



COUNTY OF MENDOCINO  
GENERAL SERVICES AGENCY

**Mechanical Upgrade/Remodel For:  
Fort Bragg Justice Center  
REBID**

700 South Franklin Street  
Fort Bragg, CALIFORNIA 95437

**BID No. 064-22**

**PROJECT LOCATION:**  
COUNTY OF MENDOCINO  
Fort Bragg Justice Center  
700 South Franklin Street  
Fort Bragg, CA 95437

**INFORMATION:**  
COUNTY OF MENDOCINO  
Facilities & Fleet Division  
851 Low Gap Road  
Ukiah, California 95482

## **SECTION 00500 - AGREEMENT FOR LUMP SUM BID**

THIS AGREEMENT, made effective on the date it becomes fully executed by all parties, between the County of Mendocino, hereinafter called COUNTY, and **Cupples and Sons Construction Inc.**, hereinafter called CONTRACTOR.

COUNTY and CONTRACTOR, for the consideration described below named, agree as follows:

FIRST: CONTRACTOR shall furnish all labor, materials, equipment, mechanical workmanship, transportation, and services for the installation and completion of the **Mechanical Upgrade for Fort Bragg Justice Center Project REBID**, in accordance with the contract documents, including the Addenda thereto, all as adopted by COUNTY.

SECOND: The work under this contract described below shall be completed within one hundred fifty (150) calendar days from the date of the "Notice to Proceed".

THIRD: The Contract consists of the following documents, all of which are fully a part hereof as if herein set out in full, whether or not hereto attached:

1. Invitation to Bid
2. Instructions to Bidders
3. Bidding Documents
4. Agreement
5. Construction Site Storm Water Policy
6. General Conditions
7. Unforeseen Physical Conditions
8. Summary of Work
9. Temporary Facilities and Building Services
10. Project Plans and Drawings
11. Technical Specifications
12. Addendum to the Bid

FOURTH: COUNTY shall pay to CONTRACTOR, if CONTRACTOR is successful bidder, as full consideration for the faithful performance of the Contract the sum of:

**One Million, Five Hundred Thirty-Four Thousand, Six-Hundred Forty-Two Dollars  
\$1,534,642.00**

This sum constitutes the base bid and allowances.

Payment shall be made each month to CONTRACTOR in accordance with and subject to the provisions embodied in the Documents made a part of this Contract.



**IN WITNESS WHEREOF**

**DEPARTMENT FISCAL REVIEW:**

Janette Rau 2/15/2023  
DEPARTMENT HEAD DATE

Budgeted:  Yes  No

Budget Unit: 1710 CI-049

Line Item: 864360

Grant:  Yes  No

Grant No.: \_\_\_\_\_

**CONTRACTOR/COMPANY NAME:**

By: Casey Cupples

**NAME AND ADDRESS OF CONTRACTOR:**

Cupples and Sons Construction Inc.

501 St. Mary's Drive

Hopland, CA 95449

**COUNTY OF MENDOCINO**

By: Glenn McGourty  
GLENN MCGOURTY, Chair  
BOARD OF SUPERVISORS

Date: 03/14/2023

By signing above, signatory warrants and represents that he/she executed this Agreement in his/her authorized capacity and that by his/her signature on this Agreement, he/she or the entity upon behalf of which he/she acted, executed this Agreement

**ATTEST:**

DARCIE ANTLE, Clerk of said Board

By: Arcie Antle  
Deputy 03/14/2023

I hereby certify that according to the provisions of Government Code section 25103, delivery of this document has been made.

DARCIE ANTLE, Clerk of said Board

By: Arcie Antle  
Deputy 03/14/2023

**COUNTY COUNSEL REVIEW:**

APPROVED AS TO FORM:

CHRISTIAN M. CURTIS,  
County Counsel

By: Christian M. Curtis  
Deputy

Date: 02/15/2023

**INSURANCE REVIEW:**

By: Darcie Antle  
Risk Management

Date: 02/15/2023

**EXECUTIVE OFFICE/FISCAL REVIEW:**

By: Li Hoh  
Deputy CEO

Date: 02/15/2023

Signatory Authority: \$0-25,000 Department; \$25,001- 50,000 Purchasing Agent; \$50,001+ Board of Supervisors

Exception to Bid Process Required/Completed

Mendocino County Business License: Valid

Exempt Pursuant to MCC Section: \_\_\_\_\_

## **SECTION 00002 - PROJECT DIRECTORY**

OWNER: County of Mendocino  
501 Low Gap Road  
Ukiah, CA 95482

LEASEE: Mendocino County Superior Court

AGENT: Mendocino County General Services  
Facilities and Fleet Division  
841 Low Gap Road  
Ukiah, CA 95482  
(707) 234-6054  
Email: [wattenburgera@mendocinocounty.org](mailto:wattenburgera@mendocinocounty.org)  
Andrew Wattenburger, Facility Project Specialist

ARCHITECT: Newberger & Associates, Inc.  
435 North Main Street  
Fort Bragg, CA 95437  
(707) 961-0911  
Email: [todd@lsndesign.com](mailto:todd@lsndesign.com)  
Todd Newberger, President, Architect

STRUCTURAL: Duncan Engineering, Inc.  
P.O. Box 1348  
Mendocino, CA 95460  
(707) 964-9604  
Email: [duncanse@mcn.org](mailto:duncanse@mcn.org)  
David Duncan, SE

MECHANICAL: Lefler Engineering, Inc.  
1651 Second Street  
San Rafael, CA 94901  
(415)456-4220  
Email: [trevor@leflerengineering.com](mailto:trevor@leflerengineering.com)  
Trevor Lefler, ME

ELECTRICAL: Axiom Engineers  
1712 Jefferson St.  
Napa, CA 94559-1703  
(541) 728-3293  
Email: [katie.cornelius@axiomengineers.com](mailto:katie.cornelius@axiomengineers.com)  
Katie Cornelius, P.E.



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COUNTY OF MENDOCINO  
General Services  
Facilities and Fleet Division

JANELLE RAU  
DIRECTOR

841 Low Gap Road  
Ukiah, CA 95482-3734

Email: [gs@mendocinocounty.org](mailto:gs@mendocinocounty.org)  
Website: [www.mendocinocounty.org/executive-office](http://www.mendocinocounty.org/executive-office)

Office: (707) 234-6050  
Fax: (707) 463-4673

**ADDENDUM #: 1**

**PROJECT: BID# 064-22 Mechanical Upgrade for Fort Bragg Justice Center REBID**

**DATE: 1-6-2023**

**ISSUED BY: Andrew Wattenburger, Facilities Project Specialist**

*The additions, omissions, clarifications, and/or corrections herein shall be made part of the Contract plans and specifications and shall be included in the Scope of Work and proposals to be submitted. This Addendum modifies the original plans and specifications as described below.*

**CLARIFICATIONS TO PROJECT PLANS AND SPECIFICATIONS**

Due to severe local weather the Mandatory Prebid Conference and Walkthrough scheduled for January 5, 2023 was Postponed. Section 00020 Notice Inviting Bids will be changed as follows:

CHANGE BID DUE DATE from Thursday January 19, 2023 to Friday January 20, 2023 AT 2:00.

CHANGE MANDATORY PRE-BID CONFERENCE from Thursday January 5, 2023 at 10:30 AM at the Project Site to a MANDATORY Video Conference on Thursday January 12, 2023 at 10:30 AM following the link below

ADD NON-MANDATORY SITE INSPECTION on Wednesday January 11, 2023 at 10:30 AM at the Project Site.

**ADDITIONAL INFORMATION**

Please use the link below to access the Mandatory Pre-Bid Conference on January 12, 2023 at 10:30 AM.

## Microsoft Teams meeting

**Join on your computer, mobile app or room device**

[Click here to join the meeting](#)

Meeting ID: 272 565 272 92

Passcode: fMzsGe

[Download Teams](#) | [Join on the web](#)

[Learn More](#) | [Meeting options](#)

*Bidders are reminded that they shall complete the Addenda Acknowledgement in the Bid Form of their Specification Book (Section 00310-2). Failure to do so may result in disqualification of the submitted bid.*





COUNTY OF MENDOCINO  
General Services  
Facilities and Fleet Division

JANELLE RAU  
DIRECTOR

841 Low Gap Road  
Ukiah, CA 95482-3734

Email: [gs@mendocinocounty.org](mailto:gs@mendocinocounty.org)  
Website: [www.mendocinocounty.org/executive-office](http://www.mendocinocounty.org/executive-office)

Office: (707) 234-6050  
Fax: (707) 463-4673

**ADDENDUM #: 2**

**PROJECT: Mechanical Upgrade for Fort Bragg Justice Center**

**DATE: 1/17/2023**

**ISSUED BY: Andrew Wattenburger, Project Specialist**

*The additions, omissions, clarifications, and/or corrections herein shall be made part of the Contract plans and specifications and shall be included in the Scope of Work and proposals to be submitted. This Addendum modifies the original plans and specifications as described below.*

**CHANGE BID DUE DATE from Friday January 20, 2023 to Thursday February 2, 2023.**

**INQUIRIES AND CLARIFICATIONS TO PROJECT PLANS AND SPECIFICATIONS**

1. Q: Are there any items in regard to the temporary HVAC plan that should be figured into the BASE BID rather than the allowance?

