTS FOR FORCE MAINS**

- A. Pipe for sanitary sewer force mains shall conform to the requirements of AWWA C-900, Class 150, DR 18 pipe.
- B. Fittings for PVC sanitary sewer force mains shall be ductile iron castings conforming to the requirements of AWWA Standard C153 for two hundred (250) psi working pressure. Fittings shall be furnished with either push-on joints for use with pressure pipe or flanged joints as designated on the plans. Both push-on and flanged joints shall conform to the requirements of AWWA Standard C111 for cast-iron pressure pipe.
- C. Bolts, nuts, and washers for flanged fittings shall be stainless steel, ASTM A276, Type 316.

## **2.3 SANITARY SEWER MANHOLES**

- A. Barrel and cone sections for sanitary sewer manholes shall be precast reinforced concrete of the form and dimensions shown and detailed on the plans and shall conform to the requirements of ASTM Designation C478. Concrete used for manhole barrel and cone sections shall conform to Section 02550 of these Specifications.
- B. Frames and covers for manholes shall be gray iron castings of the form and dimensions shown and detailed on the plans and shall conform to the requirements of ASTM Designation A48 for Class 30B castings. Frames and covers shall be match marked in sets which have been machined after fabrication to provide a firm and continuous seat. Each cover shall have cast into it the raised letters "SANITARY SEWER." All castings shall be thoroughly cleaned and coated with commercial quality asphaltic varnish prior to delivery.
- C. Steps for manholes shall be polypropylene conforming to the form and dimensions shown and detailed on the plans.
- D. Concrete for manhole and cleanout bases shall be Class "A" conforming to the requirements of Section 02550 of these Specifications.
- E. Reinforcement for manhole and cleanout bases shall be deformed steel bars conforming to Section 02550 of these Specifications.
- F. Mortar for precast barrel and cone section joints shall consist of one (1) part Portland cement conforming to the requirements of Section 02550 of these Specifications, with two (2) parts of mortar sand by volume. Sand shall be well graded and of such size that all will pass a No. 8 sieve. Mortar materials shall be mixed to a consistency suitable for making joints on concrete pipe and all mortar shall be used within thirty (30) minutes after mixing water has been added. Admixtures shall not be added to mortar without the prior approval.
- G. PVC manhole adapters shall be as shown on the drawings.

## **2.4 SANITARY SEWER CLEANOUTS**

- A. Wye branches and risers for sanitary sewer cleanouts shall conform to the details shown on the plans.

- B. Concrete boxes for cleanouts shall be Christy B-9 with B-9D lid, or equal; provide B-9C traffic cover if located in vehicular areas.

## **2.5 CONCRETE FOR THRUST BLOCKING FOR FORCE MAINS**

- A. Reinforcement for concrete thrust blocks shall conform to Section 02550 of these Specifications.
- B. Concrete for thrust blocks shall be Portland cement concrete conforming to the applicable requirements of Section 02550 of these Specifications.
- C. All exposed reinforcing bars required for thrust blocks and anchors shall be fusion epoxy coated conforming to Section 02661 of these Specifications, or stainless steel with equivalent load carrying capabilities as specified for deformed steel bars.

## **2.6 PIPE BEDDING AND COVER MATERIAL**

- A. Shall conform to Section 02202 of these Specifications.

# **PART 3 - EXECUTION**

## **3.1 TRENCHING, BACKFILL AND SHORING**

- A. Shall conform to Section 02202 of these Specifications.

## **3.2 PIPE INSTALLATION**

- A. Installation: Pipe and appurtenances shall be installed in accordance with the best practice, and in conformance with the applicable requirements of the manufacturer's handbooks. Pipe laying shall start at the low end of each section and proceed upgrade. All bell and spigot pipe shall be laid with the bell end upgrade. All pipes shall be laid on a bed prepared by handwork, dug true to line and grade, to furnish a true and firm bearing for the pipe throughout its entire length. Adjustment of pipes to the line and grade shall be made by scraping away or filling in and tamping material under the body of the pipe throughout its entire length and not by blocking or wedging. Unless otherwise indicated or directed by the Engineer, pipe shall be laid continuously through manhole locations and any connections therein made by means of appropriate fittings to provide a smooth and continuous channel. Bell holes shall be provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint being used. Each length of pipe shall be rotated so that the stenciled or taped words "SANITARY SEWER" will be located on the top of the pipe.
- B. Handling: Pipe shall be carefully handled during hauling, unloading, and placing operations, so as to avoid breakage or damage. Strap-type slings shall be used for lifting and placing; no chains or hooks will be permitted. Broken or damaged pipe or appurtenances will be rejected, and shall thereupon be removed from the work and replaced.
- C. Alignment: All pipe shall be accurately laid in conformity with the prescribed lines and grades as established by the Engineer. Each length shall be jointed to the preceding section as specified, and after said jointing has been completed, there shall be no movement of the pipe in subsequent operations.
- D. Pipe Deflections: The laying of pipe on curved alignment by means of unsymmetrical closure of joints, will be permitted only when necessary to conform to the alignment

shown on the plans. Grade breaks indicated on the plans shall be accomplished by unsymmetrical closure of pipe and NOT by means of fittings. Joint deflections called for on the plans shall be permitted up to one-half of the deflections recommended by the pipe manufacturer.

- E. Cleaning: Before each new length of pipe is placed, the interior of the preceding pipe shall be carefully cleaned of all dirt and debris. When pipe laying is not in progress, all open pipe ends shall be satisfactorily closed with watertight plugs.
- F. Bearing: Pipe in the trench shall have continuous uniform bearing along its bottom, except at bell holes. Before lowering pipe into the trench, the Contractor shall remove all stakes, debris, loose rock and other hard material from the bottom of the trench.
- G. Positioning: After the final positioning, pipe shall be held in place in the trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place. After joints are completed, the backfill material shall be redistributed and compacted as herein required.
- H. Closure: At the end of each day and when work is not in progress, all open ends of pipe installed in the line shall be satisfactorily closed with watertight plugs.
- I. Thrust Blocking for Force Mains: Concrete thrust blocks of the form and dimensions shown or noted on the plans shall be provided at all changes in horizontal and vertical alignments and at such other points as may be called for on the plans. Thrust blocks shall be installed in strict conformance with the details shown or noted on the plans.

### **3.3 CONNECTIONS**

- A. Unless separately listed on the bid schedule, Contractor shall make all required connections to existing facilities and improvements at no additional cost
- B. All connections in manholes shall be constructed with concrete channels directed toward the outlet pipe as shown and detailed on the plans.
- C. Use PVC manhole adapters in break-out holes in manholes for connecting new PVC pipe and grout all around to prevent ground water infiltration. Pipes shall be cut off flush with the inside surface of the manhole.
- D. Use 2-foot nominal lengths of pipe when entering and leaving manholes and structures.

### **3.4 STRUCTURES**

- A. Structures and appurtenances shall be installed at the location and to the lines and dimensions shown on the plans and detail drawings, and as established by the Engineer. Structures shall be installed in conformance with the applicable requirements of Section 71-1.07 of the State Standard Specifications. Precast structures shall be accurately assembled with full mortar bed joints.
- B. Frames for manholes in paved areas shall be accurately placed flush with and in the plane of the finish pavement. Tops of structures in unpaved areas shall be constructed to the grades shown or called for on the plans and established by the Engineer. Manhole frames in new roadway subgrade shall be brought to finish pavement plane and grade immediately after paving operations. All manhole frames in paved areas shall be secured by means of concrete frame anchor slabs as shown and detailed on the plans and detail drawings.

### **3.5 LATERALS**

- A. Unless otherwise noted on the plans, all sanitary sewer laterals shall terminate in a cleanout constructed to the form and dimensions shown and detailed on the plans and detail drawings.

### **3.6 CLEANING SANITARY SEWERS**

- A. Contractor shall flush and clean all sewer mains by means of pneumatic, sewer cleaning balls. The balls shall be of the appropriate size to fit the sewer pipe being cleaned. "Sewer Balling" operations shall be conducted by experienced personnel under the observation of the Engineer. The ball shall be introduced at the uppermost manhole and passed from manhole to manhole by means of a line with sufficient head of water to carry the ball along. The movement of the ball shall be controlled by a rope; care shall be exercised not to feed the ball too rapidly in order that all debris can be removed at each manhole.
- B. Each section of the sewer line shall be thoroughly cleaned before proceeding to the next section. Where sewer balls will not pass, flexible sewer rods with approved spears or cutters may be used to clear the obstruction. Where obstructions cannot be cleared by sewer rodding, the obstructions shall be removed by excavation at the Contractor's expense. The Contractor shall remove all debris from sewer lines using approved methods.
- C. Installation cost shall include cost for water for sanitary sewer flushing and cleaning operations.

### **3.7 TESTING SANITARY SEWERS**

- A. Sanitary sewer systems including laterals, and sanitary force mains shall be tested for tightness after completion of all backfilling and prior to request for final inspection. Contractor shall notify the Engineer at least two (2) working days in advance of proposed testing dates. Tests of gravity sewers shall be made from end or manhole to manhole unless grades are flat enough to permit testing two or more sections at one time. Sections which fail to pass the tests shall be repaired or replaced, and the section retested until it falls within specified allowances.
- B. All water for sanitary sewer testing shall be provided and the tests performed by the Contractor in conformance with the following requirements:
  - 1. Mandrell Test
    - a. Pipes shall be tested for deflection by passing a mandrel through the pipe without obstruction.
    - b. The size of the mandrel shall be set at 92.5% of the base inside diameter of the pipe, as defined in ASTM 3034.
  - 2. Water Leakage Test
    - a. Preparation for Test: The sewer line to be tested shall be plugged at the downstream manhole. All openings in the upstream manhole shall be plugged except the downstream opening for the line to be tested. All branch sewers running from wye connections on the mains shall be plugged at their upper ends if the test head would cause them to



overflow. The Test section shall then be filled with water and allowed to stand for at least thirty (30) minutes before test is started.

- b. Test Procedure: The water level in the upstream manhole or test tee shall be brought to a height approximately 4 feet above the crown of the open sewer at the upper end of the test section. The hydrostatic head in the test section shall be maintained so that no point in the section is the head less than four (4) feet or greater than 18 feet. In the case of a submerged section of line, the said head limitation shall be the difference between internal and external water levels. The test shall consist of measuring the loss of water during a one (1) hour period.
- c. Allowable Leakage: The allowable leakage in one (1) hour's time based on an average hydrostatic head of 4 feet for the entire test section, shall not exceed 0.4 gallons per inch of pipe diameter for each 500 feet of pipe.
- d. Manhole Leakage: Should an initial test show excessive leakage in a section of line, it is permissible to draw off the water and test the manhole that contained water. This test shall be made by plugging all openings in the manhole, filling same with water to the same elevation as used for the initial test, and checking the loss in a one-hour period. The leakage so determined may be deducted from the total leakage in the section of pipe initially tested. If, in the opinion of the Engineer, the manhole leakage thus determined is excessive, the Contractor shall waterproof the interior of the manhole by applying a coating of grout or an approved waterproofing material.

3. Force Mains

- a. Preparation for Tests: The Contractor shall provide all necessary material and equipment, and shall perform all work required in connection with the testing of the force main system, as specified herein. Hydrostatic and leakage tests shall be made only after the trenches have been backfilled sufficiently to hold the pipe firmly in position. Hydrostatic tests for sewer force mains shall be made on all sections to a hydrostatic pressure of 150 psi. Excess pressure will not be permitted. Each section of pipe to be tested shall be slowly filled with water using care to expel all air. Water shall be allowed to stand in the pipe for 24 hours before test pressure is applied.
- b. Test Procedure: The required pressure as measured at the lowest elevation, shall be applied for not less than one hour. Any leakage discovered in consequence of the pressure test shall be corrected, and the test shall be repeated until satisfactorily completed. Any defective pipe, fittings, or valves, shall be repaired or replaced.
- c. Allowable Leakage: No section of force main will be accepted until the leakage is less than 15 U.S. gallons per 24 hours per mile of pipe per inch of internal pipe diameter.

4. Air Leakage Test -The Contractor, at his option, may substitute an air pressure test in lieu of the hydrostatic test specified above for gravity sewers.

- a. The procedure shall be as described in Uni-Bell B-6-90, "Recommended Practice for Low Pressure Air Testing of Installed Sewer Pipe."

- b. The procedure shall be to securely plug all openings in the section of the line to be tested, and apply an air pressure of approximately four (4) psi.
- c. The elapsed time observed for a pressure drop of one (1) psi shall not be less than shown on Table I of Uni-Bell B-6.

**3.8 NOT USED**

**3.9 SANITARY SEWER PLUGS**

- A. All ends of sanitary sewers provided for future connection shall be plugged with material of the same joint characteristics as specified for the sanitary sewer main or lateral.

**3.10 CLEANUP**

- A. Upon completion of sanitary sewer construction operations, all lines, manholes, and other structures shall be thoroughly cleaned of dirt, rubbish, debris and obstructions of any kind to the satisfaction of the Engineer, and the entire work site shall be cleaned of all waste, rubbish, and construction debris of any nature.

**END OF SECTION**

## SECTION 26 01 00

### GENERAL ELECTRICAL REQUIREMENTS

#### PART 1 - GENERAL

##### 1.1 WORK INCLUDED

- A. General: Furnish all labor, materials, apparatus, tools, equipment, transportation, temporary construction and special or occasional services as required to make a complete working electrical installation, as shown on the drawings, and as described in these specifications.
- B. Work Included:
  - 1. ~~Lighting fixtures, lamps, poles and bases~~
  - 2. Lighting controls, and time controls
  - 3. Trenching and backfill for electrical work
  - 4. Patching and sealing
  - 5. Service lateral conduit and conductors
  - 6. Branch circuit wiring
  - 7. Telephone/data service, network interface and cables
  - 8. Utility meter socket and service pedestal enclosure
  - 9. Connections for community building electrical panel
  - 10. Electrical wiring devices, conduit, pull boxes, and backboards
  - 11. Wiring devices, receptacles, cover plates and receptacle pedestals
  - 12. Grounding and bonding
  - 13. Demolition and removals
  - 14. Testing

##### 1.2 RELATED WORK

- A. Perform the following work, in accordance with appropriate sections of the specifications cited, where and as necessary to furnish a complete, working electrical installation.
  - 1. Earthwork: Division 2
  - 2. Concrete: Division 3
- B. Work Not Included:
  - 1. Data communication system computers
  - 2. Telephone system PBX, or instruments
  - 3. Electrical wiring installation in community building

##### 1.3 QUALITY ASSURANCE

- A. The following publications or editions of the documents current at the time a project is on-going shall apply:
  - 1. CEC: California Electric Code with latest California Amendments.
  - 2. CBC: California Building Code with latest California Amendments.
  - 3. California Administrative Code Title 24.
  - 4. G.O. 128 rules for underground construction, State of California.
  - 5. CFC: California Fire Code.
  - 6. NEC: National Electrical Code
  - 7. Alameda Municipal Power
- A. Equipment and materials specified under this division shall conform to the following

standards where applicable.

1. UL: Underwriters' Laboratories.
2. ASTM: American Society for Testing Materials.
3. CBM: Certified Ballast Manufacturers.
4. ANSI: American National Standard Institute.

#### 1.4 DRAWINGS

- A. Layout: General layout shown on the drawings shall be use by the contractor as the basis for their electrical system design. The contractor shall be responsible for preparing complete electrical plans, details, installation methods, schedules of equipment, panel board schedules, control diagrams, layouts of conduit runs, cable trays, pre-insert sleeves, in coordination with other trades, and to submit these plans to the Owner.
- B. Accuracy:
  1. Drawings for the work under this Section as prepared by the Engineer as schematic, and shall be used by the contractor only as an indication of the general nature of the work.
  2. Contractor shall verify lines, levels and dimensions shown on the drawings and shall be responsible for the accuracy of the setting out of work and for its strict conformance with conditions at the site.

#### 1.5 SUBMITTALS

- A. Submit in accordance with Section 01340, Electrical Plans, Shop Drawings, Product Data, and Samples.
- B. Format: Furnish submittal data neatly bound in an 8-1/2" x 11" folder or binder with a table of contents listing in order of specification section and paragraph number.
- C. Submittals shall consist of detailed shop drawings, specifications, catalog "cuts" and data sheets containing physical and dimensioned information, performance data, electrical characteristics, materials used in fabrication, material finish and those optional accessories which are included and those which are excluded. In addition, include seismic data regarding installation and seismic withstand certification if applicable.
- D. The cover letter accompanying submittal shall list in full the items and data submitted and shall contain a statement acknowledging that the Contractor has reviewed the plans and specifications, and has made extensive coordination with other trades so that all elements of the required work is indicated. Failure to comply with this requirement shall constitute grounds for return without review.
- E. Contractor agrees that submittals processed by the Owner's Representative are not change-orders. The purpose of Shop Drawings is to demonstrate that the Contractor understands the design concept, and that he demonstrates his understanding of such by indicating which equipment and materials he intends to furnish and install, and by detailing the fabrication and installation methods he intends to use.

- 1.6 PRODUCT DELIVERY, STORAGE AND HANDLING: Equipment and materials shall be properly stored and adequately protected and carefully handled to prevent damage before and during installation. Equipment and materials shall be handled, stored, and protected in accordance with the manufacturer's recommendations and as approved by the Owner. Electrical conduit shall be stored to provide protection from the weather and accidental damage. Plastic conduit shall be stored on even supports and in locations not subject to direct sunrays or excessive heat. Cables shall be sealed, stored and handled carefully to avoid damage to the outer covering or insulation and damage from moisture and weather. Damaged or defective items, in the opinion of the

Owner's Representative, shall be replaced with new items at no cost to Owner.

- 1.7 PERMITS AND FEES: Provide, procure and pay for all permits, licenses and fees required to carry on and complete the work.

## PART 2 - PRODUCTS (Not applicable)

## PART 3 - EXECUTION

### 3.1 TESTS

- A. Tests shall be conducted during the construction period and at completion to determine conformity with applicable codes and with these specifications. Tests shall be performed in presence of the Owner's Representative and shall include, but are not limited to, the following:
1. Insulation Resistance: Perform 500-volt D.C. tests for one minute on all feeder conductors, including the neutral, and make a typed record of all readings to be included in the maintenance instructions. Repair or replace circuits showing less than 4 megohms resistance to ground. Make tests using Biddle Insulation Resistance Megger, or equal.
  2. Circuits Continuity: Test all feeder and branch for continuity. Test all neutrals for improper grounds and correct improper grounds if discovered.
  3. Test Equipment Circuits: Test equipment circuits for correct operation through their control devices, including electric heaters and thermostats.
  4. Lighting Control Circuits: Perform operation tests for all lighting circuits through their control devices and systems.
  5. Circuit Numbering Verification: All circuits shall be verified. But during acceptance testing, select on a random basis various circuit breakers in the panelboards and cycle them on and off to verify compliance of the typed panel directories with actual field wiring.
  6. Product Failure: Any products which fail during the tests or are ruled unsatisfactory by the Owner's Representative shall be replaced, repaired, or corrected as prescribed by the Owner's Representative at the expense of the contractor. Tests shall be performed after repairs, replacements or corrections until satisfactory performance is demonstrated.

### 3.2 INSTRUCTIONS AND MANUALS

- A. Refer to Division 1 for Shop Drawings, Product Data, and Samples.
- B. At the time of completion, a minimum of four hours or as agreed upon with the owner shall be allotted by the contractor for instruction of building operating and maintenance personnel in the use of all systems. All personnel shall be instructed at one time, the contractor making all necessary arrangements with manufacturer's representatives. The equipment manufacturer shall provide product literature and application guides for the users' reference. Costs for the services shall be paid for by Contractor.