A: YES, modify section 01210 ALLOWANCES, part 3.3B1, to read: This allowance includes labor, materials equipment costs and contractor overhead and profit documented for either lump sum or force account work to complete the installation of the temporary heating and cooling systems shown on sheet A3.2 including equipment rentals, sheet metal, ducting and supports for temporary distribution. Temporary modifications to the building, restoring the original finishes and demolition of the temporary system shall be included in the base bid.

2. Q: Is there an engineer's estimate for this project?

A: This project is at a critical facility, the it is expected to be awarded and funded between \$500,000-\$2,000,000.

3. Q: Are there any specifications to deal with the new refrigerant lines in the proximity of the existing underground conduit and lines that may not be noted on the plans?

A: YES, on sheet M3.1, detail 7, add call out reading 'maintain minimum parallel line separation at existing electrical conduit of 12" parallel and minimum crossing line separation of 6"'.

4. Q: How many 24"x24" aluminum T-bar ceiling access doors are required?

A: On sheet A3.1, the call out regarding fan coil access doors shall be changed from; 'At each fan coil location, provide and install' to 'Provide and install a total of 8'. Exact location of access doors will be determined by County staff and Architect.

**ADDITIONAL INFORMATION**



**Change the deadline date for receiving bids in Section 00020 Notice Inviting Bids and Section 00100 Instructions to Bidders from January 20, 2023 to February 2, 2023.**

**Sealed bids will be received and accepted until 2:00 pm on Thursday February 2, 2023 at 841 Low Gap Road, Ukiah and then publicly opened and read aloud.**

*Bidders are reminded that they shall complete the Addenda Acknowledgement in the Bid Form of their Specification Book (Section 00310-2). Failure to do so may result in disqualification of the submitted bid.*

## SECTION 00020 - NOTICE INVITING BIDS

Notice is hereby given that sealed bids will be received at the Mendocino County General Service Agency Office, 841 Low Gap Road, Ukiah, California 95482 until the hour of 2:00 p.m., as determined by the clock on the wall in the General Services Agency Office, on **January 19<sup>th</sup>, 2023** and then publicly opened and read aloud in the General Service Division Conference Room, 841 Low Gap Road, Ukiah, California for the following project:

### **BID NO. 064-22 Mechanical Upgrade for Fort Bragg Justice Center REBID**

Electronic Plans and Documents may be seen or downloaded from the Mendocino County Web Page for Open RFP, Quotes & Bids: <https://www.mendocinocounty.org/government/executive-office/open-rfp-quotes-bids>. Additionally plans and documents have been distributed to builder's exchange plan rooms throughout Northern California.

Bids shall be made on the form provided in this Manual and accompanied by a form of bid security as provided in Section 00100 Instructions to Bidders.

The successful Bidder will be required to furnish a Labor and Material Bond and a Performance Bond as required in Section 00100 Instructions to Bidders.

Bidders' attention is called to Instruction to Bidders and other related documents in this Manual for full directions and information as to bidding and other requirements.

### MANDATORY PRE-BID CONFERENCE

A mandatory pre-bid conference and site inspection will be held on **Thursday, January 5<sup>th</sup> 2023 at 10:30 AM** at the Project site, 700 South Franklin Street, Fort Bragg, California.

The County reserves the right to schedule additional mandatory pre-bid conferences to ensure adequate bid representation. Failure to attend at least one of the pre-bid conferences will disqualify a non-attending bidder from the bid.

### PAYMENT OF PREVAILING WAGES

Pursuant to the provisions of the Labor Code of the State of California, the Department of Industrial Relations has made a determination of the rate of per diem wages to be paid on the prevailing rate of pay for regular, holiday and overtime work in the locality in which the public work is to be performed, for each craft, classification, or type of workman needed to execute the contract. All County of Mendocino projects greater than \$1,000 require that contractors adhere to Prevailing Wage requirements (California Labor Code, Sections 1770 through 1775). The rates can be found online here: <https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>.

### CONTRACTOR REGISTRATION

Per Labor Code Section 1771.1(a) A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter,



unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

#### CERTIFIED PAYROLL RECORDS

Per Labor Code Section 1776 each contractor and subcontractor shall keep accurate payroll records. A certified copy of all payroll records for work performed under this contract shall be furnished upon request to a representative of the awarding body. Per SB 854 contractors and subcontractors are required to furnish certified payroll reports directly to the Department of Industrial Relations.

#### EMPLOYMENT OF APPRENTICES

Each contractor and subcontractor performing work in an apprenticeable craft or trade shall comply with Section 1777.5 relating to Apprentices on public works projects.

#### MENDOCINO COUNTY BUSINESS LICENSE

Pursuant to Mendocino County Code Chapter 6.04 – Business Licenses, at the time of contract award, the contractor shall supply a copy of their current County of Mendocino business license.

#### LAWS AND GOVERNANCES

In the performance of the work contemplated by this contract, the contractor shall conform to and abide by all labor requirements and provisions of State and Federal Laws and City and County Ordinances and Regulations which may in any manner affect those engaged or employed on the work project, including but not limited to the overtime provisions of the Labor Code section 1813 and 1815 of the State of California.

Federal Laws, including The Davis-Bacon Act and The Americans with Disabilities Act of 1990, are applicable to the project.

END OF SECTION

## SECTION 00100 - INSTRUCTIONS TO BIDDERS

### PART 1 – GENERAL

#### 1.1 BIDS RECEIVED

- A. Sealed bids for **Mendocino County BID No. 064-22 for the Mechanical Upgrade for Fort Bragg Justice Center REBID** will be received at the Mendocino County General Service Agency Office, 841 Low Gap Road, Ukiah, California, until 2:00 p.m. as determined by the clock on the wall of the General Service Agency Office, on **January 19<sup>th</sup>, 2023**, and then publicly opened and read aloud in the General Service Agency Conference Room, 841 Low Gap Road, Ukiah, California.
- B. Late bids will not be accepted. It is Bidder's responsibility to assure that its bid is delivered and received at the location noted above on or before the date and hour set for the bid opening.

#### 1.2 LICENSE REQUIREMENT

- A. The license required for this Project is a “B” License. Warm-Air Heating, Ventilating and Air-Conditioning work will require a “C-20” which shall be held by the bidder or a listed subcontractor.
- B. Pursuant to Mendocino County Code Section 6.0 – Business Licenses and Regulations, at time of contract award, the contractor shall supply a copy of their current County of Mendocino business license.

#### 1.3 BIDS AND BID SECURITY

Bids, to be considered, must be in accordance with the following instructions:

- A. Bids must be submitted on the bid form provided in this Manual, properly and completely filled out with numbers stated both in writing and in figures and with signatures of all persons signing in longhand/cursive.
- B. The completed form shall be without erasures or interlineation and shall not contain recapitulations of the work to be done.
- C. A Bidder’s Bond, Certified Check or Cashier's Check made payable to the County of Mendocino for an amount equal to at least ten percent (10%) of the bid amount shall accompany each bid. The above-mentioned bid security shall be given as a guarantee that the Bidder shall execute the contract if it be awarded to it in conformity with the contract documents and shall provide the surety bond or bonds required, sign the contract, and commence work as set forth in the contract



documents. Such guaranty to be forfeited should the Bidder to whom the contract is awarded fail to enter into the contract.