### 3.3 PROJECT RECORD DOCUMENTS (AS-BUILTS)

- A. Provide project record drawings as required by other sections of these specifications and as required herein. Such drawings shall fully represent installed conditions including actual location of outlets, true panel board connections following phase balancing routines, correct conduit and wire sizing as well as routing, revised fixture scheduling listing the manufacturer and products installed and revised panel schedules.
- B. All drawings shall be made by qualified draftspersons.

### 3.4 WORKMANSHIP

- A. Preparation, handling and installation shall be in accordance with manufacturer's written instructions and technical data particular to the product specified and/or approved except as otherwise specified. Coordinate work and cooperate with others in furnishing and placing this work. Work to approved shop drawings for work by others and to field measurements as necessary to properly fit the work.
- B. Conform to the National Electrical Contractor's Association - Standard of Installation for General Installation Practice.

3.5 SCHEDULE OF WORK: Arrange work to conform to the schedule that has been established for the progress of the work. Advise regarding shipping schedule of major equipment.

3.6 SUPERVISION: Contractor shall personally or through an authorized and competent representative constantly supervise the work from beginning to completion and, within reason, keep the same workmen and foreman on the project throughout the project duration. Contractor shall be responsible for all coordination with other crafts. Contractor shall accept responsibility for coordination with all crafts.

3.7 PROTECTION: Keep conduits, junction boxes, outlet boxes, and other openings closed to prevent entry of foreign matter. Cover fixtures, equipment and apparatus and protect against contamination by dirt, paint, water, or chemicals, and from mechanical damage, before and during construction period. Restore to original condition any fixture, apparatus, or equipment damaged prior to final acceptance, including restoration of damaged shop coats of paints, before final acceptance. Protect bright finished surfaces and similar items until in service. No rust or damage will be permitted.

3.8 SPECIAL TOOLS: All special tools for proper operation and maintenance of the equipment provided under this section shall be delivered to Owner's Representative.

3.9 SEISMIC BRACING: All electrical components shall be braced and supported to conform to California Administrative Code, Title 24, and to California Building Code.

### 3.10 CUTTING AND PATCHING

- A. Install all required sleeves, forms and insets before walls or partitions are built. Cutting and patching of walls, partitions, ceilings and floor necessary for reception of work, cause by failure to provide or properly located sleeves, forms and inserts, incorrect location of work or failure to cooperate with other trades shall be done at expense of trade responsible. All penetrations through fire rated walls/floors shall be sealed with approved material to maintain the fire rating of the wall/floor.
- B. No cutting of finished or structural work may be done without acceptance. When necessary to have finished material or structural work cut, finish necessary drawings to trade whose materials are out to be cut.

END OF SECTION



## SECTION 26 10 00

### BASIC MATERIALS AND METHODS

#### PART 1 - GENERAL

##### 1.1 SECTION INCLUDES

- A. Products, assemblies and basic installation methods required for electrical project systems specified under this Division and shall include, but is not limited to:
  - 1. Conduit, raceways, and fittings
  - 2. Wire and cables
  - 3. Wire connections and devices
  - 4. Outlet boxes
  - 5. Pull and junction boxes
  - 6. Receptacles
  - 7. Device plates
  - 8. Overcurrent protective devices
  - 9. Telephone/data backboard, terminal backboard, service conduits, cables and network interface
  - 10. Service meter pedestal
  - 11. Ground rods
  - 12. Detectable warning tape
- B. Related Sections: Section 26 01 00 - General Electrical Requirements.
- C. Work not included:
  - 1. Television equipment.
  - 2. Computers and network equipment rack.
  - 3. Telephone system equipment.

##### 1.2 SUBMITTALS

- A. Section 26 01 00 - General Electrical: Submittals.
  - 1. Receptacles and device plates
  - 2. Conductors and cables
  - 3. Overcurrent protective devices
  - 4. Raceways
  - 5. Cable fittings, jacks and devices
  - 6. Enclosures and terminal panels
  - 7. Telephone system devices and cables
  - 8. Data/voice system cables and devices
  - 9. Network interface
  - 10. Service meter pedestal
  - 11. Pull boxes
  - 12. Ground rods
  - 13. Detectable warning tape

#### PART 2 - PRODUCTS

##### 2.1 CONDUITS AND FITTINGS

- A. Rigid Steel Conduit
  - 1. Conduit, rigid steel: full weight, threaded, hot-dip galvanized, inside enameled, conforming to ANSI C80.1

2. Three-piece couplings: electroplated, cast malleable iron; Efcor #165 series, O.Z./Gedney # 4-50 series.
  3. Threadless couplings: electroplated, cast malleable iron, with integral conduit stop; Efcor #1760.
  4. Threadless connectors: electroplated, cast malleable iron, on threaded male hub plastic insulated throat rated 90 degrees C minimum; Efcor #1750B series, O.Z./Gedney #31-0501T series.
  5. Insulated bushings: threaded polypropylene or thermosetting phenolic rated 150 degrees C minimum.
  6. Insulated grounding bushings: threaded cast malleable iron body with insulated throat and steel, "lay-in" ground lug with compression screw; O.Z./Gedney BLG series, Thomas & Betts #3870 series.
  7. Insulated metallic bushings: threaded cast malleable iron body with plastic insulated throat rated 105 degrees C.; O.Z./Gedney Type B, Thomas & Betts 1222 series.
- B. Rigid Non-Metallic Conduit
1. Conduit: Schedule 40 and 80 PVC, and HDPE.
  2. All fittings solvent welded.
  3. As manufactured by Carlon, PW Pipe, Allied or equal.
- C. Minimum acceptable conduit size:
1. 3/4 inch for single outlet connection.
  2. 1 1/4 inch, minimum size for all other systems and outlets.

## 2.2 WIRE AND CABLE

- A. General
1. Acceptable manufacturers: General Electric Co., Rome Cable, Southwire, Triangle, PWC Inc.
  2. Conductor material: All wire and cable shall be insulated, copper conductors, for all wire sizes.
  3. Insulation: Insulation shall be THWN-THHN for wire sizes through size 1/0 AWG. For larger wire, sizes insulation shall be THWN, XHHW and THW or as required to suit application.
  4. Fixture wire: Type AF.
  5. Minimum conductor size:  
Power and lighting branch circuits: #12AWG
  6. Data Communications: Category 6e cable 4-pair unshielded twisted solid 24 AWG copper, 100 MHz: Belden, Amp or ICC or equal.
  7. Telephone Cables: Cat 6e 4-pair UTP

## 2.3 OUTLET BOXES AND COVERS

- A. Standard Outlet Boxes: Galvanized, one-piece, drawn steel, knock-out type of size and configuration best suited to the application indicated on the plans. Minimum box size, 4inches square by 1-1/2 inch deep.
- B. Outdoor, wet locations: Cast aluminum, copper free boxes, sized to suit application, with matching cover.

## 2.4 RECEPTACLES

- A. General: All general purpose 15 and 20 amperes, 125-250 volt receptacles and 120-277 volt switches shall conform to NEMA WD-1 and applicable U.L. tests.



- B. Receptacles: All receptacles shall be commercial-grade, and have a minimum two-year warranty.
  - 1. Ground fault circuit interrupter receptacle: NEMA type 5-15R/20R Class A, conforming to UL, listed for outdoor use, tamper resistant, must have diagnostic indication for miss-wiring; Leviton #, or P&S or Hubbell equals.

## 2.5 DEVICE PLATES

- A. Flush Device Plates: Plates shall be #403 brushed stainless steel, Leviton, or P&S, or equal.
- B. Surface Mounted Devices, unfinished indoor areas: Galvanized metal to fit box.
- C. Outdoor, Weatherproof: Die cast aluminum construction, corrosion resistant, heavy duty, hinged cover flap, and gasket, vertical mounting, by Leviton 4000 or 6000 series, P&S or Hubbell, or equal.
- D. Outdoor, Receptacle Pedestals: As indicated on Drawings.

## 2.6 DISCONNECT SWITCHES

- A. Switch Interior: Dead-front construction with hinged arc suppressers and switch blades which are fully visible in the "OFF" position and with door open.
- B. Switch Mechanism: Quick-make and quick-break operating handle and mechanism with dual cover interlock to prevent unauthorized opening of the switch door in the "ON" position or closing the switch mechanism while the door is open.
- C. Ratings: Switches shall be horsepower rated for the operating voltage and with fused or non-fused arrangements as shown on the drawings.
- D. Enclosures: NEMA 1, code gauge sheet steel with hinged cover, or NEMA 3R as shown on Drawings, and as required by application.

## 2.7 PROTECTIVE DEVICES

- A. Circuit Breakers: Molded case, bolt-on, thermal magnetic type, 40 degrees C. ambient temperature compensated, fixed mounting, with quick-make, quick-break switching mechanism mechanically trip-free from the operating handle and conforming to applicable.
- B. Ratings: Refer to drawings and panel schedules for trip frame and poles required. Minimum short circuit rating for 120/240 volt breakers shall be 22,000AIC, if not indicated otherwise.
- C. Manual motor starters: Fractional H.P. 1 phase motors shall be protected by thermal O.L. relay integral with the disconnect device.

## 2.8 ELECTRICAL SUPPORTING DEVICES

- A. Concrete Fasteners: Powder-driven concrete pin fasteners, low velocity type, by Remington, Ramset.
- B. Conduit Straps: Hot-dip galvanized, cast malleable iron, one hole type strap with cast clamp-backs and spacers as required: O.Z./Gedney #14-50G straps and #141G spacers; Efcor #231 straps and #131 spacers.

- C. Construction Channel: 1-1/2 inch by 1-1/2 inch 12gauge galvanized steel channel with 17/32inch diameter bolt holes, 1-1/2 inches on center, in the base of the channel: Kindorf 905 series, Unistrut P-1000-HS, or equal.

## 2.9 PLYWOOD BACKBOARDS

- A. Where indicated for telephone or communication system terminals, or for motor control or other equipment assemblies, provide backboards of size indicated.
  - 1. Use Douglas fir plywood, exterior grade with "B" face, primed and finished painted gray.
  - 2. Unless otherwise indicated, provide 3/4" thick plywood.

## 2.10 GROUNDING

- A. Enclosures of equipment, raceways, and fixtures shall be permanently and effectively grounded. Provide code-sized, (unless otherwise indicated) copper, insulated green equipment ground with all non-metallic rigid, and flexible metallic and non-metallic, conduit runs. Equipment ground shall originate at panelboard ground bus and shall be bonded to all receptacle boxes and electrical equipment enclosures.
- B. Building services shall be grounded using concrete encased grounding electrodes, installed in per NEC Article 250, with connection to main cold water pipe, main valve jumper, and bonding to gas piping.

## 2.11 TELE/DATA COMMUNICATIONS SYSTEM

- A. Communications service cables shall be run from point of connection with City system to community building, and terminated on suitable network interface equipment. Cabling shall be in accordance with TIA/EIA 568-A standards.
- B. Data system will provide a Level 6/class E system, with a 100Mhz rate. Insertion loss of 19.8 dB (36.4 dB at 300 MHz).
- C. Cables for data outlets shall be UL listed Level 5 wire, rated for 100 MHZ, as manufactured by Berk-Tek, or Amp.
- D. Punch blocks, shall be Siemon 100 pair type 110 wiring blocks with holders and labels mounted on terminal board with plastic dust covers.

## 2.12 SERVICE METER PEDESTAL

- A. General: All equipment shall be of the capacity and of the type shown as on the Plans, complete with all components indicated, and as required by utility company.
- B. Service Meter Pedestal:
  - 1. Furnish and install service meter pedestal complete with molded case circuit breakers, wiring devices and lighting controls as indicated on the Drawings. Breakers shall be bolt-on style, of the frame size indicated and as manufactured by Square D. or approved equal.
  - 2. Enclosure shall be rain-tight with underground pull section indoor, NEMA Type IIIIR, and shall be fabricated from sheet metal with a rust-inhibiting phosphate primer and baked enamel finish, per City of Alameda's standard finish, in accordance with UL 98. Enclosure shall be UL listed.
  - 3. Service meter pedestal shall meet utilities requirements, and shall be as manufactured by TESCO, or City approved equal, prior to bid.

- 2.6 WARNING TAPE: Detectable type, 3" wide minimum, as manufactured by 3M, Mule, or equal.
- 2.7 GROUND RODS: Copper-clad steel, 3/4 "diameter by 8' long minimum, with suitable phosphor bronze clamps; Erico/Cadweld, or equal.
- 2.8 PULL BOXES
- A. General
1. Boxes shall be sized as indicated on the Drawings.
  2. Design loads shall consist of live, dead, impact, hydrostatic, and other loads. Live loads shall be for H-20 and/or H-20-S16-44, or as required, per AASHTO standard specifications for highway, bridges with revisions. Design loads shall be 16 kips.
  3. Concrete shall be per ASTM-C-33-64.
  4. Lightweight concrete shall conform to ASTM-C-33-64T.
  5. Cement shall be Portland cement, meeting ASTM-C-150 Type II standards. Compressive strength shall be minimum 4,000 PSI at 28 days.
- B. Site boxes for use as pull boxes shall be reinforced concrete, or composite material, with reinforced concrete lids with hold-down penta-head bolts. Boxes shall be complete with base section, riser, and lids. As manufactured by Old Castle, Carson, Quazite, or equal
- C. Boxes located in flush in pavement; and in landscaped areas shall be set 2 inches above final grade, and as indicated on Drawings.
- C. Boxes located in driveways shall be full-traffic rated, with steel lids with hold down bolts.
- D. Set boxes on 6inch base of crushed drain rock, and as indicated on Drawings, and as indicated on City of Alameda Standard Drawings. Covers shall be marked indicating type of service.
- E. Provide driven ground rods in pull boxes as indicated on Drawings.
- 2.9 DUCT SEAL: Non-hardening, non-oxidizing and non-corrosive sealing compound as manufactured by Duct-seal, Permagum, or equal.
- 2.10 VANDAL RESISTANT PULLBOX LOCKABLE COVERS: As manufactured by Jensen Metaltech "Locklid", or equal.

### PART 3 - EXECUTION

#### 3.1 CONDUIT AND RACEWAY APPLICATIONS

- A. Rigid Steel Conduit: For all conduits exposed to mechanical damage, installed in concrete walls and through floor slabs.
- B. Rigid Non-Metallic Conduits: PVC and HDPE may be used underground only with 2" sand under and 2" sand over when serving lighting circuits and power secondary circuits. PVC conduit shall not be used for exposed work, and not for conduit stub-ups through concrete floors, or block-outs.

#### 3.2 CONDUIT INSTALLATION

- A. General
  - 1. Conduit system shall be concealed unless exposed work is clearly called for on the drawings.
  - 2. Conduits shall be tightly covered and well protected during construction using metallic bushings and bushing "pennies" to seal open ends.
  - 3. In all empty conduits or ducts, install a 200-pound tensile strength polyethylene pulling rope.
  - 4. Conduit systems shall be electrically continuous throughout. Install code size, insulated, copper, green grounding conductor in all conduit runs indicated, or required by code, or as indicated on drawings.
- B. Layout
  - 1. Locations of site underground conduit runs shall be planned in advance of the installation and coordinated with other trades, and with understanding of existing underground utilities, fire lines, irrigation lines, & etc.
  - 2. Where practical, install conduits in parallel groups, vertical or horizontal runs and at elevations that avoid unnecessary offsets.
  - 3. Exposed conduit shall be run parallel or at right angles to the centerlines of columns and beams.
  - 4. Conduits shall not be placed closer than 12 inches from a parallel water line, or 3 inches from such lines crossing perpendicular to the runs.
- C. Supports
  - 1. All raceway systems shall be secured to the building structures using specified fasteners, clamps and hangers spaced per code requirements.
  - 2. Support single runs of conduit using one-hole pipe straps. Where run horizontally on walls in damp or wet location, install "clamp backs" to space conduit off the surface.
  - 3. Multiple conduit runs shall be supported using "trapeze" hangers fabricated from specified construction channel, mounted to 3/8inch diameter, threaded steel rods secured to building structures. Fasten conduit to construction channel with standard one-hole pipe clamps or the equivalent.
- D. Termination and Joints
  - 1. Raceways shall be joined using specified coupling or transition couplings where dissimilar raceway systems are joined.
  - 2. Conduits shall be securely fastened to cabinets, boxes and gutters using two locknuts and an insulating bushing or specified insulated connectors. Install grounding bushings or bonding jumpers on all conduits terminating at concentric knockouts.
  - 3. Conduit terminations exposed at weatherproof enclosures and cast outlet boxes shall be made watertight using specified connectors and hubs.
  - 4. Install expansion couplings where any conduit within the building crosses a building seismic separation or expansion joint.

### 3.3 CABLE AND WIRE INSTALLATION

- A. General
  - 1. Conductors shall not be installed in conduits until all work of any nature that may cause injury is completed. Care shall be taken in pulling conductors that insulation is not damaged. U.L. approved non-petroleum base and insulating type pulling compound shall be used as needed.
  - 2. All cables shall be installed and tested in accordance with manufacturer's requirements and warranty.
- B. Splicing and Terminating

1. All aspects of splicing and terminating shall be in accordance with cable manufacturer's published procedures.
2. Make up all splices in outlet boxes with connectors as specified herein with separate tails of correct color to be made up to splice. Provide at least 12 inches of tails packed in box after splice is made up.
3. All wire and cable in panels, terminal cabinets and equipment enclosures shall be bundled and clamped.
4. All aluminum bus bar bolts shall be tightened with a torque wrench in accordance with NEMA published values.

### 3.4 INSTALLATION OF BOXES AND WIRING SERVICES

#### A. General

1. All outlets shall finish FLUSH with building walls and ceiling, except where exposed work is called for. There shall be no gap between box and wall or ceiling material. Any opening between box and wall or ceiling shall be caulked airtight. Boxes installed in concrete masonry units, CMU, shall have concrete carefully sawn for box rings. Rings shall be of suitable depth to suit CMU thickness.
2. Install raised device covers on all outlet boxes as required to finish flush with surface. Covers shall be of a depth to suit the wall or ceiling finish.
3. Leave no unused openings in any box. Install close-up plugs as required to seal openings.
4. Exposed outlet boxes and boxes in damp and wet locations shall be cast metal with gasketed cast metal cover plates.

### 3.5 COMMUNICATIONS SYSTEM

- A. All cable shall be installed in raceway. Cables shall be bundled and properly supported above ceiling, and shall not lay on ceiling tiles. Provide a cable-management system of wire tray, or j-hooks, as required to suit conditions. Individual cables are to be run from each jack back to punch-down blocks at main terminal board.
- B. Installed wiring shall be tested. All pairs must conform to EIA/TIA TSB-67 specifications for Category 5. Utilizing loop-back/signal generating equipment, each set of pairs in a cable shall be tested. Recommended testing device shall be a Star-Tek 12011, Wave-Tek Lantek Pro XL.
- C. Provide written documentation of successful test results for each set of pairs to Owner's representative.
- D. Data and voice cable shall be clearly labeled at punch-down blocks.

END OF SECTION

## SECTION 26 53 00

### SITE LIGHTING

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Installation and connection of all fixtures, lamps, ballasts, lighting control devices, related components and accessory wiring as shown on the plans, or as specified herein.
- B. Fixture, poles, lamps and ballasts shall be furnished and provided by Contractor.
- C. Concrete reinforced bases for poles shall be provided as indicated on Plans. Refer to Section 03 20 00 – Poured-in-Place Concrete for requirements.