- D. Responsive Bids shall include completed and executed copies of the following sections if included in the project Manual:
- a. 00120 Qualification Application
  - b. 00307 Non-Collusion Affidavit
  - c. 00308 Public Contract Code Questionnaire
  - d. 00310 Bid Form
  - e. 00430 Subcontractor Listing Form

#### 1.4 SUBCONTRACTORS LISTED

- A. In accordance with California Public Contract Code Sections 4100 et seq., inclusive, each bidder shall provide a list of subcontractors (Section 00430), giving the name and location of place of business and contractor's license number of each subcontractor who will perform a portion of the contract work in an amount in excess of one-half of one percent (0.5%) of the total contract price. In each instance, the nature and portion of the work to be subcontracted shall be described.
- B. Failure of Bidder to specify a subcontractor for any portion of the work in an amount in excess of one-half of one percent (0.5%) of the total contract price constitutes an agreement for Bidder to perform that portion of the work itself. After bids are opened, no subcontractor may be designated or substituted except as provided for in Sections 4107 et seq. of the Public Contract Code.
- C. All Bidders must supply with their Bids the required information on all subcontractors who will perform any portion of the work including labor, rendering of service or specially fabricating and installing a portion of the Work or improvement according to detailed drawings contained in the plans and specifications, in excess of one-half of one percent (0.5%) of total bid. Violation of this requirement may result in Bid being deemed non-responsive and not being considered.

#### 1.5 AWARD OR REJECTION OF BIDS

The contract shall be awarded to the lowest responsible bidder complying with these instructions, provided the bid is deemed reasonable and in the best interest of the County of Mendocino. County reserves the right to reject any and all bids, and to waive any informality on bids received whenever the rejection or waiver is in the best interest of County. The competency and dependability of the bidders will be considered when making the award.

- A. Additive and Deductive Items: Method of Determining Lowest Bid. Pursuant to Public Contract Code section 20103.8, if this bid solicitation includes additive and/or deductive items, the checked [X] method shall be used to determine the lowest bid: [check one].
- X 1. The lowest bid shall be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items or allowances.
2. The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation or Bid Form as being used for the purpose of determining the lowest bid price.
3. The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items taken in order from a specifically identified list of those items that, when in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by the County before the first bid is opened.
4. The lowest bid shall be determined in a manner that prevents any information that would identify any of the bidders or the proposed Subcontractors or suppliers from being revealed to the public entity before the ranking of all bidders from lowest to highest has been determined.

If no method is checked, sub-paragraph 1. shall be used to determine the lowest bid.

- B. Notwithstanding the method used by the County to determine the lowest responsible bidder, the County retains the right to add to or deduct from the contract any of the additive or deductive items included in the bid solicitation.
- C. The award of the contract, if awarded, is expected to be made within thirty (30) days and in no event later than eighty (80) days after the bid opening. After award, County shall notify the successful Bidder in writing, and forward with the notification original contracts for Bidder's execution. Within eight (8) working days after such notification, the successful Bidder shall return the signed contracts to County, accompanied by all required Surety Bonds, insurance policies and endorsements.

#### 1.6 TIME OF COMPLETION

Bidder agrees to commence work on or before a date to be specified in the written "Notice to Proceed" from County and to fully complete the project within one hundred fifty (150) calendar days from date of the written "Notice to Proceed".

#### 1.7 ADDENDUM



Any addendum issued during the time of bidding and before bid opening shall be included in the bid. The addendum issued by County shall become part of the agreement. Questions to be considered for inclusion in an addendum must be in writing and in the hands of County not less than seven (7) days prior to bid opening date.

#### 1.8 INTERPRETATION OF DRAWINGS AND DOCUMENTS

Should a Bidder find discrepancies in, or omissions from, the drawings dated 12-16-2022 or documents, or should it be in doubt as to their intent, it should at once notify County, which will then send responsive written instructions in the form of addenda to all Bidders. County will not be responsible for any oral instructions. Any verbal conversations with County during the bidding period are not to be construed as instructions. Any changes in the Contract documents will be issued by written addendum only.

#### 1.9 WITHDRAWAL OF BID

Bids may be withdrawn prior to, but not later than, the time of bid opening.

#### 1.10 BONDS

The successful Bidder is required to furnish a Labor and Material Payment Bond and a Performance Bond each in the amount equal to one hundred percent (100%) of the contract price. Said Bonds shall be obtained from a surety company satisfactory to County.

#### 1.11 SUBSTITUTIONS

Any substitution shall be made in accordance with instructions contained in Section 00700 – General Conditions included herein. Questions concerning substitutions will not be entertained during the bidding period.

#### 1.12 SUBSTITUTION OF SECURITY

Pursuant to California Public Contract Code Section 22300, the Contractor may substitute securities for retention money withheld by the County to insure performance under the Contract. Said securities shall be in a form and of a type acceptable to the County.

#### 1.13 LIQUIDATED DAMAGES

In case of failure on the part of Contractor to complete the work within the time stipulated plus any duly authorized extension of time granted in writing by County, Contractor shall pay to County the sum of \$250.00 per calendar day for each day's delay beyond the time prescribed as liquidated damages, but not as a penalty. The language in the paragraph of the General Conditions entitled "Time of Completion and Liquidated Damages" is incorporated herein.

#### 1.14 BIDDER'S QUALIFICATIONS

- A. All Bidders, Contractors and Subcontractors bidding under joint venture agreements shall be duly licensed as provided for under Sections 7000 et seq. of the Business and Professions Code.
- B. A corporation which is awarded the Contract will be required to furnish certification attesting to its corporate existence, as well as evidence that the Officer signing the contract is duly authorized to do so.
- C. Bidders and their subcontractors may be required to furnish evidence satisfactory to County that they have sufficient means and have had experience in the class of work called for to enable them to complete the contract in a satisfactory manner.
- D. No person, firm or corporation shall make or file or be interested in more than one bid for the same work, except insofar as alternate bids may be called for. No person, firm or corporation shall submit a collusive or sham bid or seek directly or indirectly to induce any other bidder to submit a collusive or sham bid or to refrain from submitting a bid or to seek in any way to control or fix the price of the bid or any portion of the bid price in order to secure an advantage against County or any other person interested in the proposed contract. However, a person, firm or corporation submitting a sub-proposal to a bidder or quoting prices on materials to a bidder is not hereby disqualified from submitting sub-proposals or quoting prices to other bidders.
- E. A licensed contractor shall not submit a bid to a public agency unless (1) its contractor's license number appears clearly on the bid, (2) the license expiration date is stated, and (3) the bid contains a statement that the representations made therein are made under penalty of perjury. Any bid not containing this information, or a bid containing information which is subsequently proven false, shall be considered non-responsive and shall be rejected by County.
- F. The work to be performed under this contract is of a very specialized nature. It is the desire of County to secure the best work attainable and to maintain a very critical and condensed schedule. Bidders considered for award will be limited to those firms who can show to the satisfaction of County that they have the facilities and experience necessary to perform the required construction in accordance with specifications proposed for this project. The terms under which bidders will be evaluated and the rules that will be applied are attached to this Manual as section 00120 Qualification Application.

#### 1.15 EXAMINATION OF SITE AND DOCUMENTS



By submitting a bid, Bidder agrees and warrants that (1) it has examined the site and all documents, drawings, and specifications; (2) it is satisfied that the same are adequate to produce the required results; and (3) its bid covers the cost of all items required in the agreement. The work to be performed includes all of the items mentioned in these specifications and/or as shown on the plans and other documents included as a part of the project.

#### 1.16 ENVIRONMENTAL AND PLANNING CONDITIONS OF APPROVAL

Bidder agrees to perform its work in conformance with all environmental and planning conditions of approval applicable to the project. Bidders' attention is directed to specification section 00801 Supplementary General Conditions and the source documents for specific conditions of approval

#### 1.17 AGREEMENT

Contract documents include the Agreement which the successful Bidder, as Contractor, will be required to execute.

#### 1.18 PRE-CONSTRUCTION CONFERENCE

The successful bidder shall be available for a pre-construction conference with County at a mutually convenient time.

END OF SECTION

## SECTION 00120 - QUALIFICATION APPLICATION

The information contained in this Application is confidential and is for the sole use of County in evaluating the qualifications of Bidder. Only the information below ("Contact Information") is considered public information.

### CONTACT INFORMATION

Firm Name (as it appears on license): Cupples and Sons Construction Inc.

Check one:  Corporation       Partnership       Sole Proprietor

Contact Person: Casey Cupples

Address: 501 St. Mary's Drive, Hopland, CA 95449

Phone: 707-467-0674, 707-972-7331      Fax: N/A

If the firm is a sole proprietor or partnership:

Owner(s) of Company: N/A

Contractor's License Number(s):

License #806992 B, Exp: 04/30/2024

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

PART I.