#### PART 2 - PRODUCTS (not applicable)

#### PART 3 - EXECUTION

##### 3.1 INSTALLATION

- A. Install each pole and lighting fixture in a manner recommended by the fixture manufacturer. Under this Section of work, furnish and install all required brackets, fittings, and other elements to the poles to properly and safely support fixtures.
- B. Direct burial pole shall be placed with concrete backfill as indicated on Drawings, complete with finish pad.
- C. Contractor shall be responsible for handling and setting of poles, fixture assemblies, aiming, and wiring. Poles shall be set perfectly plumb.
- D. All fixtures shall be clean and installed in a manner recommended by the fixture manufacturer. Fixtures shall be oriented perpendicular to adjacent walkways.

##### 3.2 TESTING AND VERIFICATION

- A. Test lights through their controls and demonstrate to the City that all systems are operating properly.
- B. Nighttime illumination tests shall be required.

END OF SECTION

**Note 1:** Providing and Installing the (four) pathway light fixtures, F1A, F1B, including foundations, anchor bolts/plate, wiring, etc., is **NOT** in Base Bid SCOPE OF WORK. **HOWEVER**, providing, installing the required conduit, pull boxes, pull rope, fittings, warning tape, etc., **ARE** included in Base Bid SCOPE OF WORK. (As described in Construction Documents; see sheets E1.0, E2.0, E3.0.)



## SECTION 26 60 00

### SITE ELECTRICAL WORK

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

###### A. Work Included

1. Furnish, install and connect conduits, conductors, fittings and accessories.
2. Trench, excavate, and backfill for all underground conduits, spliceboxes, pull boxes and handholes.
3. Concrete work for conduit encasement.

##### 1.2 SEPARATION FROM OTHER SERVICES: Separate duct and conduit runs not less than one foot horizontally and one foot vertically from gas, water, sewer and drainage lines.

##### 1.3 STANDARD PRACTICES

- A. All work for trenching, back filling, excavation, and pavement repairs, shall be in accordance with Sections 02 20 00, 02 22 30 and 02 22 50 of the Specifications.
- B. Installation of ducts and conduits shall be in accordance with State of California Electrical Code and NEC.

#### PART 2 - PRODUCTS (Refer to SECTION 26 10 00)

#### PART 3 - EXECUTION

##### 3.1 EXCAVATION

- A. Excavations shall be open vertical construction of sufficient width to provide free working space around the work installed and to provide sufficient space for back filling and tamping.
- B. Provide safety shoring, bracing or bulk heading to support excavations and maintain warning signs and barricades. Provide suitable temporary steel covers over excavations crossing roadways or walks.
- C. Excavate all trenches so that minimum coverage above conduit or duct to finish grade is not less than 18", unless otherwise specified or shown on Drawings.
- D. For non-metallic conduits not encased in concrete, excavate trench 3" below the required grade. Place 3" bed of sand properly compacted, or of pea-gravel, and graded to provide uniform bearing surface for conduits, unless otherwise specified or shown on drawings.
- E. Excavate adjacent to existing trees by hand to avoid injury to trees and tree roots. Protect all roots 2" and larger in diameter with heavy burlap. Hand trim roots smaller than 2" diameter. Seal all cuts through roots 1/2" and larger with tree trimmer's asphaltic emulsion. If trenches remain open more than 24 hours shade side of trench adjacent to tree with burlap and keep damp. Stockpiling of any materials within drip line of trees is prohibited. Keep excavations free of water.

##### 3.2 BACKFILL

- A. Cover non-metallic conduits not encased in concrete with a minimum 3" layer of sand, or pea-gravel. Compact sand backfill shall be per Standard Specifications.
- B. Except where sand or select fill is required as specified above and except under paved areas, walks or roads, use backfill of suitable excavated material with 2" maximum rocks or clods. If excavated material is unsuitable or inadequate for the backfill as specified, furnish and import additional suitable materials to complete the work.
- C. Compact fill by adding material in 8" maximum layers and tamping by hand or machine. Do not machine tamp initial back fill layer over non-metallic conduits or ducts not concrete encased.
- D. Remove shoring as backfill is placed. Remove from property surplus material remaining after backfilling, or place as directed.
- E. Place detectable WARNING-ELECTRIC marker strips the continuous length of trench, down 12" from finish grade. Strips shall be installed over all over all lighting and power conduits.
- F. Replace existing walkways, pavements, or similar surfaces to match existing work, except material used shall not be of lesser quality than required for the same material in Standard Specifications.
- G. Bring to grade any subsidence occurring during the guarantee period by adding surfacing materials of the like kind.

### 3.3 SPLICEBOXES, PULLBOXES AND HANDHOLES

- A. In spliceboxes and handholes, place duct and conduit entries using knockout panels provided. Pour concrete around conduits to anchor them in place.
- B. Spliceboxes and handholes shall have as a minimum one base section and one 12" extension.
- C. In landscaped areas, install spliceboxes and handholes 1-inch above adjacent grade. In pavement subject to vehicular traffic, set top of box flush with pavement, and use steel traffic-rated bases and covers. In landscape areas use reinforced concrete covers. All covers shall be marked.

### 3.4 RACEWAYS

- A. Install duct and conduit runs straight and true between spliceboxes. Do not use bends except where shown on plans. For alignment curves, use not more than 5degree segments for each standard straight length.
- B. Begin to fan out ducts from standard separation to splicebox least 5' from entrance, using gradual alignment changes at coupling of each straight section.
- C. Rod all underground raceways with approved flexible mandrels and brushes to remove all obstructions and to prove that raceways are clear and usable.
- D. Furnish and install pull lines in all empty raceways. Pull line shall be continuous from splicebox to splicebox or vault, with 24" of slack left at each termination.

END OF SECTION



## **APPENDICES**

**APPENDIX A:**  
**GEOTECHNICAL INVESTIGATION**



November 18, 2016  
File: 1049.05a2ltr.doc

Group 4 Architecture, Research + Planning, Inc.  
211 Linden Avenue  
South San Francisco, CA 94080

Attn: Mr. Jonathan Hartman

Re: Geotechnical Investigation  
Krusi Park – Replacement Building  
Alameda, California

### Introduction

This letter summarizes our geotechnical investigation regarding the planned construction of an enlarged new structure at Krusi Park, Alameda, CA. The approximate site location is presented on Figure 1. The purpose of our geotechnical investigation is to evaluate site conditions and provide geotechnical recommendations for the design and construction of the project. The project includes a new single-story, prefabricated modular building, new utility connections and pathways adjacent to the adjacent park improvements, as shown on Figure 2. Foundation design is expected to be either be a depressed continuous footing so that the finish floor is slightly above exterior grade, or it could be concrete slab on grade.

The scope of our geotechnical investigation is outlined in our Agreement for Professional Engineering and Testing Services dated July 11, 2011 and November 16, 2016. Our scope included exploring subsurface conditions with one hand augured boring, laboratory testing of select soil samples, evaluating field and laboratory data, developing foundation design criteria, and presentation of our geotechnical recommendations in a brief letter report. Supplemental authorization was provided to include an R-Value, structural pavement sections and updated seismic design criteria.

### Regional Geology

The site is located within the Coast Range Geomorphic Province of California. The regional bedrock geology consists of complexly folded, faulted, sheared, and altered sedimentary, igneous, and metamorphic rock of the Franciscan Complex. Bedrock is characterized by a diverse assemblage of greenstone, sandstone, shale, chert, and mélange, with lesser amounts of conglomerate, calc-silicate rock, schist and other metamorphic rocks.

The regional topography is characterized by northwest-southeast trending mountain ridges and intervening valleys that were formed by movement between the North American and the Pacific Plates. Continued deformation and erosion during the late Tertiary and Quaternary Age (the last several million years) formed the prominent Marin coastal ridges and the inland depression that is now the San Francisco Bay. The more recent seismic activity within the Coast Range Geomorphic Province is concentrated along the San Andreas fault zone, a complex group of generally north to northwest trending faults.

Geologic mapping<sup>1</sup> indicate the site is located in an area mapped as artificial fill and underlain by dune sands (Merrit Sands). These dune sands are typically medium to fine-grained, well sorted and well-drained. A geologic map of the site can be seen on Figure 3.

### Seismicity

The site is located within the seismically active San Francisco Bay Region and will therefore experience the effects of future earthquakes. Such earthquakes could occur on any of several active faults within the region. The California Division of Mines and Geology has mapped various active and inactive faults in the region. Active faults are defined as those that show evidence of movement in the past 11,000 years (i.e., Holocene) and have reported average slip rates greater than 0.1 mm per year. These faults, defined as either Uniform Building Code Source Type "A" or "B," are shown in relation to the project on the attached Active Fault Map, Figure 4. The closest active fault that could produce significant seismic shaking is the Hayward fault, located approximately four to five miles from the site.

### Site Conditions

The project site consists of a public park containing fully developed trees, a paved walkway, and an existing restroom facility. The paved walkway passes through the park and connects Otis Drive with the intersection of Fillmore and Court Streets. Elevation within the location of the planned improvements is approximately nine feet above mean sea level.

### Subsurface Exploration and Laboratory Testing

One hand augured test boring was excavated on September 22, 2011 at the location shown on Figure 2. The soils encountered were logged in the field and select samples were obtained for laboratory testing. A Soil Classification Chart is presented along with the boring log on Figures 5 and 6. Laboratory testing included the determination of the dry density, moisture content, R-Value, and unconfined compressive strength of selected samples. The results of the moisture content, dry density, and unconfined compression tests are presented on the boring logs. The results of the R-Value test can be found on Figure 7.

In general, subsurface conditions encountered are consistent with the mapped geology. At the location of the proposed restroom, the upper roughly two feet consists of medium dense clayey sand. Below the clayey sand, we encountered approximately 3.5 feet of medium stiff, low plasticity, sandy clay with gravel. Groundwater was observed at the time of our exploration at approximately five feet.

### Geologic Hazards Evaluation

This section identifies potential geologic hazards at the project site, their significant adverse impacts, and recommended mitigation measures. Geologic hazards considered include fault rupture, seismic shaking, liquefaction, seismic induced settlement, lurching, lateral spreading,

---

<sup>1</sup> U.S. Geological Survey, "Geologic Map and Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties," Graymer, R.W, 2000

ground cracking, slope stability, erosion, seiche, tsunami, flooding, settlement and expansive soils. The significant geologic hazard at the project site is strong seismic ground shaking and liquefaction. We judge that other geologic/seismic hazards are of lesser concern.

### **Seismic Shaking**

The site will likely experience seismic ground shaking from future earthquakes in the San Francisco Bay Area. Earthquakes along several active faults in the region, as shown on Figure 4, could cause moderate to strong ground shaking at the site.

### **Deterministic Seismic Hazard Analysis**

Deterministic Seismic Hazard Analysis (DSHA) predicts the intensity of earthquake ground motions by analyzing the characteristics of nearby faults, distance to the faults and rupture zones, earthquake magnitudes, earthquake durations, and site-specific geologic conditions. Empirical relations (Campbell and Borzognia, and Chiou and Youngs (2008)) for the stiff soil profile conditions were utilized along with the Caltrans online ARS program to provide approximate estimates of median peak site accelerations. A summary of the principal active faults affecting the site, their closest distance, moment magnitude of characteristic earthquake and probable peak ground accelerations (PGA), which an earthquake on the fault could generate at the site are shown in Table A.

---

TABLE A  
DETERMINISTIC PEAK GROUND ACCELERATION  
Krusi Park  
Alameda, California

<u>Fault</u>	<u>Distance<sup>1</sup></u>	<u>Max. Moment Magnitude</u>	<u>Peak Ground Acceleration<sup>2,3</sup></u>
Hayward	6.2 km	7.3	0.37 g
San Andreas	23.3 km	8.0	0.23 g
Mt. Diablo	23.7 km	6.6	0.19 g
Calaveras	20.0 km	6.9	0.18 g
San Gregorio	31.3 km	7.4	0.15 g

### **References:**

1. Caltrans ARS (2016)
2. Campbell and Borzognia (2008)
3. Chiou and Youngs (2008)

---

The potential for strong seismic shaking at the project site is high. Due to their close proximity, and probability of future rupture, the Hayward and San Andreas Faults present the highest potential for strong ground shaking. The most significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements.

*Seismic Shaking Mitigation Measures - Mitigation measures include designing the improvements and structures in accordance with the most recent edition of the California Building Code (2013/2016). Seismic design criteria are presented in subsequent sections of this report.*

### **Liquefaction**

Liquefaction refers to the sudden, temporary loss of soil shear strength during strong ground shaking. Liquefaction-related phenomena include liquefaction-induced settlement, flow failure, and lateral spreading. These phenomena can occur where there are saturated, loose, granular deposits. Recent advances in liquefaction studies indicate that liquefaction can also occur in low plasticity clays and silts. For the project site, the primary geotechnical issue is total and differential liquefaction settlement during strong ground shaking.

Soil deposits with a liquefaction potential were observed during our subsurface exploration. In addition, the underlying saturated dune sands are usually susceptible to liquefaction. The project site is mapped within an area that is classified as being moderate to highly susceptible to liquefaction and can be seen on Figure 3. Therefore, the risk of liquefaction at the site is high.

*Liquefaction Mitigation Measures - Mitigation measures include designing the structures to resist and span over seismic induced settlements. A rigid shallow foundation system appears suitable for the planned structure. Deep foundations could also be utilized. However, the cost of a deep foundation system does not appear warranted for the project. Foundation design criteria are presented in subsequent sections of this report.*

### Geotechnical Evaluation and Recommendations

We judge the planned restroom is feasible from a geotechnical standpoint. The primary geotechnical engineering issue for the project is the potential for strong ground shaking and potential for liquefaction during future earthquakes.

### Seismic Design

Based on the interpreted subsurface conditions, and closest fault type and distance, we recommend the following CBC Coefficients to calculate the design base shear of the planned addition. Site Class D can be used for design.

TABLE B  
2013/2016 CBC FACTORS  
Krusi Park  
Alameda, California

<u>Factor Name</u>	<u>Coefficient</u>	<u>Site Specific Value</u>
Site Class	S <sub>A,B,C,D,E, or F</sub>	S <sub>D</sub> <sup>1</sup>
Site Coefficient	F <sub>a</sub>	1.00
Site Coefficient	F <sub>v</sub>	1.50
Spectral Acc. (short)	S <sub>s</sub>	1.59 g
Spectral Acc. (1-sec)	S <sub>1</sub>	0.62 g
Spectral Response (short)	SM <sub>s</sub>	1.59 g
Spectral Response (1-sec)	SM <sub>1</sub>	0.94 g
Design Spectral Response (short)	SD <sub>s</sub>	1.06 g
Design Spectral Response (1-sec)	SD <sub>1</sub>	0.62 g

- (1) Site Class D - Stiff Soil profile, Shear Wave Velocity between 600 and 1,200 feet per second, Standard Penetration Test N values between 15 and 50, and Undrained Shear Strength between 1,000 and 2,000 psf.

#### Surface Preparation and Site Grading

Clear all structures, concrete slabs, asphalt, oversized debris (larger than six inches), and organic matter where new construction is planned. Any vegetation or organic materials within the building areas should be scraped from the surface, and stockpiled for reuse in landscaping or removed from the site. Any construction debris or abandoned utilities encountered during site grading should be removed from the site. Backfill excavations with fill compacted to at least 90 percent relative compaction. The surface of the construction area should be scarified to a depth of 12-inches, moisture conditioned to near the optimum moisture content, and compacted to at least 90 percent relative compaction.

#### **Excavation**

We judge that most of the surficial soils up to five feet can be ripped and excavated with conventional equipment. During our site reconnaissance and exploration, we observed shallow groundwater or apparent seepage at about five feet below the ground surface. The site may experience seasonal fluctuations in groundwater levels. Loose sands and soft clays have the potential for sloughing in an unsupported excavation.

For temporary slopes, the California Occupational Safety and Health Administration (Cal/OSHA) have promulgated rules for California Code of Regulations, Title 8. Cal/OSHA dictates allowable slope configurations and minimum shoring requirements based on categorized soil types. In conformance with Cal/OSHA's categorization, the upper five-feet of soil is "Type C". The Contractor may elect to use a variety of shoring and temporary slope configurations, but his

operations must conform to Federal and State OSHA regulations. The safety of excavations, slopes, construction operations, and personnel are the sole responsibility of the Contractor.

**Fill Materials**

Non-expansive soil and rock mixtures generated from on-site excavations may be suitable for reuse as fill provided the maximum particle sizes are less than four inches and a maximum PI of 20. Processing may include removal and/or crushing of rock, mixing and moisture conditioning as described below. If imported fill is required, the material shall consist of soil and rock mixtures that shall be free of organic material, have a maximum particle size of four inches, Liquid Limit less than 40 and a Plasticity Index less than 20, and have a minimum R-Value of 20. Any imported fill material needs to be tested by the geotechnical engineer to determine its suitability for use as fill material.

**Compacted Fill**

On-site fill, backfill, and scarified subgrades should be conditioned to a moisture content within three percent of the optimum moisture content. Properly moisture conditioned and cured on-site materials should be placed in loose horizontal lifts of eight inches thick or less, and uniformly compacted to at least 90 percent relative compaction. Any expansive soils observed by the geotechnical engineer during site grading should not be used as fill.

Relative compaction refers to the ratio in percent of the in-situ dry density to the maximum laboratory density. The maximum dry density, and optimum moisture content of fill materials should be determined in accordance with ASTM Test Method D 1557, "Moisture-Density Relations of soils and Soil-Aggregate Mixtures Using a 10-lb. Rammer and 18-in. Drop."

**Slopes**

Although not anticipated, compacted fill slopes and permanent cut slopes in soil should be no steeper than 3:1. If fill slopes are constructed, the slopes should be "keyed" into firm materials. Additionally, drainage should be provided to deter the build up of hydro-static and seepage forces behind the fill. We should supply supplemental consultation if fill slopes higher than five feet are planned.

**Foundations**

Considering the loose sands, soft clays and liquefaction potential, we recommend that the new foundation for the planned restroom utilize either a rigid mat slab foundation or continuous interconnected spread footing. Building subgrade should be stripped and compacted as described in "Site Preparation and Site Grading."

For static conditions, foundation settlements are expected to be less than one inch. Several inches of site settlement could occur during a strong seismic event including a couple inches of differential settlement. The foundations should be designed to span over 5 to 10 foot zones of potential seismic differential settlement without significant deflection of the foundation system. Following a strong earthquake, the foundation may need to be re-leveled (compaction grouting) and the building repaired. Design criteria for the new foundations are presented in Table C.



---

TABLE C  
FOUNDATION DESIGN CRITERIA  
Krusi Park  
Alameda, California

Continuous Shallow Footings:

Minimum width <sup>1</sup> :	12 inches
Single-Story minimum depth <sup>2,3</sup> :	18 inches
Allowable bearing capacity:	
Dead load plus live load:	1000 psf
Total design loads, including wind or seismic:	1500 psf
Lateral passive resistance <sup>4</sup> :	300 pcf
Base friction coefficient:	0.3

Rigid Mat Slab:

Modulus of subgrade reaction, $k_s$	125 pci
Maximum unsupported interior span <sup>5</sup> :	8 feet
Maximum unsupported edge (corner) cantilever <sup>5</sup> :	4 feet

Notes:

- (1) Size foundations to maintain uniform bearing pressures.
  - (2) Depth below lowest adjacent grade. May require localized deepening. Near slopes maintain minimum 7-feet horizontal distance to daylight.
  - (3) Footing should be designed to span 5 to 10 feet over areas of non-uniform support.
  - (4) Equivalent fluid pressure. Not to exceed 3,000 psf.
  - (5) Assumes rigid slab behavior with idealized fixed end conditions.
- 

Concrete Slab-On-Grade

Where interior concrete slabs are needed, we recommend they be at least five inches thick and reinforced with steel bars (not wire mesh). Additionally, contraction joints should be incorporated in the concrete slab in both directions, no greater than 10 feet on center. The reinforcing bars should extend through the control joints. The Structural Engineer should design the concrete slab floors.

To improve interior moisture conditions, a four-inch layer of clean, free draining, 3/4-inch angular gravel should be placed beneath the interior concrete slabs to form a capillary moisture break. The crushed rock must be placed on a properly moisture conditioned and compacted subgrade that has been approved by the Geotechnical Engineer. A plastic membrane vapor barrier, 15 mils or thicker, should be placed over the compacted crushed rock. The vapor barrier shall meet the ASTM E 1745 Class A requirements and be installed per ASTM 1643. Eliminating the capillary moisture break and/or plastic vapor barrier may result in excess moisture intrusion through the floor slabs resulting in poor performance of floor coverings, mold growth or other adverse conditions. A two-inch layer of dry sand could be placed over the vapor barrier to prevent

puncture of the plastic membrane and aid in slab curing. The final decision to use a sand layer should be provided by the Structural Engineer.

Exterior concrete slabs should be at least four inches thick and reinforced as described above for interior slabs. Exterior concrete slabs shall be underlain with four inches or more of Caltrans Class 2 Aggregate Base compacted to at least 92 percent relative compaction. Some movement should be expected for exterior concrete slabs as the underlying soils react to seasonal moisture changes. If superior performance is desired, the exterior slabs can be thickened and reinforced as described above for interior slabs and/or underlain with a thicker aggregate base layer.

### Pavement

New pavements will be required for the pathways surrounding the new restroom location. We understand that these paths may be used as an emergency access or maintenance paths and be composed of an asphalt-concrete surface. We have calculated pavement sections for the asphalt-concrete areas in accordance with Caltrans procedures for flexible pavement design (2010). We have provided a range of Traffic Indices (TI) from 3 to 5 depending on the expected traffic loads for a twenty-year design life. For design, we used an R-value of 20. The recommended asphalt-concrete pavement sections are presented in Table D.

---

TABLE D  
ALTERNATIVE PAVEMENT DESIGN SECTIONS  
Krusi Park  
Alameda, California

<u>Traffic Index</u>	<u>Asphalt Concrete<sup>1,3</sup></u>	<u>Aggregate Base<sup>2</sup></u>
3.0	2.0 inches	4.0 inches
4.0	2.5 inches	6.0 inches
5.0	3.0 inches	8.0 inches

### Notes:

- 1.) The asphalt concrete should conform to the criteria for asphalt presented in Section 39 of the Caltrans Standard Specifications. The asphalt concrete shall be placed in layers not exceeding 2.5 inches in thickness and compacted to at least 95 percent relative compaction.
  - 2.) The aggregate base material should conform to Class 2 Aggregate Base in the current edition of Caltrans Standard Specifications and compacted to achieve at least 95 percent relative compaction and a non-yielding surface when proof-rolled with heavy construction equipment.
  - 3.) Roughly equivalent performance is possible by substituting one inch of additional asphalt for two inches of aggregate base. Minimum asphalt thickness is shown.
-

November 18, 2016

Site and Foundation Drainage

Careful consideration should be given to design of finished grades at the site. We recommend that the building areas be raised slightly and that the adjoining landscaped areas be sloped downward at least 0.25 feet for five feet (five percent) from the perimeter of building foundations. Where hard surfaces, such as concrete or asphalt adjoin foundations, slope these surfaces at least 0.10 feet in the first five feet (two percent). Roof gutter downspouts may discharge onto the pavements, but should not discharge onto any landscaped areas. Provide area drains for landscape planters adjacent to buildings and parking areas and collect downspout discharges into a tight pipe collection system that discharges well away from the building foundations. Site drainage improvements should be connected into a storm drainage system, if possible.

Plan Review and Construction Observation

We must review the design plans as they are nearing completion to confirm that the intent of our geotechnical recommendations has been incorporated. During construction, we must also observe and test the foundation excavations, subgrade preparation, drainage, and other geotechnically related work items to verify that our recommendations are suitable for the observed conditions and that the work is performed in accordance with our recommendations.

If there are any questions or if we can be of further assistance, please call.

Yours very truly,  
MILLER PACIFIC ENGINEERING GROUP

REVIEWED BY:



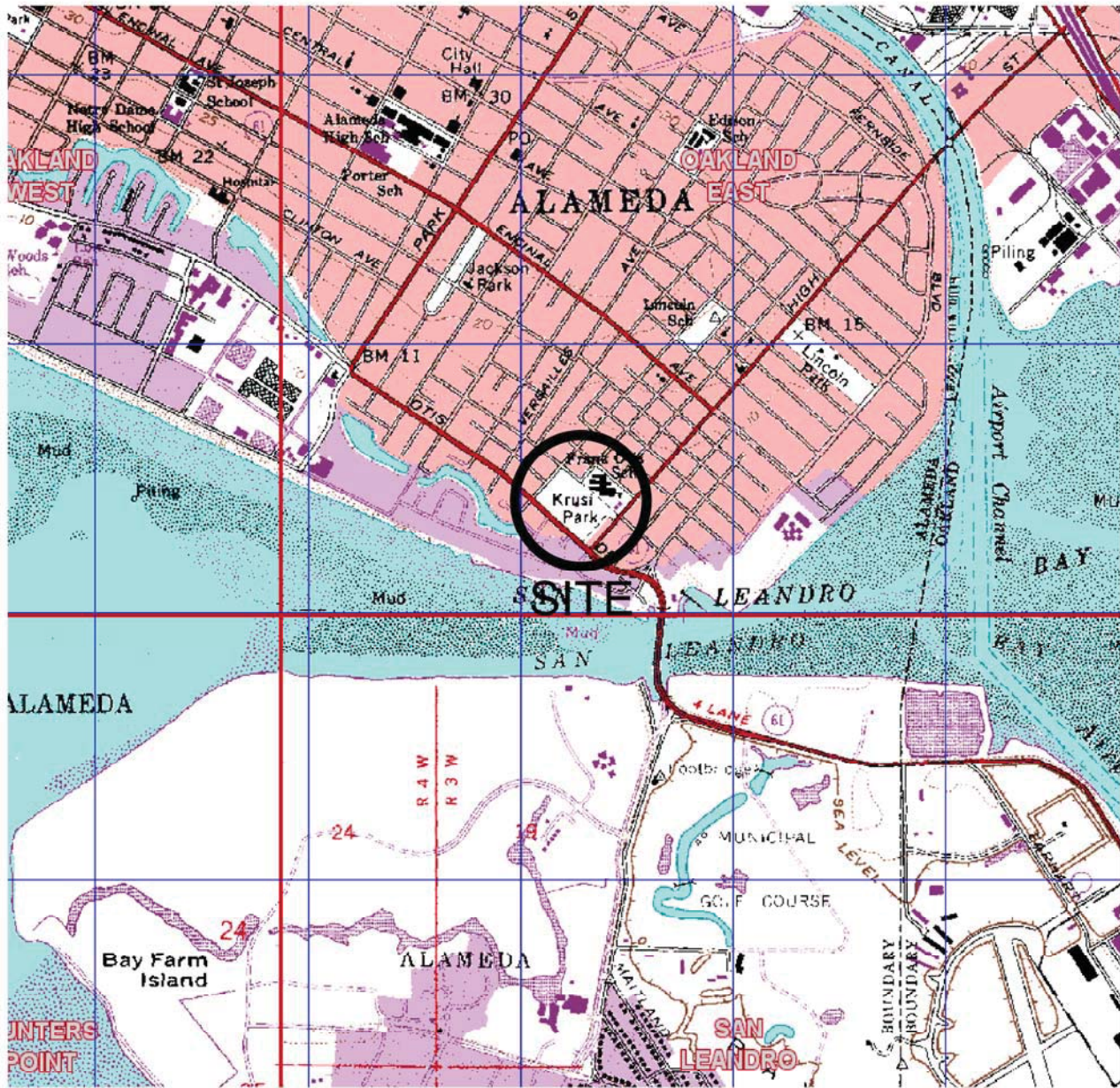
Benjamin S. Pappas  
Geotechnical Engineer 2786  
(Expires 9/30/18)



Scott Stephens  
Geotechnical Engineer No. 2398  
(Expires 6/30/17)

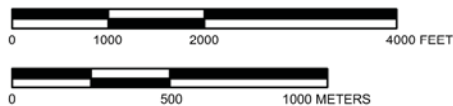
Attachments: Figures 1 through 7





## SITE LOCATION

SCALE



REFERENCE: DeLorme 3D TopoQuads, 1999

**Miller Pacific**  
ENGINEERING GROUP

### SITE LOCATION MAP

Carducci - Krusi Park  
Alameda, California

Drawn NGK  
Checked

**1**  
FIGURE





NOT TO SCALE



Location of MPEG Boring, 9/22/11



REFERENCE: Google Earth

**Miller Pacific**  
ENGINEERING GROUP

A CALIFORNIA CORPORATION, © 2010, ALL RIGHTS RESERVED  
FILE: 1049.05 SM.dwg

504 Redwood Blvd.  
Suite 220  
Novato, CA 94947  
T 415 / 382-3444  
F 415 / 382-3450  
www.millerpac.com

# SITE MAP

Carducci - Krusi Park  
Alameda, California

Drawn NGK  
Checked

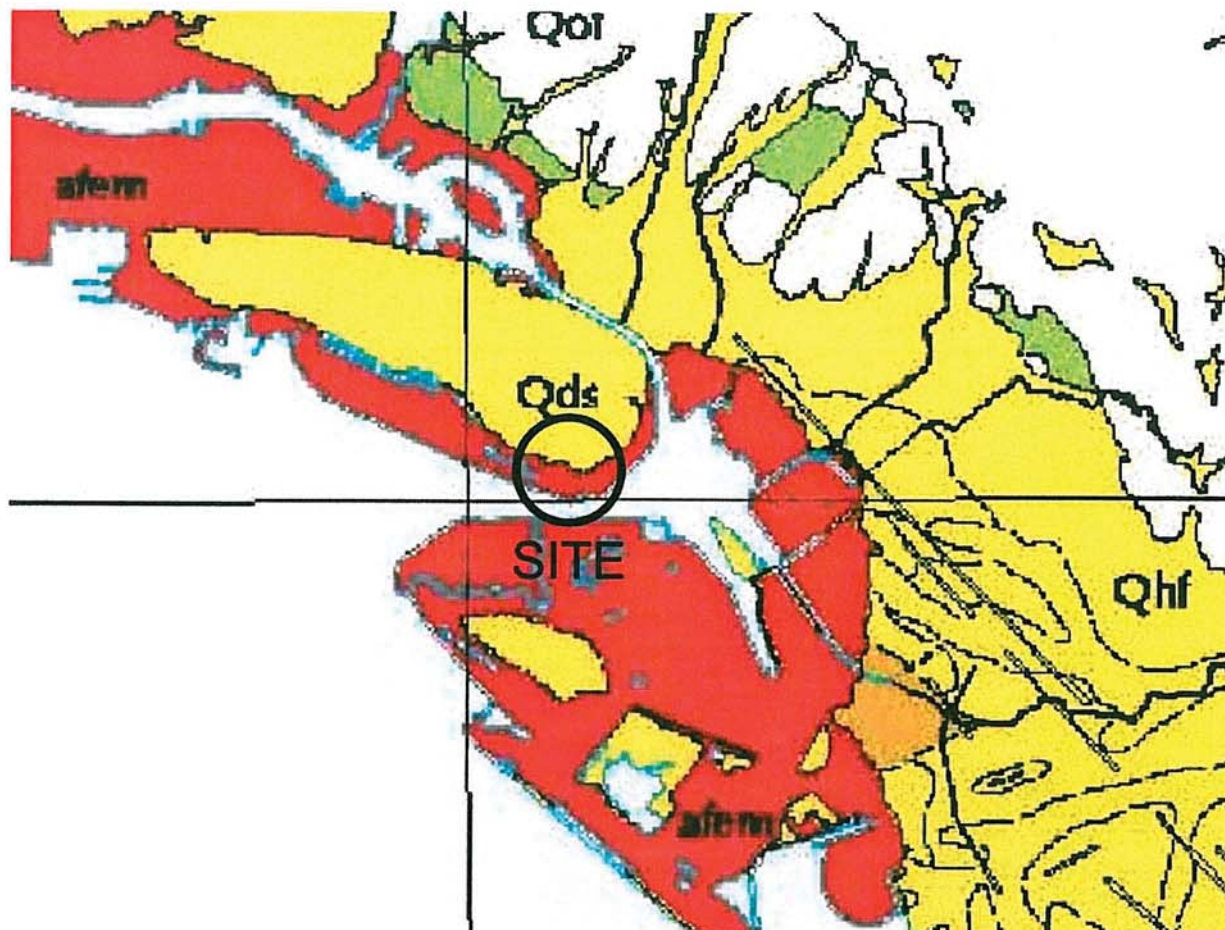
Project No. 1049.05

Date: 10/6/11

2

FIGURE





NOT TO SCALE

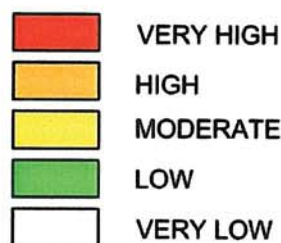


**LEGEND:**

**afem** Artificial Fill - Man made deposits with varying age and material type. Liquefaction susceptibility of artificial fill can be High or Very High based on the historical occurrence of liquefaction within or near these bodies.

**Qds** Dune Sand- Medium to fine-grained, very well sorted, well-drained eolian deposits of western Alameda County. Liquefaction susceptibility may be high where ground water is shallow and sand is Holocene in age.

**LIQUEFACTION SUSCEPTIBILITY**



**REFERENCE:** Robert C. Witter, Keith L. Knudsen, Janet M. Sowers, Carl M. Wentworth, Richard D. Koehler, and Carolyn E. Randolph, 2006, U.S. Geological Survey, Open-File Report OF-06-1037, scale 1:200000.

**Miller Pacific**  
ENGINEERING GROUP

504 Redwood Blvd.  
Suite 220  
Novato, CA 94947  
T 415 / 382-3444  
F 415 / 382-3450  
www.millerpac.com

**GEOLOGIC & LIQUEFACTION MAP**

Carducci - Krusi Park  
Alameda, California

Drawn NGK  
Checked

**3**

**FIGURE**





SITE COORDINATES: LAT. 38.0896° LON. -122.6055°

**DATA SOURCE:**

1) U.S. Geological Survey, U.S. Department of the Interior, "Earthquake Outlook for the San Francisco Bay Region 2014-2043", Map of Known Active Faults in the San Francisco Bay Region, Fact Sheet 2016-3020, Revised August 2016 (ver. 1.1).



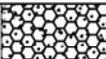
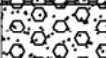

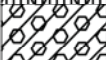

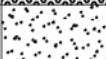
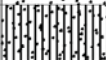







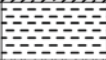

A CALIFORNIA CORPORATION, © 2013, ALL RIGHTS RESERVED  
FILE: 1049.05 FM.dwg

504 Redwood Blvd.  
Suite 220  
Novato, CA 94947  
T 415 / 382-3444  
F 415 / 382-3450

www.millerpac.com

Project No. 1049.05

Date: 11/16/16







MAJOR DIVISIONS		SYMBOL	DESCRIPTION	
COARSE GRAINED SOILS over 50% sand and gravel	CLEAN GRAVEL	GW		Well-graded gravels or gravel-sand mixtures, little or no fines
		GP		Poorly-graded gravels or gravel-sand mixtures, little or no fines
	GRAVEL with fines	GM		Silty gravels, gravel-sand-silt mixtures
		GC		Clayey gravels, gravel-sand-clay mixtures
	CLEAN SAND	SW		Well-graded sands or gravelly sands, little or no fines
		SP		Poorly-graded sands or gravelly sands, little or no fines
	SAND with fines	SM		Silty sands, sand-silt mixtures
		SC		Clayey sands, sand-clay mixtures
FINE GRAINED SOILS over 50% silt and clay	SILT AND CLAY liquid limit <50%	ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL		Organic silts and organic silt-clays of low plasticity
	SILT AND CLAY liquid limit >50%	MH		Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
		CH		Inorganic clays of high plasticity, fat clays
		OH		Organic clays of medium to high plasticity
HIGHLY ORGANIC SOILS		PT		Peat, muck, and other highly organic soils
ROCK				Undifferentiated as to type or composition

## KEY TO BORING AND TEST PIT SYMBOLS

### CLASSIFICATION TESTS

PI	PLASTICITY INDEX
LL	LIQUID LIMIT
SA	SIEVE ANALYSIS
HYD	HYDROMETER ANALYSIS
P200	PERCENT PASSING NO. 200 SIEVE
P4	PERCENT PASSING NO. 4 SIEVE

### SAMPLER TYPE

	MODIFIED CALIFORNIA		HAND SAMPLER
	STANDARD PENETRATION TEST		ROCK CORE
	THIN-WALLED / FIXED PISTON		DISTURBED OR BULK SAMPLE

NOTE: Test boring and test pit logs are an interpretation of conditions encountered at the excavation location during the time of exploration. Subsurface rock, soil or water conditions may vary in different locations within the project site and with the passage of time. Boundaries between differing soil or rock descriptions are approximate and may indicate a gradual transition.