ESSENTIAL REQUIREMENTS FOR QUALIFICATION

**The Contractor will be immediately disqualified if the answer to any of questions 1 through 5 is “no”.<sup>1</sup>**

**The Contractor will be immediately disqualified if the answer to any of questions 6, 7, 8 or 9 is “yes”<sup>2</sup>. If the answer to question 8 is “yes”, and if debarment would be the sole reason for denial of qualification, any qualification issued will exclude the debarment period.**

1. Contractor possesses a valid and current California Contractor’s license for the project or projects for which it intends to submit a bid.  
 Yes       No
  
2. Contractor has a liability insurance policy with a policy limit of at least one million dollars (\$1,000,000) per occurrence and two million dollars (\$2,000,000) aggregate.  
 Yes       No
  
3. Contractor has a current workers’ compensation insurance policy as required by the Labor Code or is legally self-insured pursuant to Labor Code Section 3700 *et seq.*  
 Yes       No       Contractor is exempt from this requirement because it has no employees
  
4. Contractor has attached its latest copy of a reviewed or audited financial statement with accompanying notes and supplemental information.<sup>3</sup>  
 Yes       No

**NOTE: A financial statement that is not either reviewed or audited is not acceptable. A letter verifying availability of a line of credit may also be attached; however, it will be considered as supplemental information only, and is not a substitute for the required financial statement.**

5. Contractor has attached a notarized statement from an admitted surety insurer (approved by the California Department of Insurance) and authorized to issue bonds in the State of California, which states that Contractor’s current bonding capacity is sufficient for the project for which it seeks qualification.

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<sup>1</sup> A “no” answer to Question 4 will not be disqualifying if the Contractor is exempt from complying with Question 4, for reasons explained in footnote 3.

<sup>2</sup> A contractor disqualified solely because of a “yes” answer given to questions 6, 7, or 9 may appeal the disqualification and provide an explanation of the relevant circumstances during the appeal procedure.

<sup>3</sup> Public Contract Code Section 20101(e) exempts from this requirement a contractor who has qualified as a small business pursuant to Government Code Section 14837(d)(1), if the bid is “no more than 25 per cent of the qualifying amount provided in Section 14837(d)(1)”. As of January 1, 2001, the qualifying amount is \$10 million, and 25 percent of that amount, therefore, is \$2.5 million.



Yes       No

**NOTE: Notarized statement must be from the surety company, not an agent or broker.**

6. Has Contractor's license been revoked at any time in the last five (5) years?  
 Yes       No
7. Has a surety firm completed a contract on Contractor's behalf, or paid for completion because Contractor's firm was default terminated by the project owner within the last five (5) years?  
 Yes       No
8. At the time of submitting this qualification form, is Contractor's firm ineligible to bid on or be awarded a public works contract, or perform as a subcontractor on a public works contract, pursuant to either Labor Code Section 1777.1 or Labor Code Section 1777.7?  
 Yes       No

If the answer is "yes", state the beginning and ending dates of the period of debarment:

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9. At any time during the last five (5) years, has Contractor's firm, or any of its owners or officers, been convicted of a crime involving the awarding of a contract of a government construction project, or the bidding or performance of a government contract?  
 Yes       No

PART II. ORGANIZATION, HISTORY, ORGANIZATIONAL PERFORMANCE, COMPLIANCE WITH CIVIL AND CRIMINAL LAWS

A. Current Organization and Structure of the Business

*For firms that are corporations:*

- 1a. Date incorporated: \_\_\_\_\_
- 1b. Under the laws of the State of: \_\_\_\_\_
- 1c. Provide all the following information for each person who is either (a) an officer of the corporation (president, vice president, secretary, treasurer), or (b) the owner of at least ten percent (10%) of the corporation’s stock:

Name	Position	Years with Co.	% Ownership	Social Security #

- 1d. Identify every construction firm that any person listed above has been associated with (as owner, general partner, limited partner or officer) at any time during the last five (5) years.

**NOTE: For this question, “owner” and “partner” refer to ownership of ten percent (10%) or more of the business, or ten percent (10%) or more of its stock, if the business is a corporation.**

Person’s Name	Construction Firm	Date of Person’s Participation with Firm

*For firms that are partnerships:*

- 1a. Date of formation: \_\_\_\_\_
- 1b. Under the laws of the State of: \_\_\_\_\_
- 1c. Provide all of the following information for each partner who owns ten percent (10%) or more of the firm:

Name	Position	Years with Co.	% Ownership	Social Security

				#

1d. Identify every construction company that any partner has been associated with (as owner, general partner, limited partner or officer) at any time during the last five (5) years.

**NOTE: For this question, “owner” and “partner” refer to ownership of ten percent (10%) or more of the business, or ten percent (10%) or more of its stock, if the business is a corporation.**

Person’s Name	Construction Firm	Date of Person’s Participation with Firm

*For firms that are sole proprietorships:*

- 1a. Date of commencement of business: \_\_\_\_\_
- 1b. Social security number of company owner: \_\_\_\_\_
- 1c. Identify every construction firm that the business owner has been associated with (as owner, general partner, limited partner or officer) at any time during the last five (5) years. \_\_\_\_\_

**NOTE: For this question, “owner” and “partner” refer to ownership of ten percent (10%) or more of the business, or ten percent (10%) or more of its stock, if the business is a corporation.**

Person’s Name	Construction Firm	Date of Person’s Participation with Firm

*For firms that intend to make a bid as part of a joint venture:*



- 1a. Date of commencement of joint venture: \_\_\_\_\_
- 1b. Provide all of the following information for each firm that is a member of the joint venture that expects to bid on one or more projects:

Name of Firm	% Ownership of Joint Venture

B. History of the Business and Organizational Performance

2. Has there been any change in ownership of the firm at any time during the last three (3) years?

**NOTE: A corporation whose shares are publicly traded is not required to answer this question.**

Yes       No

If “yes”, explain on a separate signed page.

3. Is the firm a subsidiary, parent, holding company, or affiliate of another construction firm?

**NOTE: Include information about other firms if one firm owns fifty percent (50%) or more of another, or if an owner, partner, or officer of Contractor’s firm holds a similar position in another firm.**

Yes       No

If “yes”, explain on a separate signed page.

4. Are any corporate officers, partners, or owners connected to any other construction firms?

**NOTE: Include information about other firms if an owner, partner, or officer of Contractor’s firm holds a similar position in another firm.**

Yes       No

If “yes”, explain on a separate signed page.

5. State Contractor’s firm’s gross revenues for each of the last three (3) years:

Year	Gross Revenue

--	--

6. How many years has Contractor's organization been in business in California as a contractor under its present business name and license number? \_\_\_\_\_ years

7. Is Contractor's firm currently the debtor in a bankruptcy case?  
 Yes       No

If "yes", please attach a copy of the bankruptcy petition, showing the case number, and the date on which the petition was filed.

8. Was Contractor's firm in bankruptcy at any time during the last five (5) years? (This question refers only to a bankruptcy action that was not described in answer to question 7 above.)  
 Yes       No

If "yes", please attach a copy of the bankruptcy petition, showing the case number and the date on which the petition was filed, and a copy of the Bankruptcy Court's discharge order, or of any other document that ended the case, if no discharge order was issued.

#### Licenses

9. List all California construction license numbers, classifications and expiration dates of the California contractor licenses held by Contractor's firm:

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10. If any of Contractor's firm's license(s) are held in the name of a corporation or partnership, list below the names of the qualifying individual(s) listed on the CSLB records who meet(s) the experience and examination requirements for each license:

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11. Has Contractor's firm changed names or license numbers in the past five (5) years?  
 Yes       No

If “yes”, explain on a separate signed page, including the reason for the change.

12. Has any owner, partner, or (for corporations) officer of Contractor’s firm operated a construction firm under any other name in the last five (5) years?  
 Yes       No

If “yes”, please explain on a separate signed sheet.

#### Disputes

13. At any time in the last five (5) years, has Contractor’s firm been assessed and paid liquidated damages after completion of a project under a construction contract with either a public or private owner?  
 Yes       No

If “yes”, explain on a separate signed page, identifying all such projects by owner, owner’s address, the date of completion of the project, amount of liquidated damages assessed, and all other information necessary to fully explain the assessment of liquidated damages.

14. In the last five (5) years, has Contractor’s firm, or any firm with which any of Contractor’s company’s owners, officers or partners was associated, been debarred, disqualified, removed or otherwise prevented from bidding on, or completing, any government agency or public works project for any reason?  
**NOTE: “Associated with” refers to another construction firm in which an owner, partner or officer of Contractor’s firm held a similar position, and which is listed in response to question 1c or 1d on this form.**  
 Yes       No

If “yes”, explain on a separate signed page. State whether the firm involved was the firm applying for qualification here or another firm. Identify by name of the company, the name of the person within Contractor’s firm who was associated with that company, the year of the event, the owner of the project, the project, and the basis for the action.