### STRENGTH TESTS

TV	FIELD TORVANE (UNDRAINED SHEAR)
UC	LABORATORY UNCONFINED COMPRESSION
TXCU	CONSOLIDATED UNDRAINED TRIAXIAL
TXUU	UNCONSOLIDATED UNDRAINED TRIAXIAL
UC, CU, UU = 1/2 Deviator Stress	

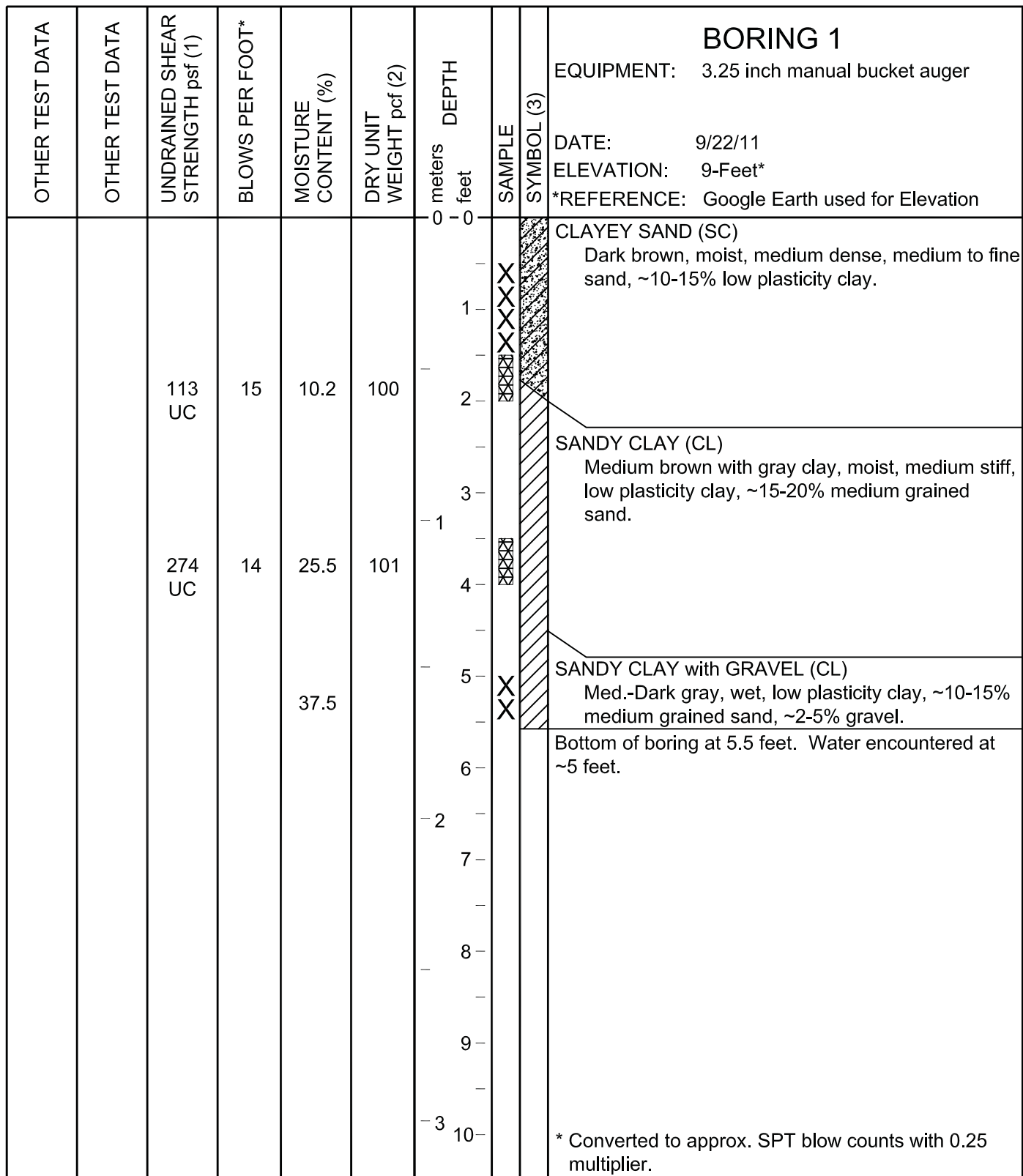
### SAMPLER DRIVING RESISTANCE

Modified California and Standard Penetration Test samplers are driven 18 inches with a 140-pound hammer falling 30 inches per blow. Blows for the initial 6-inch drive seat the sampler. Blows for the final 12-inch drive are recorded onto the logs. Sampler refusal is defined as 50 blows during a 6-inch drive. Examples of blow records are as follows:

- 25 sampler driven 12 inches with 25 blows after initial 6-inch drive
- 85/7" sampler driven 7 inches with 85 blows after initial 6-inch drive
- 50/3" sampler driven 3 inches with 50 blows during initial 6-inch drive or beginning of final 12-inch drive

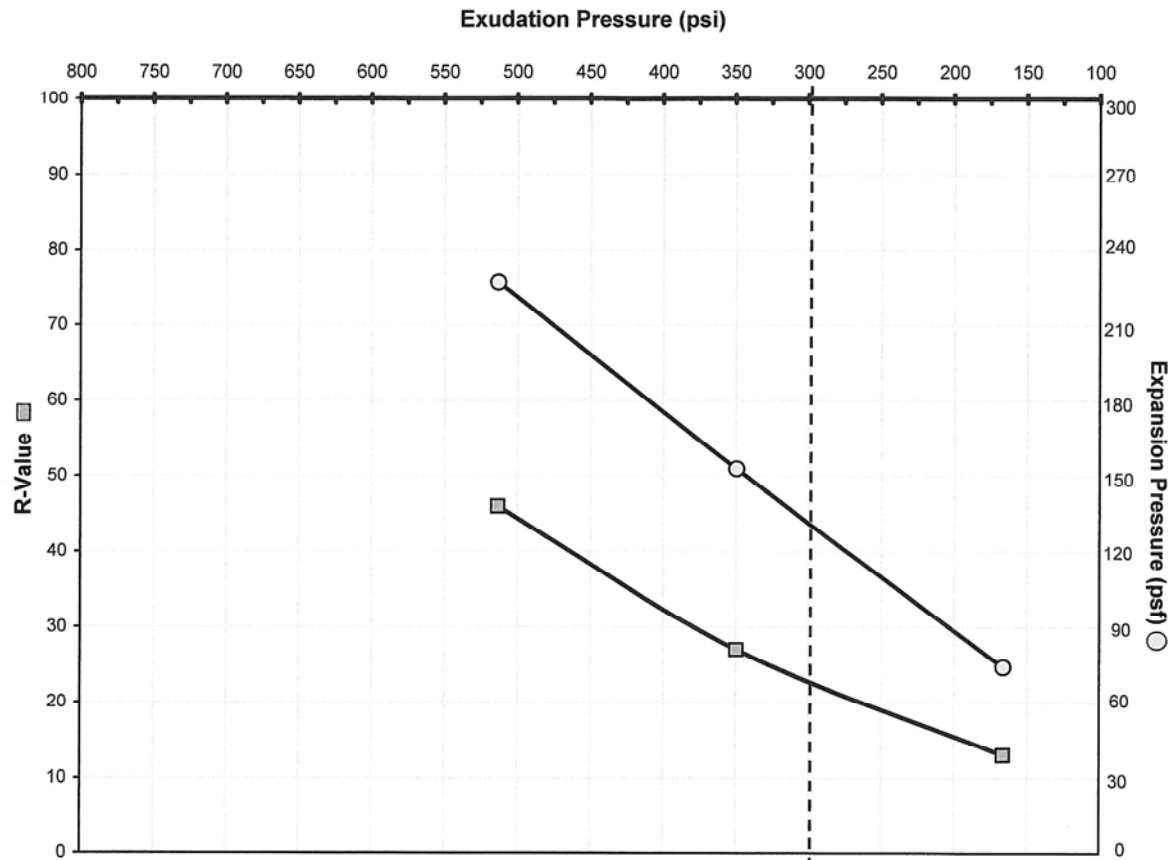
<b>Miller Pacific</b> ENGINEERING GROUP	504 Redwood Blvd. Suite 220 Novato, CA 94947 T 415 / 382-3444 F 415 / 382-3450 www.millerpac.com	SOIL CLASSIFICATION		<div>Drawn NGK</div> <div>Checked</div>	<div>5</div> <div>FIGURE</div>
	Carducci - Krusi Park Alameda, California	Project No. 1049.05	Date: 10/6/11		





NOTES: (1) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)  
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m<sup>3</sup> = 0.1571 x DRY UNIT WEIGHT (pcf)  
(3) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

# R-VALUE TEST REPORT



Test Data & Conditions for Each Point		Wet Weight, gm: 575.6, 553.9, 703.8			Total Weight, gm: 3015.0, 3052.0, 3046.0				
		Dry Weight, gm: 503.5, 492.4, 624.6			Mold Weight, gm: 1971.0, 1966.0, 1956.0				
		Tare Weight, gm: 101.8, 103.3, 102.1			Exudate Load (lbs.): 2089, 4390, 6444				
Test Point	Moisture %	Density pcf	Sample Ht. in.	Horizontal Pres. @ 160 psi	Compaction Pressure	Expansion Pressures	Exudation Pressure	R Value	R-Value (corrected)
1	17.9	107.3	2.50	120	200 psi	74 psf	166 psi	13	13
2	15.8	112.4	2.53	94	245 psi	153 psf	349 psi	27	27
3	15.2	115.2	2.49	63	300 psi	227 psf	513 psi	46	46
Sample No.:		04628-1		Sample Description:		Brown Clayey Sand (SC)		Exp.Pres. @ 300 psi	
								R Value @ 300 psi	
						Exudate Pressure		131 psf	
								23	

**Miller Pacific**  
ENGINEERING GROUP

A CALIFORNIA CORPORATION, © 2010, ALL RIGHTS RESERVED  
FILE: 1049.05 R\_Value.dwg

504 Redwood Blvd.  
Suite 220  
Novato, CA 94947  
T 415 / 382-3444  
F 415 / 382-3450  
www.millerpac.com

R-Value

Carducci - Krusi Park  
Alameda, California

Project No. 1049.05

Date: 10/6/11

Drawn NGK  
Checked

**7**  
FIGURE

## **APPENDIX C:**

### **ASBESTOS SURVEY and LEAD TESTING REPORT**



HAZARDOUS MATERIALS ASSESSMENT, INC.

John McDonald  
City of Alameda Parks Department  
2226 Santa Clara Avenue  
Alameda, CA 94501

[jmcdonal@ci.alameda.ca.us](mailto:jmcdonal@ci.alameda.ca.us)

August 16, 2012

**RE: ASBESTOS SURVEY #12.209 and Lead Testing:**

Effective August 13, 2012, HMA was asked to provide an inspection and report on present and/or potential asbestos hazards relative to asbestos containing building materials (ACBM) of a building located at 3001 Otis Drive Restroom facilities building, Alameda, California. Also requested was lead testing for OSHA pre-demolition and 40 CFR 745 compliance purposes.

**PROTOCOL:**

It was reported that the structure has been scheduled for demolition. Therefore, the survey was conducted in conformance with the Bay Area Air Quality Management District's Regulation 11, Rule 2, Section 303.8. The survey was conducted by an asbestos consultant who has been certified by the State of California's Division of Occupational Safety and Health, and accredited under the EPA AHERA program for building inspection and management planning for asbestos. PLM laboratory analysis was conducted by an independent NVLAP accredited facility. The lead-based paint portion of the inspection was conducted by an inspector certified by the State of California Department of Health Services as a Lead-Related Construction Inspector/Assessor. Atomic Absorption Spectrometry laboratory analysis for lead based paint was conducted by an independent NVLAP and AIHA accredited facilities.

**INSPECTION and SAMPLES:**

**Asbestos:**

The structure was a wood framed, restroom and maintenance building with rolled roofing and wood exterior. Samples were collected of the **roofing** and laboratory analysis found no asbestos detected.

Samples were collected of the **exterior window grout** and laboratory analysis found no asbestos detected.

**Interior walls and ceilings** were variously plaster, ceramic tile and wood. Samples were collected of the plaster and of the ceramic tile backer. Laboratory analysis indicated no asbestos detected.

No suspect heating system was present.

Piping was not insulated.

**No suspect flooring was identified.**

No other suspect asbestos materials were identified.

#### **Lead-Based Paint:**

Chip samples were collected of the **various paints scheduled for disturbance** to determine risk potential and OSHA compliance for demolition purposes. Five (5) various paints and one (1) ceramic tile was identified as representative, recognizing that samples may be multi-layered:

Sample	Location	Substrate	% lead	EPA lead?	OSHA lead?
L101	Exterior trim	Wood	0.33%	No	Yes
L102	Exterior siding	Wood	0.13%	No	Yes
L103	Interior bathroom tile walls	Ceramic tile	0.008%	No	No
L104	Interior wall	Plaster	0.006%	No	No
L105	Interior trim	Wood	0.17%	No	Yes
L106	Interior wall	Wood	0.13%	No	Yes

(per Ryan Compton, HMA, Inc. (12/7/16):  
This identifies Lead-CONTAINING paint - NOT Lead-BASED paint. Per Cal OSHA; subject to guidelines of Title 8 (DIR), Section 1532.1; ... routine worker "occupationally exposed to lead" precautions; (am led to believe no respirators or monitoring required, no special disposal requirements either. No precautions over and above 'routine stuff', although am not sure how the %lead numbers below relate to any airborne concentration "micrograms per cubic meter of air" levels?).  
- Jack Dybas, Public Works

**None of the paints or the ceramic tile were found to be above the EPA definition of lead-based paint. Four paints were above the laboratory detection limit, and therefore above the Cal-OSHA level of detectable lead content.**

#### **SUMMARY**

Samples were collected of the suspect materials, and none were found to contain greater than 1% asbestos.

Samples were collected of the suspect paints & ceramic tile and none were found to contain greater than 0.5% lead. For OSHA compliance purposes, four of the paint sample results were above the detection limit, and therefore are considered lead-containing for OSHA purposes.

If there is additional information needed or if we can be of further assistance please feel free to contact us.

Sincerely,

Ryan T. Compton

Certified Asbestos Consultant 09-4481

Certified Lead Insp. Assmnt. 20463

\* The inspection and inspection report is for the sole use and benefit of Client and is not intended for use by anyone but Client. Under no circumstances shall the inspection or report be for the benefit of any third party.



HAZARDOUS MATERIALS ASSESSMENT, INC.

John McDonald  
City of Alameda Parks Department  
2226 Santa Clara Avenue  
Alameda, CA 94501

August 16, 2012

**RE: ASBESTOS SURVEY #12.209 and Lead Testing:**

Effective August 13, 2012, HMA collected bulk samples of material and was asked to obtain laboratory analysis for possible asbestos content.

An independent NVLAP accredited laboratory performed analysis and results are reported as:

<u>Sample No.</u>	<u>Material</u>	<u>Area</u>	<u>% Asbestos<sup>1</sup></u>	<u>Type</u>
12.209-01	roofing	composition	none detected	
12.209-02	grout	window grout	none detected	
12.209-03	plaster	interior wall/ceiling	none detected	
12.209-04	mortar	ceramic backer	none detected	
12.209-05	plaster	interior wall/ceiling	none detected	

If there is additional information required, or if we can be of further assistance, please feel free to contact us.

Sincerely,

Ryan T. Compton  
Certified Asbestos Consultant 09-4481

<sup>1</sup> Comments: Analysis employs Polarized Light Microscopy, and is performed by an analyst qualified under the EPA bulk asbestos proficiency-testing program at an NVLAP accredited laboratory. In cases where sample analysis finds asbestos present, but in concentrations of less than one percent (<1%), such samples are designated at "trace" amounts.



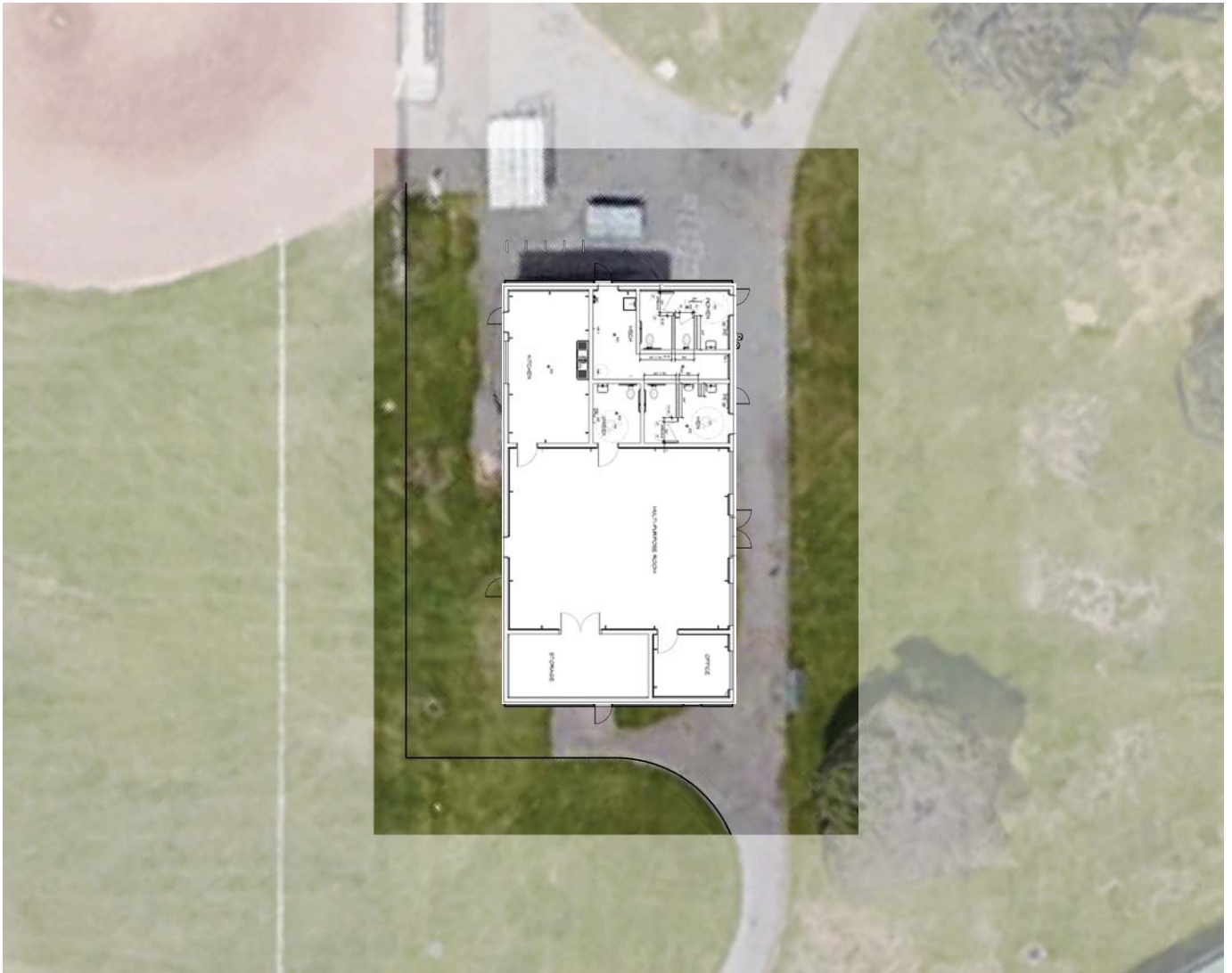
## **APPENDIX D:**

PHASED PERMIT SUBMITTAL; CRITERIA and  
REQUIREMENTS for MODULAR PRE-MANUFACTURED  
BUILDING

**PROVIDED FOR REFERENCE ONLY**

# Phased Permit Submittal Requirement for **KRUSI PARK RECREATIONAL BUILDING REPLACEMENT**

*A MODULAR, PREMANUFACTURED BUILDING*



**Owner**

Alameda Parks and Recreation Department  
2226 Santa Clara Ave.  
Alameda, CA 94501

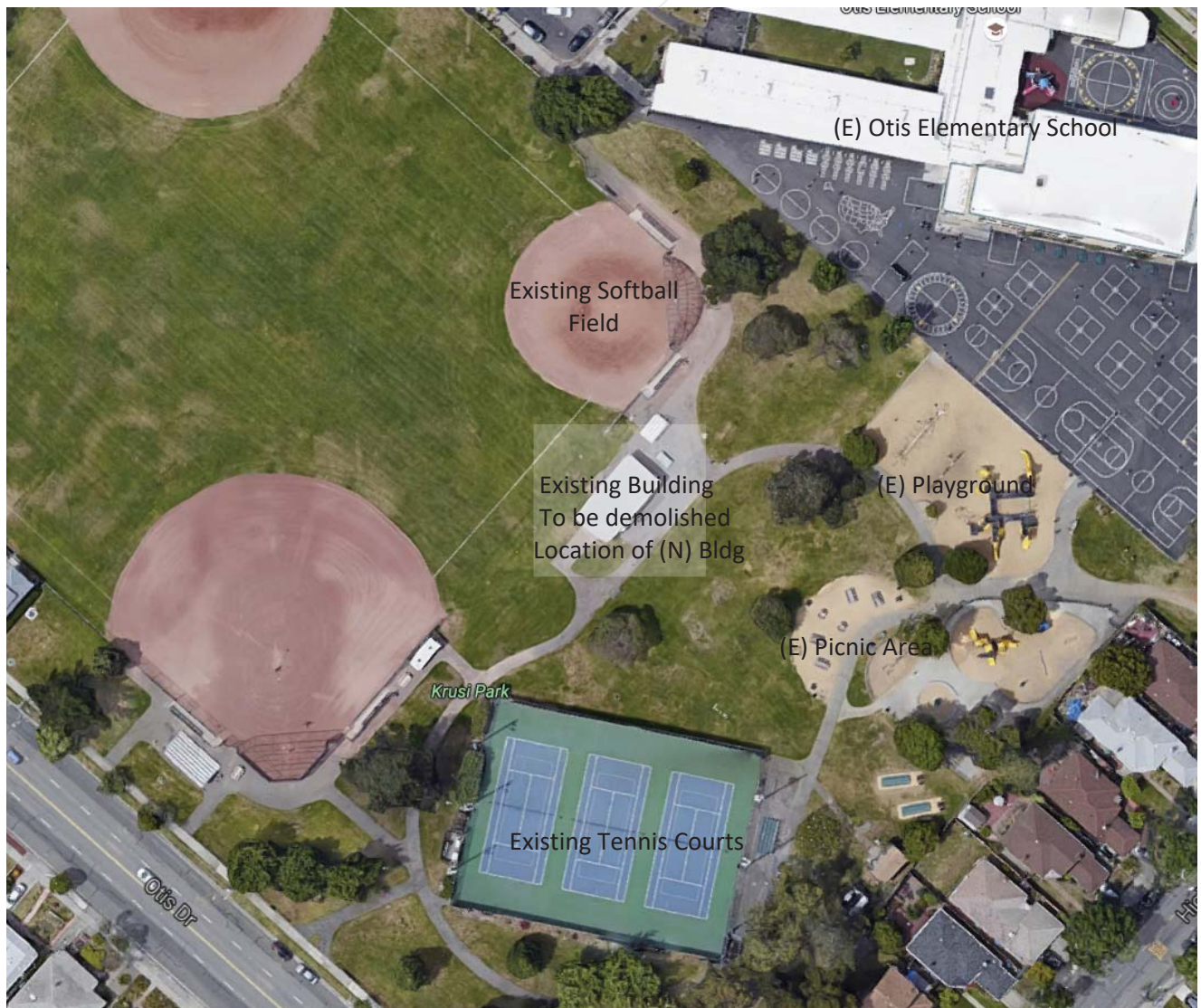
**Architect**

Prime

Group 4 Architecture Research + Planning, Inc.  
211 Linden St.  
South San Francisco, CA 94080

Modular Deferred Submittal

## Site Diagram and Photographs







View towards South from the existing softball field cage



View towards Southeast/Picnic area from existing building location





View towards Southwest showing existing building to be demolished



View toward Northeast showing existing building to be demolished





View towards West showing existing building to be demolished.