16. In the last five (5) years, has Contractor’s firm been denied an award of a public works contract based on a finding by a public agency that Contractor’s company was not a responsible bidder?  
 Yes       No

If “yes”, explain on a separate signed page. Identify the year of the event, the owner, the project, and the basis for the finding by the public agency.

**NOTE: The following two questions refer only to disputes between Contractor's firm and the owner of a project. Contractor need not include information about disputes between its firm and a supplier, another contractor, or subcontractor. Contractor need not include information about "pass-through" disputes in which the actual dispute is between a subcontractor and a project owner. Also, Contractor may omit reference to all disputes about amounts less than \$50,000.**

17. In the last five (5) years, has any claim *against* Contractor's firm concerning the firm's work on a construction project been *filed in court or arbitration*?
- Yes       No

If "yes", on separate signed sheets of paper identify the claim(s) by providing the project name, date of the claim, name of the claimant, a brief description of the nature of the claim, the court in which the case was filed, and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution).

18. In the last five (5) years, has Contractor's firm made any claim against a project owner concerning work on a project or payment for a contract and *filed that claim in court or arbitration*?
- Yes       No

If "yes", on separate signed sheets of paper identify the claim by providing the project name, date of the claim, name of the entity (or entities) against whom the claim was filed, a brief description of the nature of the claim, the court in which the case was filed, and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution).

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19. At any time during the last five (5) years, has any surety company made any payments on Contractor's behalf as a result of a default, to satisfy any claims made against a performance or payment bond issued on Contractor's behalf, in connection with a construction project, either public or private?
- Yes       No

If "yes", explain on a separate signed page the amount of each such claim, the name and telephone number of the claimant, the date of the claim, the grounds for the claim, the present status of the claim, the date of resolution of such claim if resolved, the nature of the resolution, and the amount, if any, at which the claim was resolved.

20. In the last five (5) years, has any insurance carrier, for any form of insurance, refused to renew the insurance policy for Contractor's firm?
- Yes       No



If "yes", explain on a separate signed page. Name the insurance carrier, the form of insurance, and the year of the refusal.

#### Criminal Matters and Related Civil Suits

21. Has Contractor's firm or any of its owners, officers or partners ever been found liable in a civil suit or found guilty in a criminal action for making any false claim or material misrepresentation to any public agency or entity?

Yes       No

If "yes", explain on a separate signed page, including who was involved, the name of the public agency, the date of the investigation and the grounds for the finding.

22. Has Contractor's firm or any of its owners, officers or partners ever been convicted of a crime involving federal, state, or local law related to construction?

Yes       No

If "yes", explain on a separate signed page, including who was involved, the name of the public agency, the date of the conviction and the grounds for the conviction.

23. Has Contractor's firm or any of its owners, officers or partners ever been convicted of a federal or state crime of fraud, theft, or any other act of dishonesty?

Yes       No

If "yes", identify on a separate signed page the person(s) convicted, the court (the county if a state court, the district or location if a federal court), the year, and the criminal conduct.

#### Bonding

24. Bonding capacity: Provide documentation from surety identifying the following:

Name of bonding company/surety: \_\_\_\_\_

Name of surety agent, address, and telephone number:

\_\_\_\_\_

25. If Contractor's firm was required to pay a premium of more than one percent (1%) for a performance and payment bond on any project(s) on which the firm worked at any time during the last three (3) years, state the percentage that the firm was required to pay. (An explanation for such percentage rate may be provided at Contractor's discretion.)

\_\_\_\_\_

26. List all other sureties (name and full address) that have written bonds for Contractor's firm during the last five (5) years, including the dates during which each wrote the bonds:

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27. During the last five (5) years, has Contractor's firm ever been denied coverage by a surety company, or has there ever been a period of time when your firm had no surety bond in place during a public construction project when one was required?  
 Yes       No

If "yes", provide details on a separate signed sheet indicating the date when Contractor's firm was denied coverage, the name of the company or companies which denied coverage, and the period during which no surety bond was in place.

C. Compliance with Occupational Safety and Health Laws and with Other Labor Legislation Safety

28. Has Cal-OSHA cited and assessed penalties against Contractor's firm for any "serious", "willful", or "repeat" violations of its safety or health regulations in the last five (5) years?

**NOTE: If Contractor has filed an appeal of a citation, and the Occupational Safety and Health Appeals Board has not yet ruled on your appeal, Contractor need not include information about it.**

Yes       No

If "yes", attach a separate signed page describing the citations, including information about the dates of the citations, the nature of the violation, the project on which the citation(s) was/were issued, and the amount of the penalty paid (if any). If the citation was appealed to the Occupational Safety and Health Appeals Board and a decision has been issued, state the case number and the date of the decision.

29. Has the Federal Occupational Safety and Health Administration cited and assessed penalties against Contractor's firm in the last five (5) years?

**NOTE: If Contractor has filed an appeal of a citation and the Appeals Board has not yet ruled on the appeal, or if there is a court appeal pending, Contractor need not include information about the citation.**

Yes       No

If "yes", attach a separate signed page describing each citation.

30. Has the EPA or any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either Contractor's firm or the owner of a project contracted to Contractor in the last five (5) years?

**NOTE: If Contractor has filed an appeal of a citation and the Appeals Board has not yet ruled on the appeal, or if there is a court appeal pending, Contractor need not include information about the citation.**

Yes       No

If "yes", attach a separate signed page describing each citation.

31. How often does Contractor require documented safety meetings to be held for construction employees and field supervisors during the course of a project?

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32. List Contractor's Experience Modification Rate (EMR) (California's Workers' Compensation insurance) for each of the past three (3) premium years:

**NOTE: An Experience Modification Rate is issued to Contractor annually by its workers' compensation insurance carrier.**

Current year: \_\_\_\_\_

Previous year: \_\_\_\_\_

Year previous to previous year: \_\_\_\_\_

If Contractor's EMR for any of these three (3) years is or was 1.00 or higher, Contractor may, at its discretion, attach a letter of explanation.

33. Within the last five (5) years, has there ever been a period when Contractor had employees but was without workers' compensation insurance or state-approved self-insurance?

Yes       No

If "yes", please explain the reason for the absence of workers' compensation insurance on a separate signed page. If "no", please provide a statement from Contractor's current workers' compensation insurance carrier that verifies periods of workers' compensation insurance coverage for the last five (5) years. (If Contractor has been in business less than five (5) years, provide a statement from the workers' compensation insurance carrier verifying continuous workers' compensation insurance coverage for the period that Contractor has been in the construction business.)

#### Prevailing Wage and Apprenticeship Compliance Record

34. Has there ever been more than one occasion during the last five (5) years in which Contractor was required to pay either back wages or penalties for its failure to comply with the *state's* prevailing wage laws?

**NOTE: This question refers only to Contractor's violation of prevailing wage laws, not to violations of the prevailing wage laws by a subcontractor.**

Yes       No

If "yes", attach a separate signed page describing the nature of each violation, identifying the name of the project, the date of its completion, the public agency for which it was constructed, the number of employees initially underpaid, and the amount of back wages and penalties Contractor was required to pay.



35. During the last five (5) years, has there been more than one occasion in which Contractor has been penalized or required to pay back wages for failure to comply with the *federal* Davis-Bacon prevailing wage requirements?  
 Yes       No

If “yes”, attach a separate signed page describing the nature of each violation, identifying the name of the project, the date of its completion, the public agency for which it was constructed, the number of employees initially underpaid, and the amount of back wages and penalties Contractor was required to pay.

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36. Provide the name, address and telephone number of the apprenticeship program (approved by the California Apprenticeship Council) from whom Contractor intends to request the dispatch of apprentices to Contractor for use on any public work project for which it is awarded a contract by the County of Mendocino:

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37. If Contractor operates its own State-approved apprenticeship program:
- (a) Identify the craft(s) in which Contractor provided apprenticeship training in the past year.
  - (b) State the year in which each such apprenticeship program was approved, and attach evidence of the most recent California Apprenticeship Council approval(s) of Contractor’s apprenticeship program(s).
  - (c) State the number of individuals who were employed by Contractor as apprentices at any time during the past three (3) years in each apprenticeship and the number of persons who, during the past three (3) years, completed apprenticeships in each craft while employed by Contractor:

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38. At any time during the last five (5) years, has Contractor been found to have violated any provision of California apprenticeship laws or regulations, or the laws pertaining to use of apprentices on public works?