General New Building Layout



## ***Appendix***

See attached drawings:

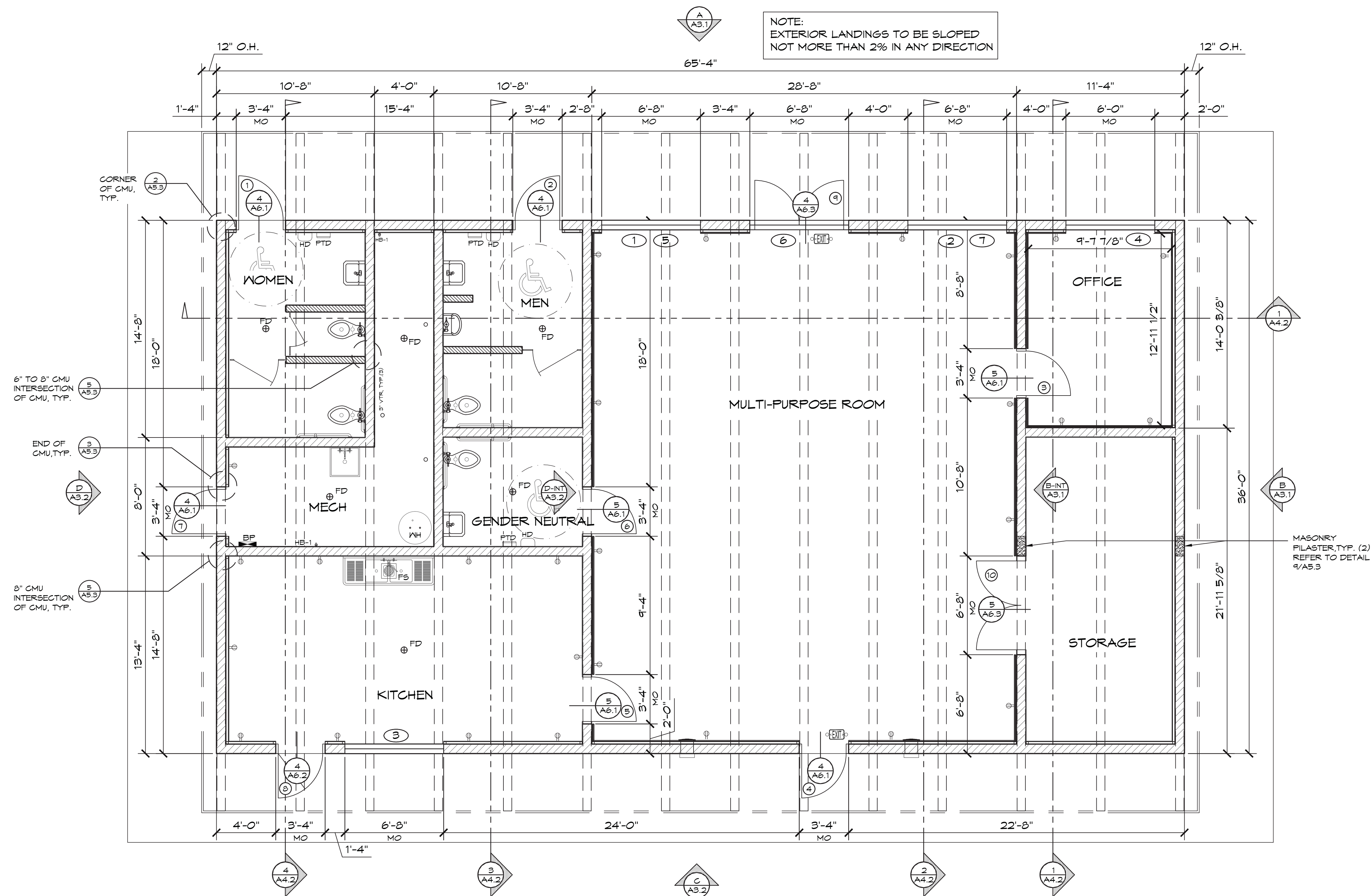
Propose Floor Plan

Exterior Elevations

Roof Plan

Sections

Conceptual rendering



**1 FLOOR PLAN**  
 SCALE: 1/4" = 1'-0"  
 TRUE NORTH

**WALL TYPE SCHEDULE**

- 8" REINFORCED CONCRETE MASONRY BLOCK WALL WITH MORTAR JOINTS, GROUTED SOLID ALL CELLS RUNNING BOND PATTERN.
- 6" REINFORCED CONCRETE MASONRY BLOCK WALL WITH MORTAR JOINTS, GROUTED SOLID ALL CELLS RUNNING BOND PATTERN.

NOTE:  
 FIXTURES AND ACCESSORIES ARE DIMENSIONED ON SHEETS A2.2 - A2.4

NOTE:  
 EXTERIOR LANDINGS TO BE SLOPED NOT MORE THAN 2% IN ANY DIRECTION

© 2018 ROMTEC, INC. ALL RIGHTS RESERVED. THESE PLANS AND DRAWINGS MAY NOT BE REPRODUCED, ADAPTED OR FURTHER DISTRIBUTED, AND NO BUILDINGS MAY BE CONSTRUCTED FROM THESE PLANS, WITHOUT THE WRITTEN PERMISSION OF ROMTEC, INC.

PROJECT: CUSTOM SIERRA II MULTI-USER RESTROOM IV OFFICE & STORAGE

**KRUSI PARK RENOVATIONS**  
 ALAMEDA, CALIFORNIA  
 SHEET TITLE:  
**FLOOR PLAN**

PLAN SET#  
**18882**  
 DATE:  
**08/16/2018**  
 DRAWN BY:  
**CR**  
 SHEET NO.  
**A2.1**

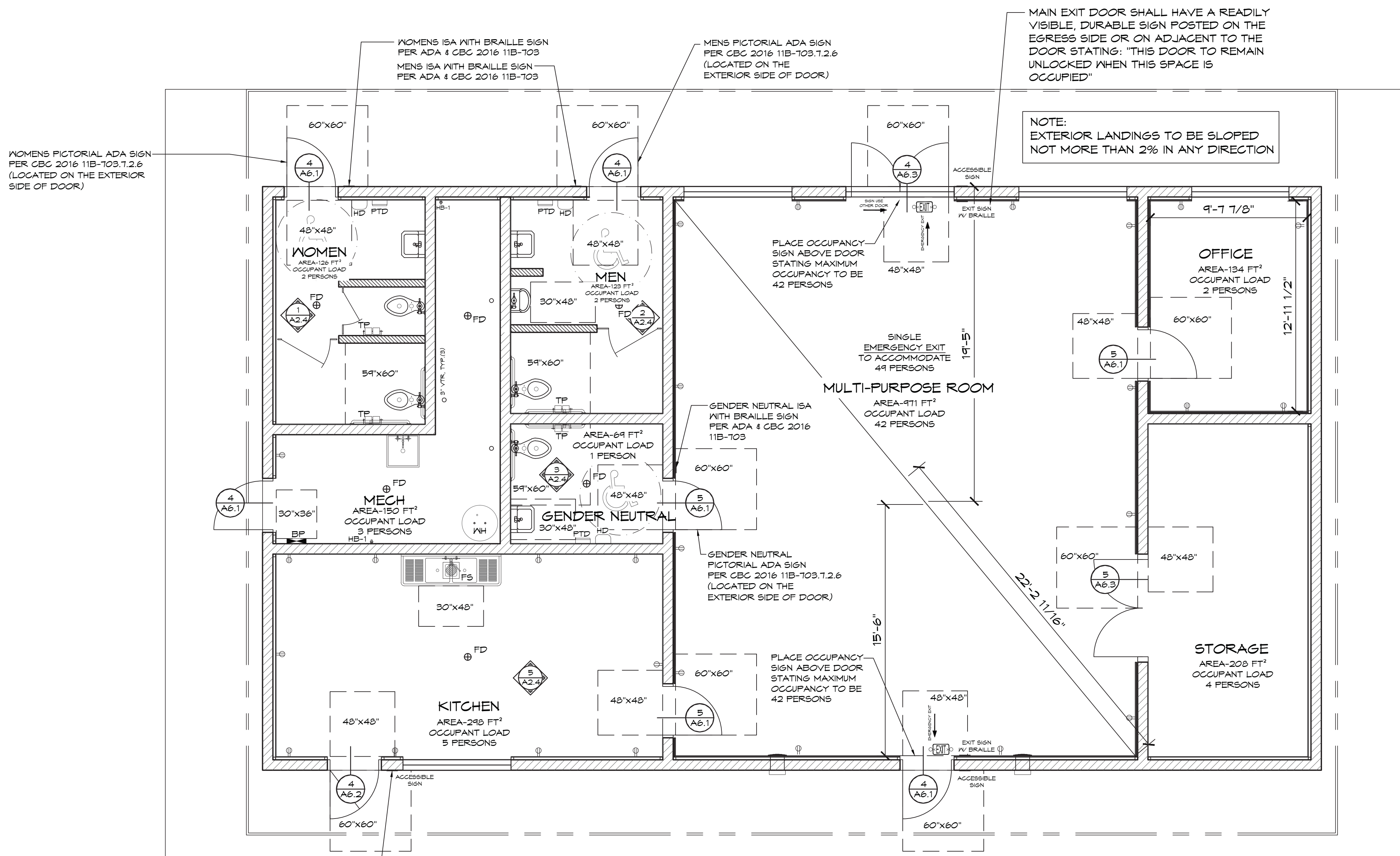
Precision Structural Engineering, Inc.  
 2501 Main Street, Suite 100, Roseburg, OR 97470  
 (541) 486-3541 FAX (541) 486-0803

**ROMTEC**  
 18240 NORTH BANK ROAD  
 ROSEBURG, OR 97470  
 (541) 486-3541 FAX (541) 486-0803

08/16/2018  
**CMKBD**  
 Cassandra Ruport  
 ID #1063772  
 EXPIRES: 01/01/2020

REV	DATE	BY	DESCRIPTION
1	1/15/2018	CR	ENGINEER REVISES & CUSTOMER COMMENTS
2	8/16/2018	CR	PLAN REVIEW COMMENTS

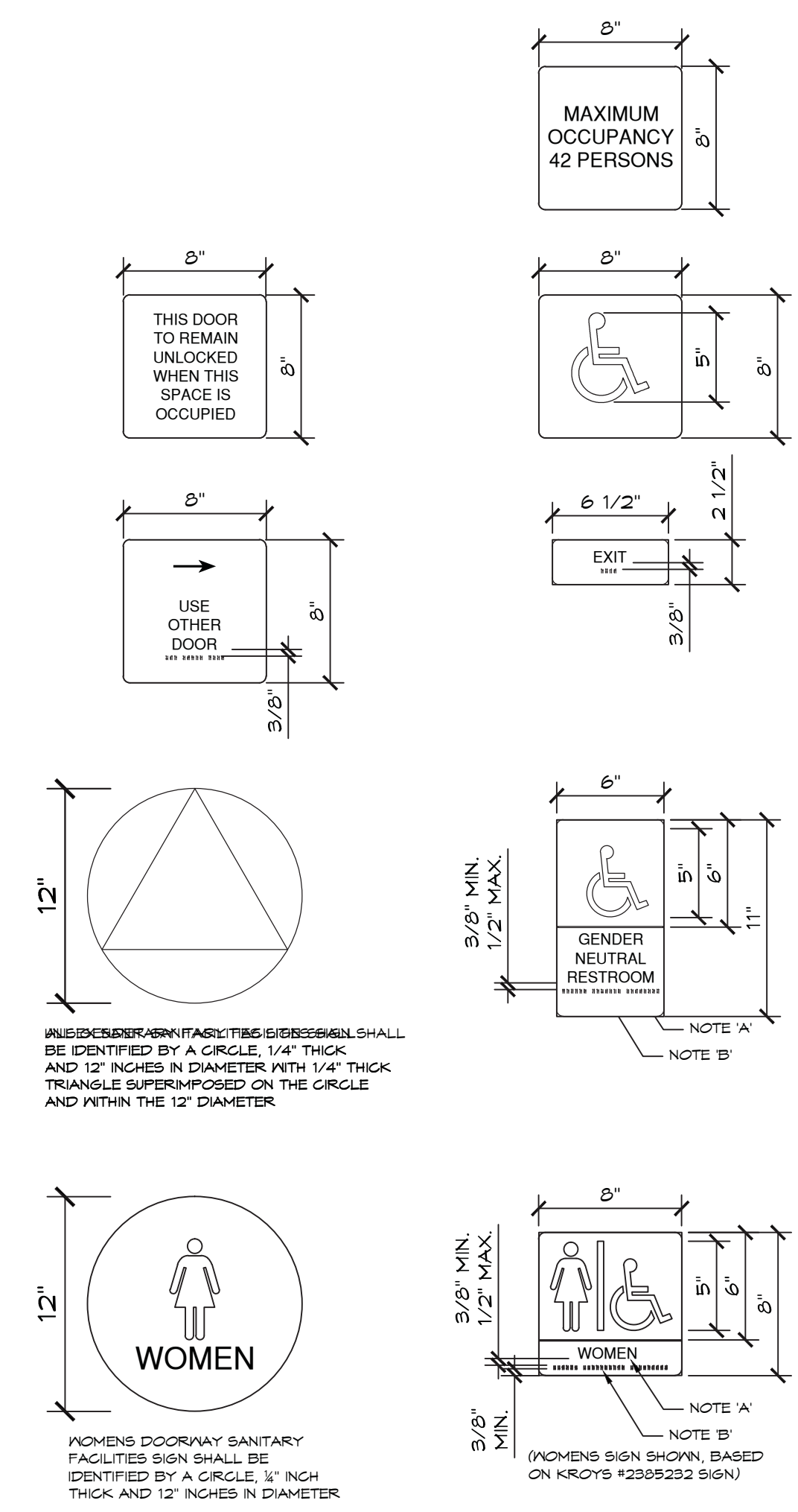




MAIN EXIT DOOR SHALL HAVE A READILY VISIBLE, DURABLE SIGN POSTED ON THE EGRESS SIDE OR ON ADJACENT TO THE DOOR STATING: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED," PER CBC 1010.1.9.3.

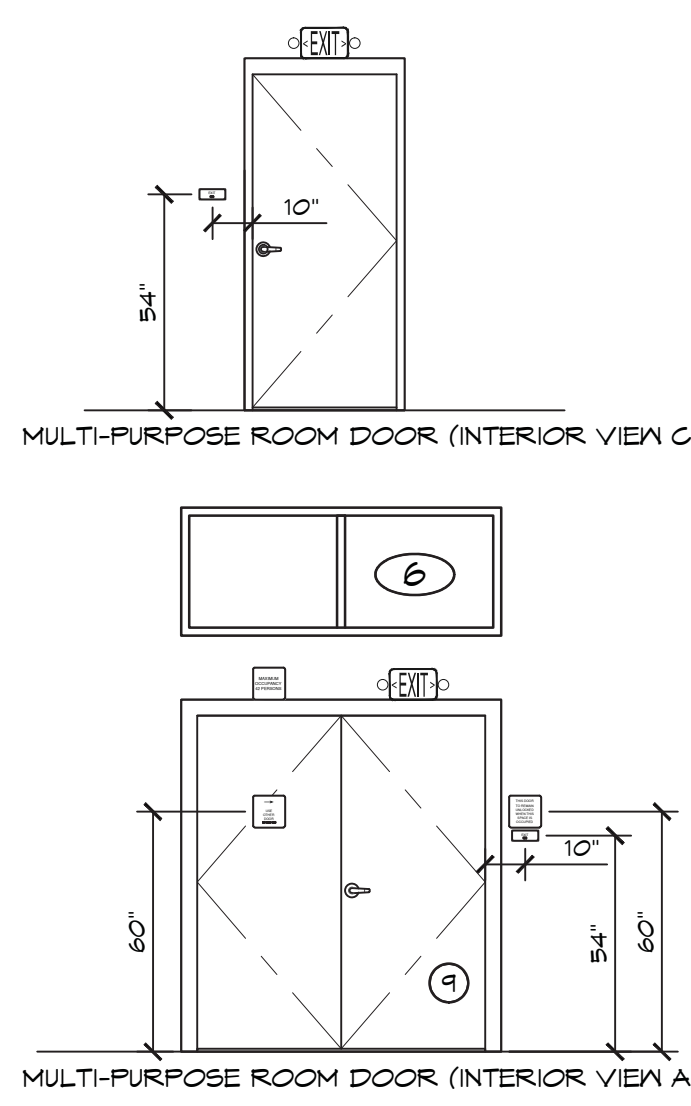
**OCCUPANT LOAD**  
BASED ON THE PROPOSED EGRESS 49 OCCUPANTS WOULD BE ALLOWED FOR ONE EXIT FROM THE MULTI-PURPOSE ROOM.  
NEXT THE PEOPLE OUTDOOR AIRFLOW WAS TAKEN INTO CONSIDERATION SINCE THE MULTI-PURPOSE ROOM WILL BE MAIN USED FOR EDUCATIONAL ACTIVITIES - MEDIA, DAYCARE, CLASSROOM, ART, SCIENCE LABORATORIES, WOOD & METAL SHOP, COMPUTER A REQUIREMENT OF 20 CFM PER PERSON IS REQUIRED WHICH WOULD ALLOW 42 OCCUPANTS IN THE MAIN AREA.