**NOTE: Contractor may omit reference to any incident that occurred prior to January 1, 1998, if the violation was by a subcontractor and Contractor, as general contractor on a project, had no knowledge of the subcontractor's violation at the time it occurred.**

Yes       No

If "yes", provide the date(s) of such findings, and attach copies of the Department's final decision(s).

PART III. RECENT CONSTRUCTION PROJECTS COMPLETED

39. Contractor shall provide information about its six most recently completed public works projects and its three largest completed private projects within the last three (3) years.<sup>4</sup> Names and references must be current and verifiable. Use separate sheets of paper that contain all of the following information:

- Project Name
- Location
- Owner
- Owner Contact (name and current phone number)
- Architect or Engineer
- Architect or Engineer Contact (name and current phone number)
- Construction Manager (name and current phone number)
- Description of Project, Scope of Work Performed
- Total Value of Construction (including change orders)
- Original Scheduled Completion Date
- Time Extensions (number of days)
- Actual Date of Completion

---

I, the undersigned, certify and declare that I have read all the foregoing answers to this qualification questionnaire and know its contents. The matters stated in the questionnaire answers are true of my own knowledge and belief, except as to those matters stated on information and belief, and as to those matters I believe them to be true. I declare under penalty of perjury under the laws of the State of California that the foregoing is correct.

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

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<sup>4</sup> Contractor may, using the same format, provide information about other projects that it has completed that are similar to the project for which it wishes to bid.

## **SECTION 00306 - ANTITRUST CLAIM ASSIGNMENT**

Pursuant to California Labor Code Section 7103.5, the following certification is hereby set forth and made a part of these specifications:

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

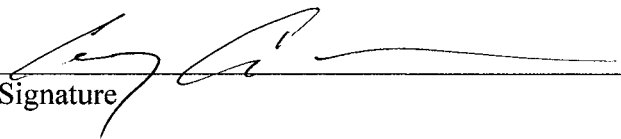
**SECTION 00307 - NON-COLLUSION AFFIDAVIT**

In accordance with California Public Contract Code Section 7106, the following affidavit must be completed by the Bidder:

Non-Collusion Affidavit to be executed by Bidder  
and submitted with bid

State of California            )  
  )  
County of Mendocino        )        ss.

Casey Cupples, being first duly sworn,  
deposes and says that he or she is Vice President of  
Cupples and Sons Construction Inc. the party making the foregoing bid that the bid  
is not made in the interest of, or on behalf of, any undisclosed person, partnership,  
company, association, organization, or corporation; that the bid is genuine and not  
collusive or sham; that the bidder has not directly or indirectly induced or solicited any  
other bidder to put in a false or sham bid, and has not directly or indirectly colluded,  
conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or  
that anyone shall refrain from bidding; that the bidder has not in any manner, directly or  
indirectly, sought by agreement, communication, or conference with anyone to fix the bid  
price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of  
the bid price, or of that of any other bidder, or to secure any advantage against the public  
body awarding the contract of anyone interested in the proposed contract; that all  
statements contained in the bid are true; and, further, that the bidder has not, directly or  
indirectly, submitted his or her bid price or any breakdown thereof, or the contents  
thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee  
to any corporation, partnership, company association, organization, bid depository, or to  
any member or agent thereof to effectuate a collusive or sham bid.

  
Signature \_\_\_\_\_



## **SECTION 00308 - PUBLIC CONTRACT CODE QUESTIONNAIRE**

In accordance with California Public Contract Code Section 7106, the following questionnaire must be completed by the Bidder:

Has the Bidder, any officer of the Bidder, or any employee of the Bidder who has a proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes       No

If 'yes', explain the circumstances in the space below.

**SECTION 00310 – BID FORM**

**Mechanical Upgrades for Fort Bragg Justice Center  
REBID**

FOR MENDOCINO COUNTY

**RECEIVED**  
Date Received \_\_\_\_\_  
Date Opened 2:00 pm  
Initials FEB 2 2023 *[Signature]*

County of Mendocino  
Executive Office  
Facilities and Fleet Division

TO: Honorable Board of Supervisors

It is understood that this bid is based upon completion of the work within the time of completion requirements contained in the Instructions to Bidders.

It is agreed that this bid may not be withdrawn for a period of eighty (80) days from the opening hereof.

The undersigned has carefully checked all its figures and understands that the County will not be responsible for any error or omissions on the part of the undersigned in making up this bid.

If awarded the Contract, the undersigned agrees to complete the Work, one hundred fifty (150) calendar days from the date of Notice to Proceed.

The undersigned, having become completely familiar with all conditions affecting the cost of the work at the place where the work is to be done, and with the drawings, specifications and other contract documents prepared and issued thereof and now on file at the General Services Agency Office, hereby proposes and agrees to perform everything required to be performed, and to provide and furnish any and all required labor, materials, equipment, transportation and services necessary to erect and complete in the best workmanlike manner, all as shown and specified.

The following bid amounts are as defined and clarified in the Bids Required portion of these specifications:

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**BASE BID:**

One Million, Four Hundred Fourteen Thousand, Six-Hundred and Forty Two Dollars (\$ 1,414,642.00)

**Allowance No.1 Unforseen Conditions Allowance:**

Forty-five Thousand Dollars (\$45,000.00)

**Allowance No.2 Temporary HVAC Allowance:**

Seventy-five Thousand Dollars (\$75,000.00)

**TOTAL BID:**

One Million, Five Hundred Thirty-Four Thousand, Six-Hundred and Forty Two Dollars (\$ 1,534,642.00 )

Name of Organization Cupples and Sons Construction Inc.

SALES TAX

All bids shall include required California State Sales Tax, cost of all bonds and insurance as required and all other items of expense incidental to the contract. The County of Mendocino is exempt from Federal Excise Tax.

A licensed Contractor shall not submit a bid to a public agency unless its Contractor's License number appears clearly on the bid, the license expiration date is stated, and the bid contains a statement that the representations made therein are made under penalty of perjury. Any bid not containing this information, or a bid containing information which is subsequently proven false, shall be considered nonresponsive and shall be rejected by the public agency.

Name of Organization Cupples and Sons Construction Inc.

Type of Organization Corporation  
(Corporation, Partnership, etc.)

Address 501 St. Mary's Drive, Hopland, CA 95449

Name of State where incorporated California

CONTRACTORS LICENSE NO. 806992 EXPIRATION DATE 04/30/2024

Contractor has registered with the State of California's DIR (Department of Industrial Relations) website.

DIR Registration #: 1000014873

Contractor is currently licensed to do business in the County of Mendocino. Mendocino County Business License

#: #127359

ADDENDA: CONTRACTOR TO ACKNOWLEDGE RECEIPT

I have received the following Addenda pertaining to this project and they have been included as part of my bid.

Numbers: #1 Dated 01/06/2023, #2 Dated 01/17/2023

The undersigned hereby certifies under penalty of perjury that this bid is genuine and not collusive, that all the information is correct and that he/she has carefully checked all of the above figures and understands that the County will not be responsible for any errors or omissions on the part of the undersigned on making up this bid.

Signature 





**MERCHANTS**  
**BONDING COMPANY**<sup>TM</sup>

MERCHANTS BONDING COMPANY (MUTUAL) 6700 WESTOWN PARKWAY, WEST DES MOINES, IA  
PHONE: 800-678-8171 FAX: 515-243-3854

**BID BOND**  
**PUBLIC WORK**

Bond No. MBC01723

KNOW ALL PERSONS BY THESE PRESENTS:

That Cupples & Sons Construction, Inc.  
(hereinafter called the Principal) as Principal, and the Merchants Bonding Company (Mutual)  
(hereinafter called Surety), as Surety, are held and firmly bound to County of Mendocino

(hereinafter called the Obligee) in the full and just sum of ( Not to exceed 10% of the bid amount\*\*\*\*\* )  
Not to exceed ten percent of the bid amount\*\*\*\*\* Dollars

good and lawful money of the United States of America, to the payment of which sum of money well and truly to be made, the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed and dated this 17th day of January, 2023.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Obligee shall make any award to the Principal for

Mechanical Upgrade for Fort Bragg Justice Centr - REBID

according to the terms of the proposal or bid made by the Principal therefore, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award, and shall give bond for the faithful performance thereof with the Merchants Bonding Company (Mutual), as Surety, or with other Surety or Sureties approved by the Obligee; or if the Principal shall, in case of failure to do so, pay to the Obligee the damages which the Obligee may suffer by reason of such failure, not exceeding the penalty of this bond, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect.