NOTE:  
EXTERIOR LANDINGS TO BE SLOPED NOT MORE THAN 2% IN ANY DIRECTION

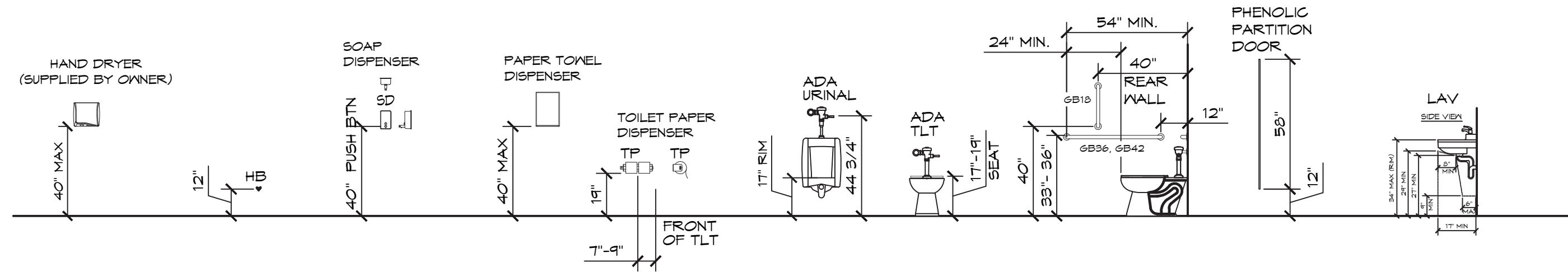


NOTE: ALL SIGNS SHALL COMPLY WITH 2016 CALIFORNIA BUILDING CODE (CBC) TITLE 24 SECTION 11B-103. THE SIGNS (SYMBOLS) SPECIFIED SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE EQUAL TO THE COLOR NO. 18090 IN THE FEDERAL STANDARD 395B.

NOTES:  
A) CHARACTERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SANS SERIF UPPERCASE CHARACTERS ACCOMPANIED BY GRADE II BRAILLE (WHERE REQUIRED). RAISED CHARACTERS SHALL BE A MINIMUM OF 5/8" INCH AND A MAXIMUM OF 2" INCHES HEIGHT.  
B) CONTRACTED GRADE II BRAILLE SHALL BE USED WHENEVER BRAILLE IS REQUIRED. DOTS SHALL BE 1/10TH INCH ON CENTERS IN EACH CELL WITH A 2/10TH INCH SPACE BETWEEN CELLS, MEASURED FROM THE SECOND COLUMN OF DOTS IN THE FIRST CELL TO THE FIRST COLUMN OF DOTS IN THE SECOND CELL. DOTS SHALL BE A MINIMUM OF 1/40TH (0.025) INCH ABOVE THE BACKGROUND.



1 EGRESS PLAN & ADA CLEARANCES  
SCALE: 1/4" = 1'-0"



2 ADA RESTROOM FIXTURE MOUNTING HEIGHT SCHEDULE  
SCALE: 1/4" = 1'-0"

3 ADA SIGN DETAIL  
SCALE: 1 1/2" = 1'-0"

DESCRIPTION	BY	DATE	REV	ENGINEER REVIEW COMMENTS	PLAN REVIEW COMMENTS
1	CR	1/15/2018	1		
2	CR	5/15/2018	2		

03/18/2019

**CMKBD**

Cassandra Kuyper

ID #1083772

EXPIRES: 01/01/2020

Precision Structural Engineering, Inc.

18240 NORTH BANK ROAD

ROSEBURG, OR 97470

(541) 496-3541 FAX (541) 496-0803

**ROMTEC**

PROJECT: CUSTOM SIERRA III MULTI-USER RESTROOM W/ OFFICE & STORAGE

KRUSI PARK RENOVATIONS

ALAMEDA, CALIFORNIA

SHEET TITLE:  
EGRESS PLAN & ADA CLEARANCES

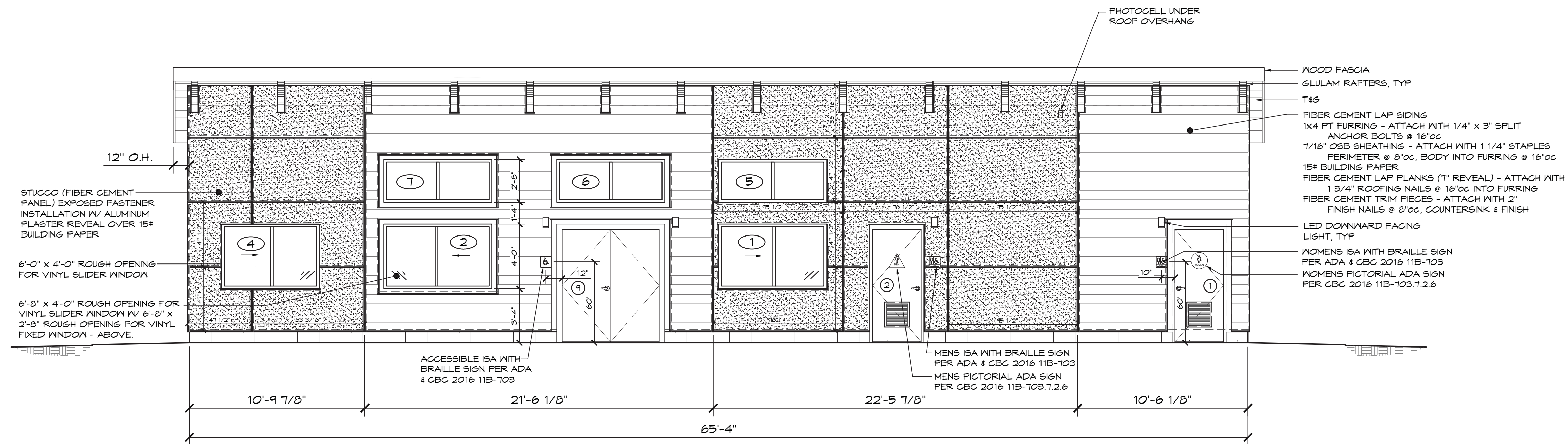
PLAN SET#  
**18882**

DATE:  
08/16/2018

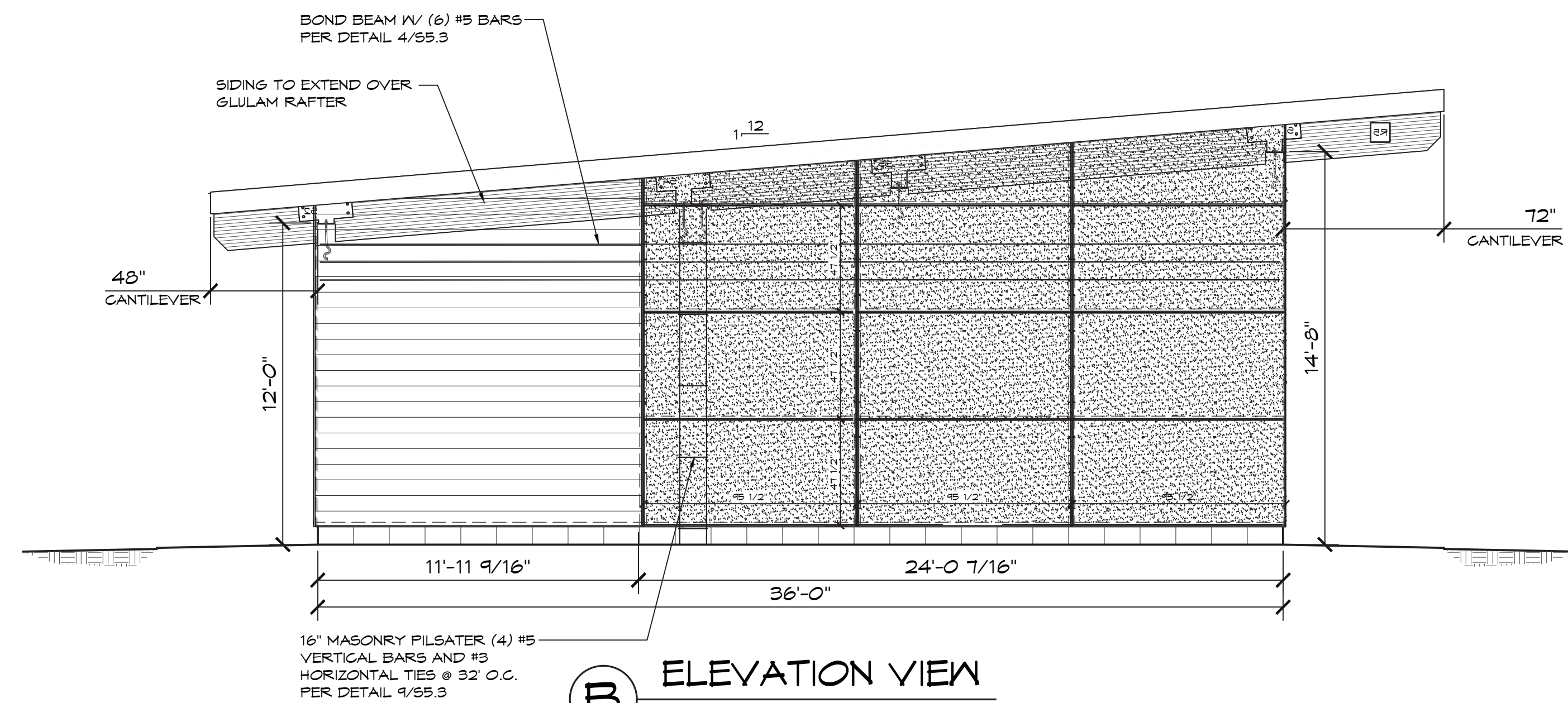
DRAWN BY:  
CR

SHEET NO.  
**A2.2**

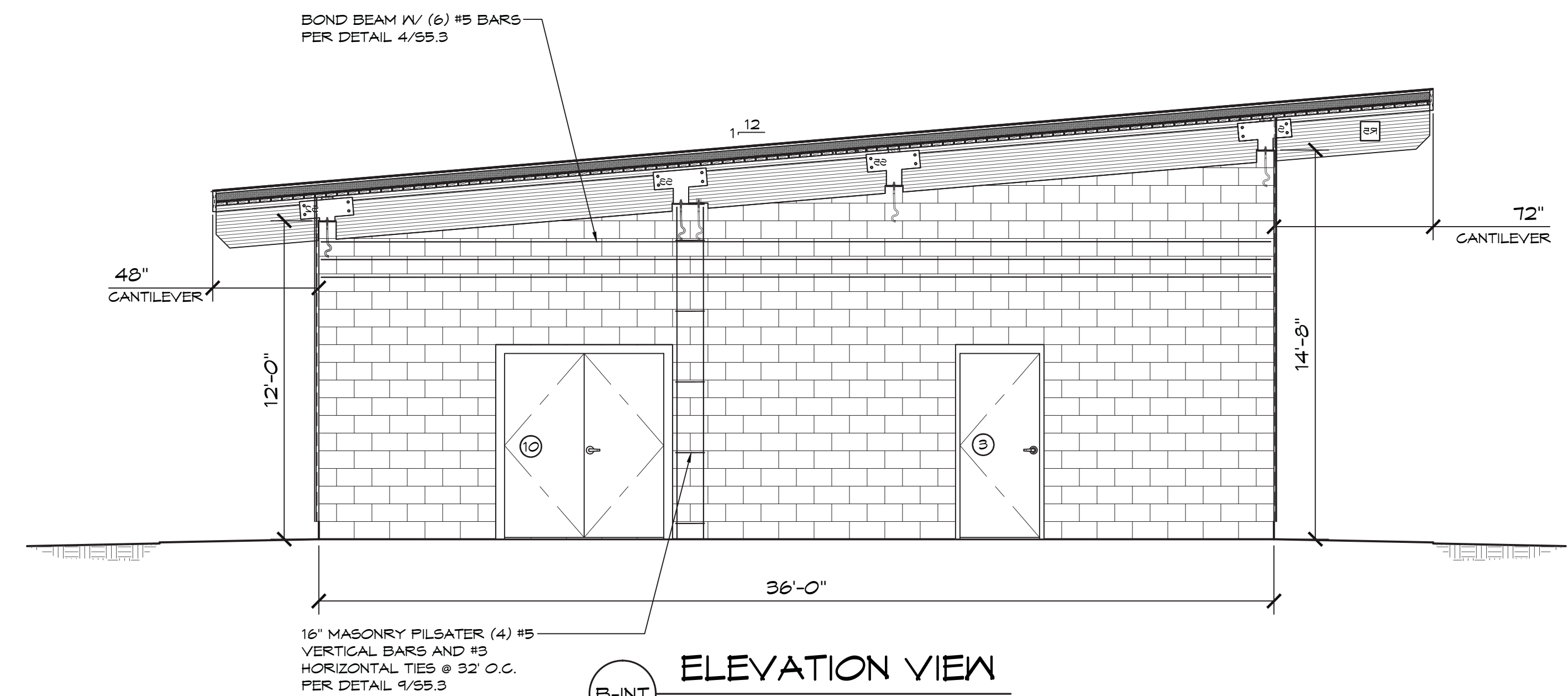




**A** ELEVATION VIEW  
SCALE: 1/4" = 1'-0"



**B** ELEVATION VIEW  
SCALE: 1/4" = 1'-0"



**B-INT** ELEVATION VIEW  
SCALE: 1/4" = 1'-0"

© 2018 ROMTEC, INC. ALL RIGHTS RESERVED. THESE PLANS AND DRAWINGS MAY NOT BE REPRODUCED, ADAPTED, OR FURTHER DISTRIBUTED AND NO BUILDING MAY BE CONSTRUCTED FROM THESE PLANS WITHOUT THE WRITTEN PERMISSION OF ROMTEC, INC.

PROJECT: CUSTOM SIERRA III MULTI-USER RESTROOM w/ OFFICE & STORAGE

**ROMTEC**  
KRUSI PARK RENOVATIONS  
ALAMEDA, CALIFORNIA

SHEET TITLE:  
EXTERIOR ELEVATIONS

PLAN SET#  
DATE: 08/16/2018  
DRAWN BY: CR  
SHEET NO.

188882

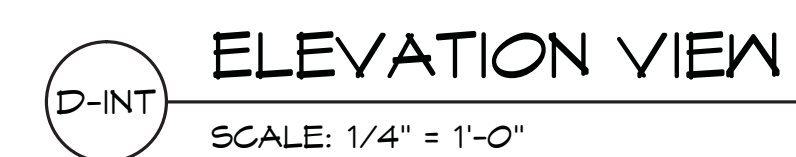
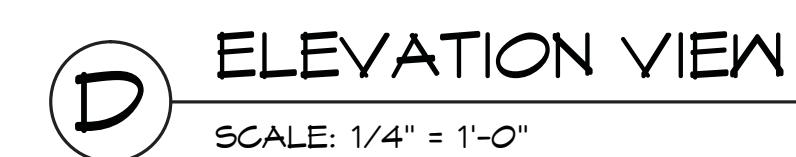
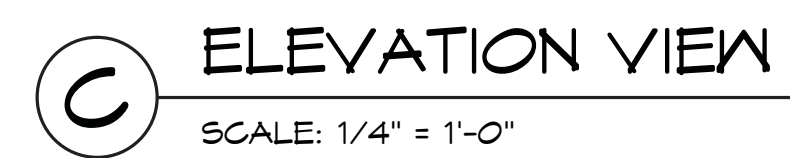
A3.1

Precision Structural Engineering, Inc.  
18240 NORTH BANK ROAD  
ROSEBURG, OR 97470  
(541) 496-3541 FAX (541) 496-0803

03/16/2019  
CMKBD  
Cassandra Report  
ID #1063772  
Expires: 01/01/2020

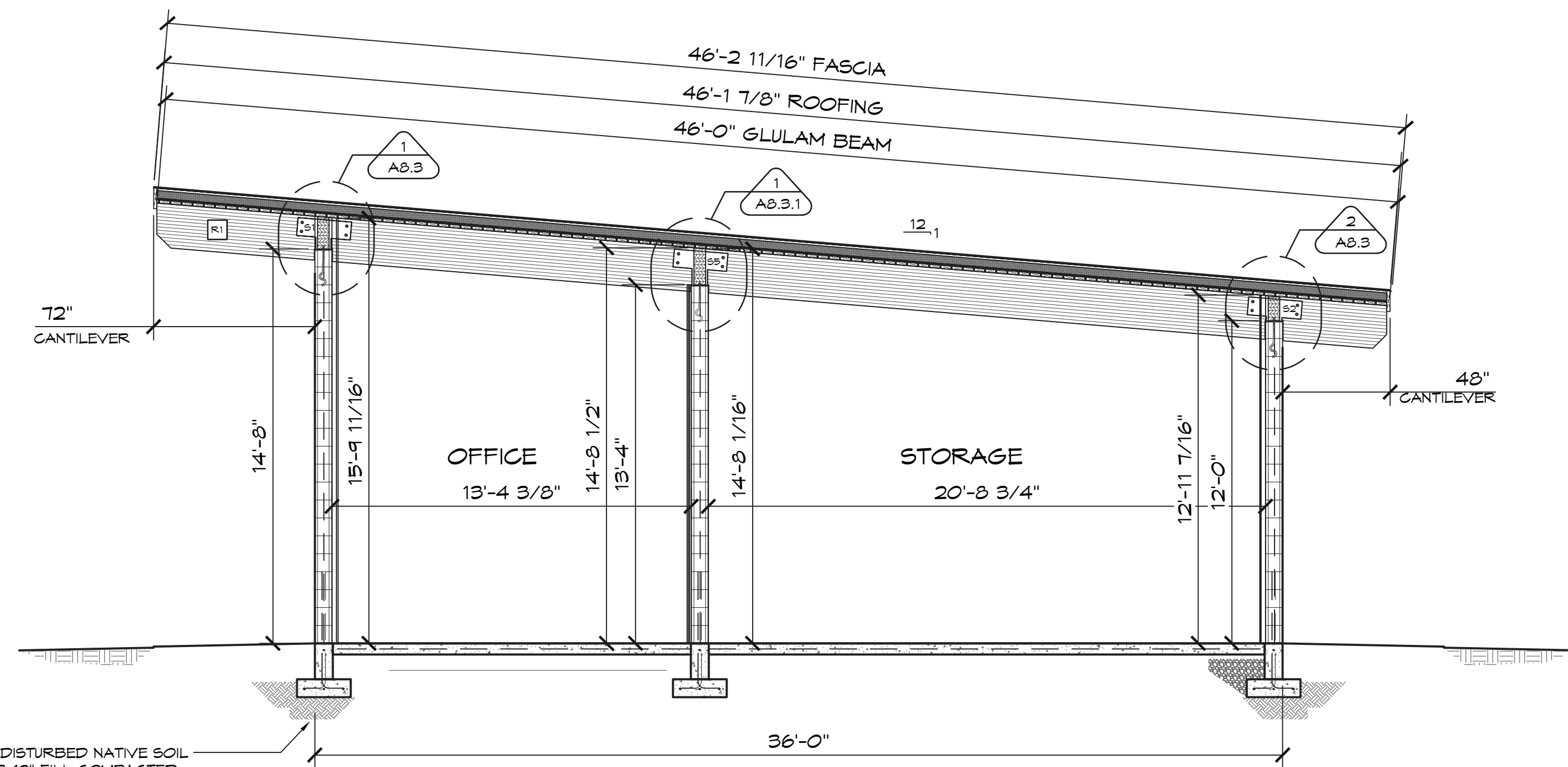
REV	DATE	BY	DESCRIPTION
1	1/15/2018	CR	ENGINEER REDLINES & CUSTOMER COMMENTS
2	8/16/2018	CR	PLAN REVIEW COMMENTS