IN TESTIMONY WHEREOF, the Principal and Surety have caused these presents to be duly signed and sealed.

Witness:

[Signature]

Cupples & Sons Construction, Inc.  
Principal

By [Signature]

Attest:

[Signature]

Merchants Bonding Company (Mutual)  
By [Signature]  
Sandra R. Black, Attorney-in-Fact



# CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

County of Sacramento }

On 11/17/2023 before me, E. Johnson, Notary Public,  
Date Insert Name of Notary exactly as it appears on the official seal

personally appeared Sandra R. Black

Name(s) of Signer(s)

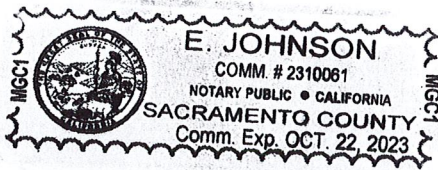
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s),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

E. Johnson  
Signature of Notary Public



Place Notary Seal Above

## OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of the form to another document.

### Description of Attached Document

Title or Type of Document: \_\_\_\_\_

Document Date: \_\_\_\_\_ Number of Pages: \_\_\_\_\_

Signer(s) Other Than Named Above: \_\_\_\_\_

### Capacity(ies) Claimed by Signer(s)

Signer's Name: Sandra R. Black

- Individual  
 Corporate Officer — Title(s): \_\_\_\_\_  
 Partner  Limited  General  
 Attorney in Fact  
 Trustee  
 Guardian or Conservator  
 Other: \_\_\_\_\_

RIGHT THUMBPRINT  
OF SIGNER

Top of thumb here

Signer is Representing:  
Merchants Bonding  
Company(Mutual)/Merchants  
National Bonding, Inc.

Signer's Name: \_\_\_\_\_

- Individual  
 Corporate Officer — Title(s): \_\_\_\_\_  
 Partner  Limited  General  
 Attorney in Fact  
 Trustee  
 Guardian or Conservator  
 Other: \_\_\_\_\_

RIGHT THUMBPRINT  
OF SIGNER

Top of thumb here

Signer is Representing:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**MERCHANTS**  
**BONDING COMPANY™**  
**POWER OF ATTORNEY**

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa, d/b/a Merchants National Indemnity Company (in California only) (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Chelsea Nielson; Erin Johnson; Jonathan Russell; Robin L Amstutz; Sandra R Black; Stella Winterbourne

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the following By-Laws adopted by the Board of Directors of Merchants Bonding Company (Mutual) on April 23, 2011 and amended August 14, 2015 and adopted by the Board of Directors of Merchants National Bonding, Inc., on October 16, 2015.

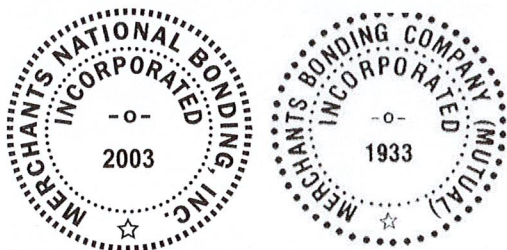
"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

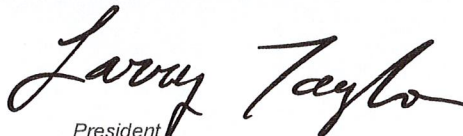
In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner-Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 8th day of December, 2022.

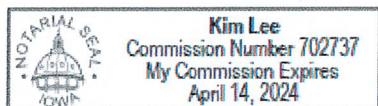


MERCHANTS BONDING COMPANY (MUTUAL)  
MERCHANTS NATIONAL BONDING, INC.  
d/b/a MERCHANTS NATIONAL INDEMNITY COMPANY

By   
President

STATE OF IOWA  
COUNTY OF DALLAS ss.

On this 8th day of December 2022, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC.; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.

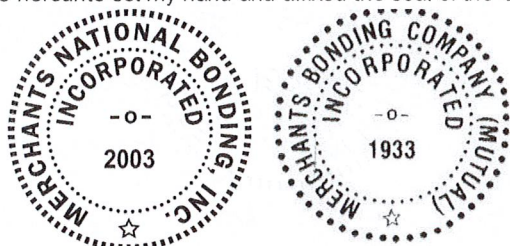


  
Notary Public

(Expiration of notary's commission does not invalidate this instrument)

I, William Warner, Jr., Secretary of MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 17 day of January, 2023



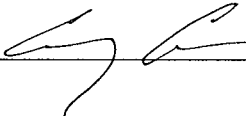
  
Secretary

**SECTION 00501 - WORKERS' COMPENSATION CERTIFICATION**

Pursuant to California Labor Code Section 1861, the Contractor hereby certifies the following:

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

Dated 1/25/23

Contractor Signature   
\_\_\_\_\_

**SECTION 00510 - CONTRACTOR GUARANTEE**

**Mechanical Upgrades for Fort Bragg Justice Center**

Contractor hereby guarantees that the labor and material furnished for this project is in accordance with the drawings and specifications. Contractor agrees to repair or replace any or all of the work, together with any other adjacent work which may be displaced in so doing, that may prove to be defective in its workmanship or material within a period of ONE (1) YEAR from date of acceptance of the above named project by County without any expense whatsoever to County, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of Contractor's failure to comply with the above-mentioned conditions within fifteen (15) calendar days after being notified in writing by County, Contractor authorizes County to proceed to have said defects repaired and made good at Contractor's expense. Contractor shall honor and pay the costs and charges therefore upon demand.

SIGNED \_\_\_\_\_

COUNTERSIGNED \_\_\_\_\_

CONTRACTOR \_\_\_\_\_

DATED \_\_\_\_\_

DATE OF BUILDING ACCEPTANCE \_\_\_\_\_

## SECTION 00520 - ROOFING GUARANTEE

### MECHANICAL UPGRADES FOR FORT BRAGG JUSTICE CENTER

Contractor hereby guarantees that the labor and material furnished for this project is in accordance with the drawings and specifications. Contractor agrees to maintain the roof and flashings in a water-tight condition and to repair or replace any or all of the work, together with any other work which may be displaced in so doing, that may prove to be defective in its workmanship or material within a period of five (5) years from date of acceptance of the above-named structure by County without any expense whatsoever to County, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of Contractor's failure to comply with the above-mentioned conditions with fifteen (15) calendar days after being notified in writing by County, Contractor authorizes County to proceed to have said defects repaired and made good at Contractor's expense. Contractor shall honor and pay the costs and charges therefor upon demand.

ROOFING CONTRACTOR:

SIGNED \_\_\_\_\_

DATED \_\_\_\_\_

DATE OF BUILDING ACCEPTANCE \_\_\_\_\_

## SECTION 00650 - CONSTRUCTION SITE STORM WATER POLICY

### PART I – GENERAL

#### 1.1 SUMMARY

- A. Mendocino County Ordinance No. 4313 STORM WATER RUNOFF POLLUTION PREVENTION PROCEDURE (Mendocino County Code Chapter 16.30 et.seq.) requires any person performing construction and grading work anywhere in the county shall implement appropriate Best Management Practices (BMP) to prevent the discharge of construction waste, debris, sediment or contaminants from construction materials, tools and equipment from entering the storm drainage system or natural waterways (off-site).
- B. By commencing work in this contract, the contractor agrees to comply with Mendocino County Code Section 16.30.140 Inspection and monitoring. The County may enter the worksite whenever necessary to perform inspections related to the Storm Water Runoff Pollution Prevention Procedures for the project including inspection of BMP's and records relating to storm water plan compliance.

#### 1.2 SUBMITTALS

- A. Prior to beginning construction activities, submit construction site Best Management Practice (BMP) Plans and Specifications prepared by a Qualified Storm Water Developer (QSD) or the Contractor referencing Mendocino County Building and Planning Services Documents noted below:
  - 1. Construction Best Management Practices for over-the-counter building permits for projects that do not disturb any soil.
  - 2. Small Construction Site Storm Water Erosion and Sediment Control Plan Template for projects that will disturb any soil.
- B. Submittal shall include a project specific BMP plan for all areas of soil disturbance and possible contamination source generated by the project. Attach copies of the relevant current BMP fact sheets from the California Storm Water BMP Handbook Portal planned to address each potential source of contamination generated by the project.
- C. A County approved BMP plan is required prior to beginning work on the project.



## Part 2 – PRODUCTS

### 2.1 MATERIALS

- A. Provide Materials in Compliance with Approve BMP fact sheets in appropriate quantities to mitigate possible runoff, sedimentation and/or contamination in accordance with the approved BMP plan.