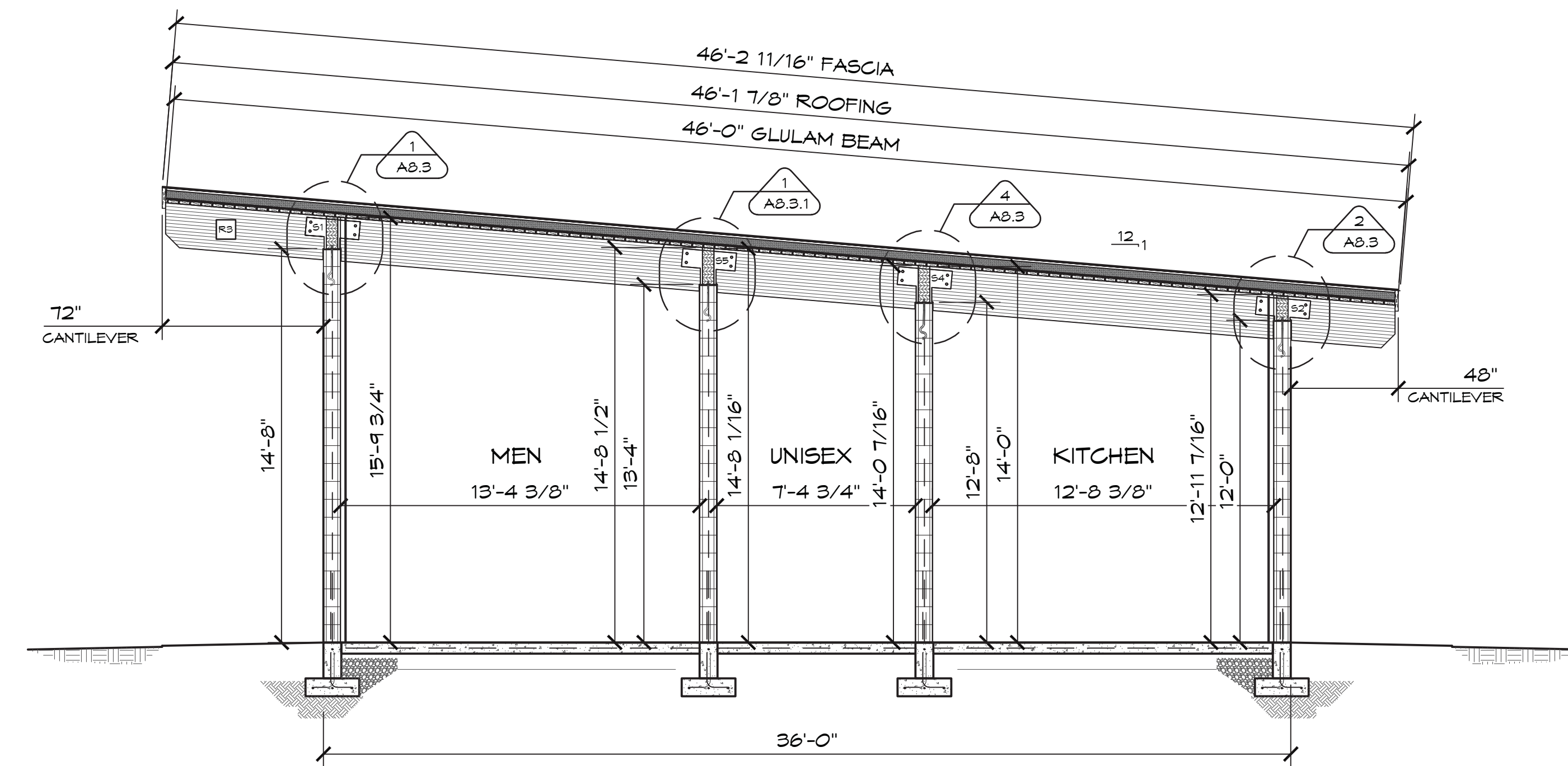


PROJECT: CUSTOM SIERRA III MULTIFAMILY RESTROOM W/ OFFICE & STORAGE	
KRUSI PARK RENOVATIONS ALAMEDA, CALIFORNIA	
SHEET TITLE: EXTERIOR ELEVATIONS	
PLAN SET#	<b>18882</b>
DATE:	<b>08/16/2018</b>
DRAWN BY:	<b>CR</b>
SHEET NO.	<b>A3.2</b>

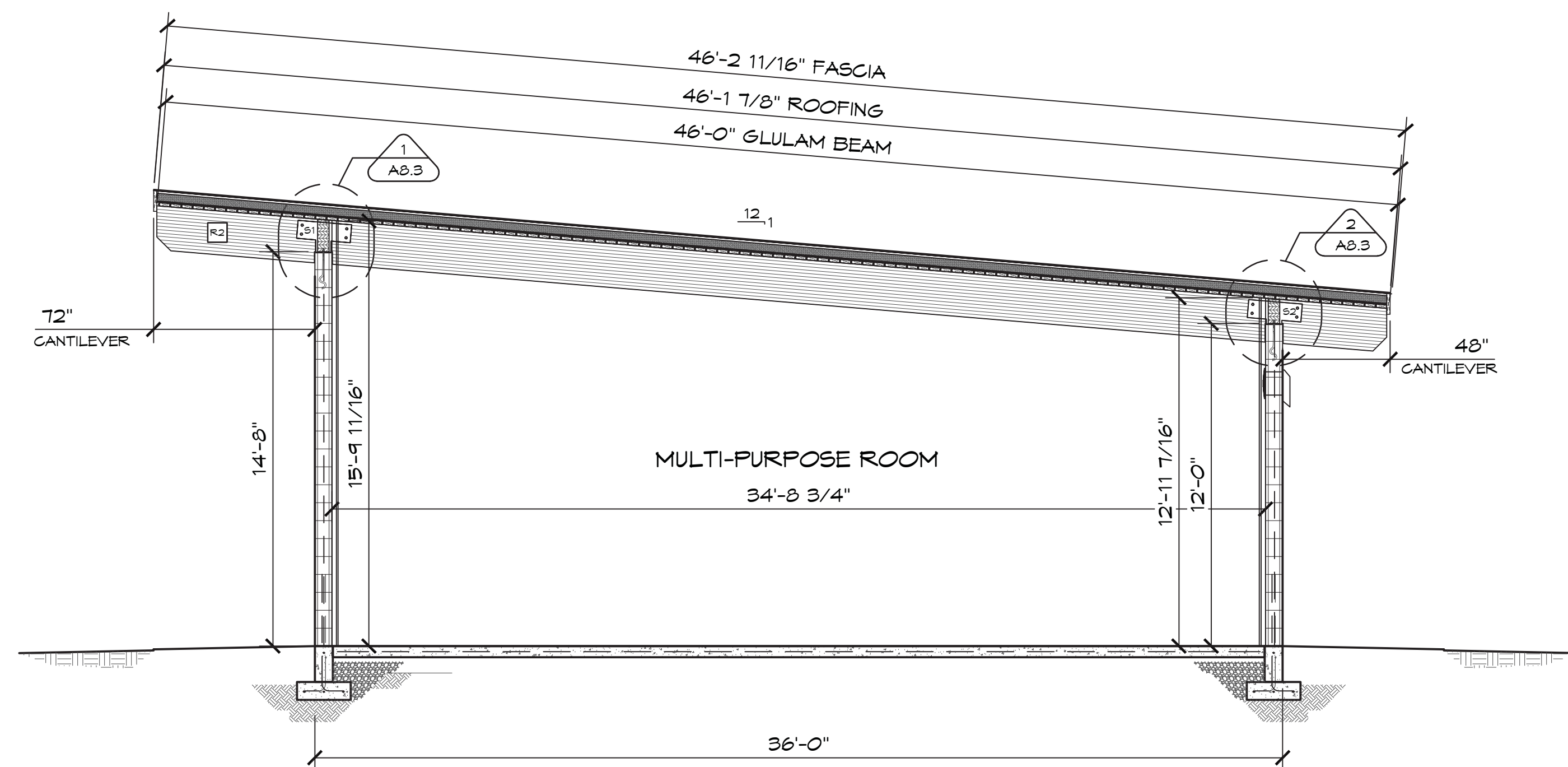




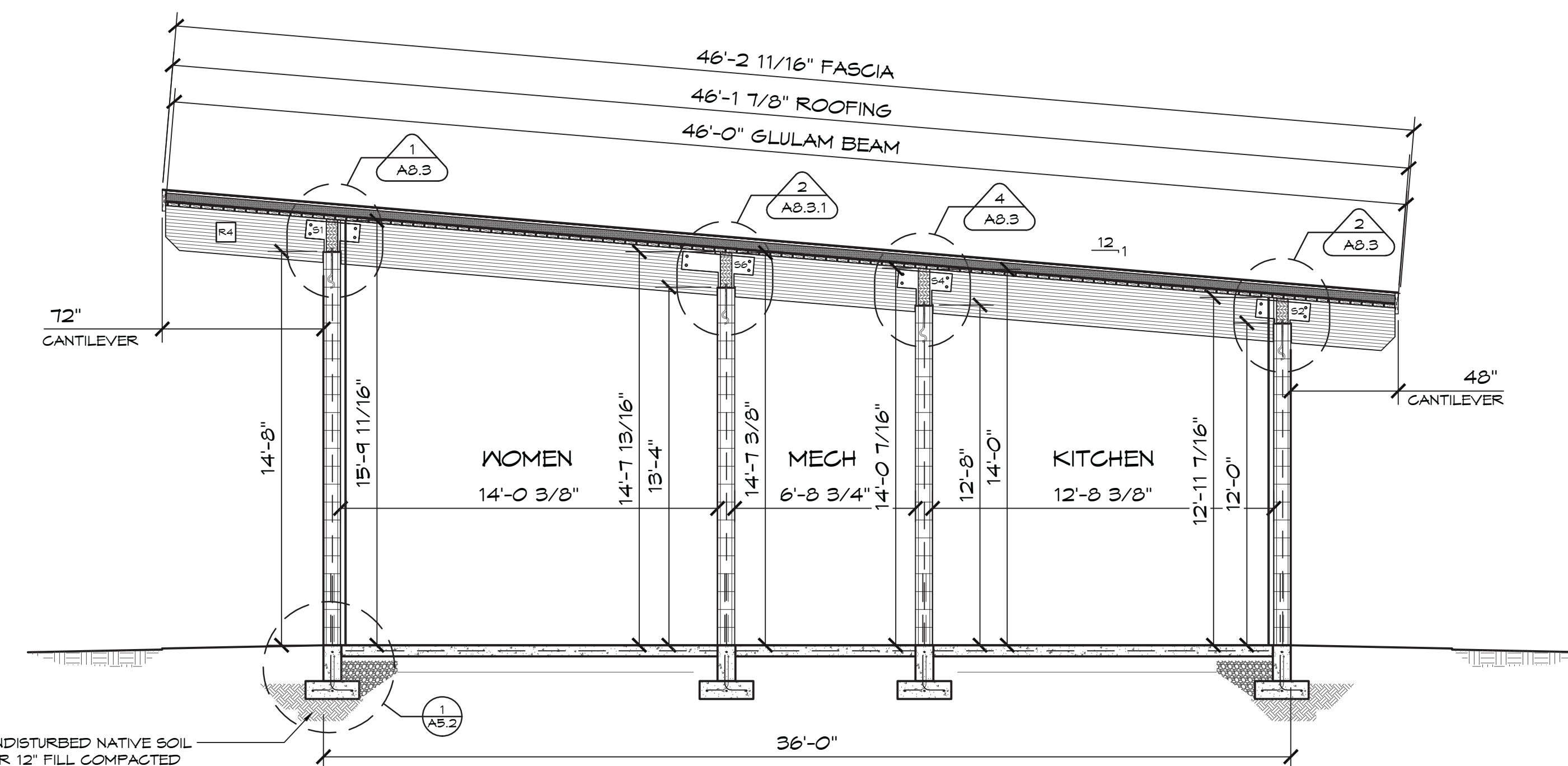
**1 BUILDING SECTION**  
SCALE: 1/4" = 1'-0"



**3 BUILDING SECTION**  
SCALE: 1/4" = 1'-0"



**2 BUILDING SECTION**  
SCALE: 1/4" = 1'-0"



**4 BUILDING SECTION**  
SCALE: 1/4" = 1'-0"

UNDISTURBED NATIVE SOIL  
OR 12" FILL COMPACTED  
TO 90% ASTM D 1557  
TO MEET OR EXCEED ALLOWABLE  
BEARING PRESSURE ON SHEET G2

UNDISTURBED NATIVE SOIL  
OR 12" FILL COMPACTED  
TO 90% ASTM D 1557  
TO MEET OR EXCEED ALLOWABLE  
BEARING PRESSURE ON SHEET G2

© 2014 ROMTEC, INC. ALL RIGHTS RESERVED. THESE PLANS AND DRAWINGS MAY NOT BE REPRODUCED, ADAPTED OR FURTHER  
DISTRIBUTED, AND NO BUILDING MAY BE CONSTRUCTED FROM THESE PLANS WITHOUT THE WRITTEN PERMISSION OF ROMTEC, INC.

PROJECT: CUSTOM SIERRA III MULTI-USER RESTROOM IN OFFICE & STORAGE

**KRUSI PARK RENOVATIONS**  
ALAMEDA, CALIFORNIA  
SHEET TITLE: BUILDING SECTIONS

PLAN SET# 18882  
DATE: 08/16/2018  
DRAWN BY: CR

SHEET NO. A4.2

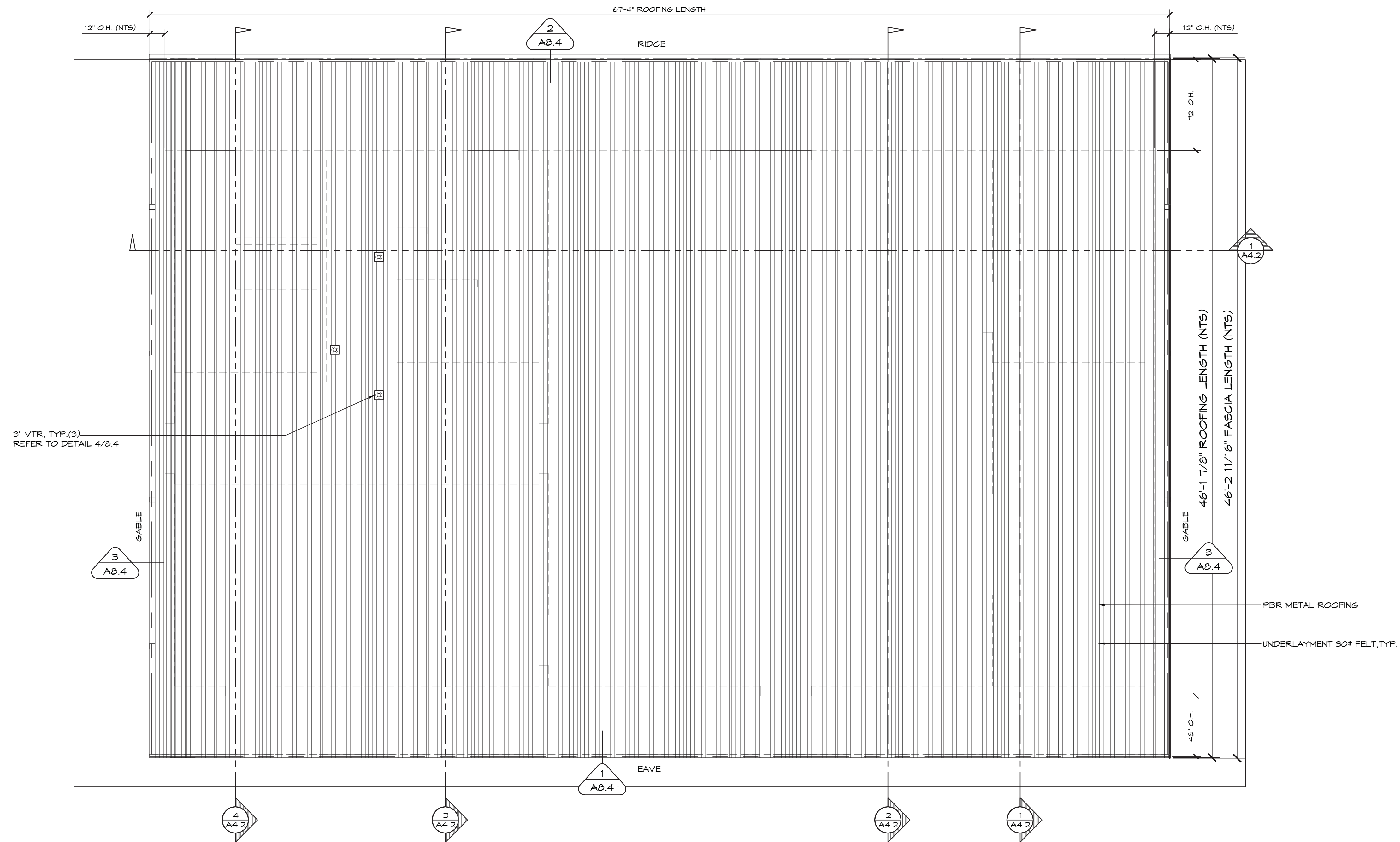
**ROMTEC**  
18240 NORTH BANK ROAD  
ROSEBURG, OR 97770  
(541) 495-3541 FAX (541) 495-0803

Precision Structural Engineering, Inc.  
18240 North Bank Road, Roseburg, OR 97770  
Phone: (541) 495-3541 Fax: (541) 495-0803  
www.precisionstructural.com

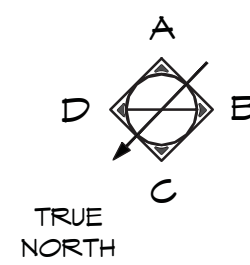
08/16/2018  
CMKBD  
Cassandra Ruppert  
ID #1063772  
NCECA  
Cassandra Ruppert  
EXPIRES: 01/01/2020

REV	DATE	BY	DESCRIPTION
1	1/15/2018	CR	ENGINEER REDLINES & CUSTOMER COMMENTS

NOTE:  
FLASHING SECTIONS OVER 10  
IN LENGTH SHALL BE  
OVERLAPPED BY 4" AND  
EVERY EFFORT MUST BE  
MADE TO ENSURE A  
SYMMETRICAL APPEARANCE



1 ROOFING PLAN  
SCALE: 1/4" = 1'-0"



© 2019 RÖNTEC, INC. ALL RIGHTS RESERVED. THESE PLANS AND DRAWINGS MAY NOT BE REPRODUCED, ADAPTED OR FURTHER DISTRIBUTED, AND NO BUILDINGS MAY BE CONSTRUCTED FROM THESE PLANS, WITHOUT THE WRITTEN PERMISSION OF RÖNTEC, INC.

PROJECT: CUSTOM SIERRA III MULTI-USER RESTROOM W/ OFFICE & STORAGE

KRUSI PARK RENOVATIONS  
ALAMEDA, CALIFORNIA

SHEET TITLE:  
ROOFING PLAN

PLAN SET#	18882
DATE:	08/16/2018
DRAWN BY:	CR
SHEET NO.	A8.1

ROMTEC

18240 NORTH BANK ROAD  
ROSEBURG, OR 97470  
(541)-496-3541 FAX (541)-496-0803

**Precision Structural Engineering, Inc.**  
www.structural.com  
10400th Falls, Ohio  
250 Main Street, Falls, Ohio 44033  
Phone: (441) 850-4300 Fax: (441) 850-6223  
info@structural.com







**END OF PROJECT MANUAL**