## Part 3 – EXECUTION

### 3.1 PREPARATION

- A. Prepare BMP schedule to identify dates when BMP's will be installed.
- B. Ensure that BMP Materials are on site in the event of an untimely rain event and prior to October 15<sup>th</sup>.
- C. Identify and mark Storm Drain Inlets and drainage features leading to storm drains or natural waterways.
- D. Identify and provide instruction and training to on site personnel responsible for installation and management of BMP's.

### 3.2 INSTALLATION

- A. Complete BMP installation Prior to October 1<sup>st</sup> or prior to ground disturbance activities between October 1<sup>st</sup> and April 15<sup>th</sup>, and call the project manager for an inspection of the installed BMP plan. Do not start grading activities without BMP's in place.
- B. Comply with installation guidelines included with BMP fact sheets and suitable to site conditions.
- C. Remove Contamination and Sediment BMP's after sources of sedimentation, or contamination have been removed from the site or final soil stabilization is complete. Do not remove Erosion Control BMP's until permanent Erosion Control features are established unless directed by the County.

### 3.3 INSPECTION

- A. It is the responsibility of the Contractor to provide regular inspection of BMP's throughout the rainy season. Maintain and replace all BMP's in accordance with the approve BMP plan.

- B. Prior to significant rain events, inspect installed BMP's to ensure all potential sources of contamination, sedimentation or erosion are protected by approved BMP's.
- C. During significant rain events verify that installed BMP's are adequate to the flows on the project site.
- D. Record inspection findings as required by approved BMP plan.
- E. Maintain Inspection records and a copy of the approved BMP plan on the project site for inspection by County and NCWRCB.
- F. Failure of the Contractor to comply with the requirements of these specifications and the provisions of the approved Storm Water pollution Prevention Plan or BMP plan may result in work stoppage, a written citation, monetary fine or any combination thereof.

END OF SECTION

## 00700 - GENERAL CONDITIONS

### 1. DEFINITIONS

Whenever in the Specifications and other Contract Documents the following abbreviations and terms are used, the intent and meaning shall be interpreted as follows:

- A. "Owner" - Board of Supervisors, County of Mendocino, or its authorized agents or assignees.
- B. "Agent" - The Agent acting for the County, which shall be either the County General Services Agency Director or his/her designee, or the County Executive Officer or his/her designee.
- C. "Contractor" - The person or persons, partnership, corporation, or combination thereof, private or municipal, who have entered into a contract with the County, as party or parties of the second part or his/her or their legal representatives.
- D. "Specifications" - The directions, provisions and requirements contained in these Specifications as supplemented by the Supplementary Conditions. Whenever the term "These Specifications" is used in this book, it means the provisions as set forth in this book.
- E. "Paragraph" - The particular section of subdivision herein designated by a number.
- F. "Laboratory" - The designated laboratory authorized by the County to test materials and work involved in the Contract.
- G. In the case of conflict between the Standard Specification and these Specifications, these Specifications shall take precedence over and be used in lieu of such conflicting portions:

A.W.S.	American Welding Society
A.S.T.M.	American Society for Testing Materials
A.S.A.	American Standard Association
N.B.F.U.	National Board of Fire Underwriters
N.B.S.	National Bureau of Standards
A.S.M.E.	American Society of Mechanical Engineers
A.R.I.	American Refrigeration Institute
N.E.M.A.	National Electrical Manufacturers Association
U.L.	Underwriter's Laboratories
E.T.L.	Electrical Testing Laboratories
A.C.I.	American Concrete Institute
F.A.	Federal Specifications
A.I.S.C.	American Institute of Steel Construction

- H. The County and the Contractor are those named as such in the Agreement. They are treated throughout the Contract Documents as if each were of the singular number and the masculine gender.

- I. When the words "Approved", "Satisfactory", or "Equal", "As Directed", etc. are used, approval by the County is understood.
- J. All Federal, State laws and local laws shall govern the construction of the Contract and all rules, ordinances and requirements of authorized officials shall be complied with.
- K. It is understood that any reference to the Specifications or designation of the American Society for Testing Materials, Federal Specifications or other standard, code, or order, refers to the most recent or latest amended specification or designation.

2. EXAMINATION OF PLANS AND SPECIFICATIONS

The Bidder shall examine carefully the site of the work contemplated and the proposal, plans, specifications, and Contract forms thereof. It will be assumed that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and material to be furnished, and as to the requirements of these Specifications.

3. DRAWINGS AND SPECIFICATIONS

- A. Figured dimensions on the drawings dated 12-16-2022 shall govern, but work not dimensioned shall be as directed. Work indicated but not particularly detailed or specified shall be equal to similar parts that are detailed or specified, or as directed. Full-size detailed shall take precedence over scale drawings as to shape and details of construction. It is intended that scale drawings, full-size details and specifications should agree, but should any discrepancy or apparent error occur in plans and specifications or should any work of others affect this work, the Contractor shall notify the County at once; if the Contractor proceeds with the work affected without instruction from the County he shall make good any resultant damage or defect.
- B. All misunderstandings of drawings or specifications shall be clarified by the County, whose decision shall be final.
- C. Any work called for by the drawings and not mentioned in the Specifications, or vice versa, is to be furnished as though fully set forth by both. Where not specifically stated otherwise, all work and materials necessary for each unit of construction, including special construction for any specific brand or shape of material called for even though only briefly mentioned or indicated, shall be furnished and installed fully and completely as a part of the Contract.
- D. Lists, rules and regulations referred to are recognized printed standard and shall be considered as one and a part of these Specifications within the limits specified.
- E. "General Conditions" apply with equal force to all of the work, including extra work authorized.
- F. For convenience, the Technical Specifications are arranged in Divisions and further divided into various sections. It is to be understood, this separation is for convenience of all parties involved and is not to be considered as the limits of the work required of any separate trade. The terms and conditions of such limitations are wholly between the County and the Contractors during

bidding and construction phases; i.e., all work shown, as well as for the proper completion of the project as a whole, shall be coordinated by the Contractor and his Subcontractors during bidding and construction and shall be provided in this Contract.

4. CONDUCT OF WORK

- A. The County reserves the right to do other work in connection with the project by contract or otherwise. Contractor shall at all times conduct his work so as to impose no hardship on the County or others engaged in the work. Contractor shall adjust, correct, and coordinate his work with the work of others so that no discrepancies shall result in the whole work.
- B. The Contractor shall provide at his own cost and risk all labor, material, water, power tools, machinery, scaffolding, and framework for the execution of the work. Equipment shall be adequate and as approved.

The Contractor shall obtain all necessary measurements from the work and shall check dimensions, levels, and construction and layout and supervise the construction, for correctness of all of which he shall be responsible.

- C. Where work of one trade joins or is on other work, there shall be no discrepancy when same is completed. In engaging work with other materials, marring or damaging same shall not be permitted. Should improper work of any trade be covered by another which results in damage or defects, the whole work affected shall be made good without expense to the County.
- D. The Contractor must anticipate relation of all parts of the work and at the proper time furnish and set anchorage, blocking or bonding as required. Anchorage and blocking necessary for each trade shall be a part of same, except where stated otherwise.
- E. Assistance required by the County in obtaining measurements or information on the work shall be furnished accurately and fully without cost to the County.

5. OWNERSHIP OF DRAWINGS

All plans and specifications shall remain the property of the County and shall be returned to the office of the County Director of General Services or shall be accounted for by the Contractor before the final certificate will be issued.

6. PUBLIC AND COUNTY CONVENIENCE AND SAFETY

The Contractor shall furnish, erect, and maintain such fences, barriers, lights and signs as are necessary to give adequate warning to the public at all times and of any dangerous conditions until final acceptance of the work by the County.

7. ACCIDENT PREVENTION

- A. It shall be the Contractor's responsibility to keep himself fully informed of all existing and future safety regulations, Codes, OSHA requirements, and other laws and regulations governing the work which may in any manner affect anyone in and around the project or engaged or employed in the work, or materials, equipment, etc. used in the work or which in any way affect the conduct of the work.
- B. The Contractor shall appoint a Safety Officer for the project and submit his name to the County.
- C. The Contractor shall supply the County with a Material Safety Data Sheet (MSDS) on each hazardous substance to be used by the Contractor on the project.
- D. The Contractor and his Safety Officer shall be solely responsible for insuring compliance with those Codes, regulations, OSHA requirements, and for discovering and correcting any code violations or unsafe conditions.
- E. Reports of all lost-time accidents shall be promptly submitted to the Owner, giving all pertinent information.

8. RESPONSIBILITY FOR DAMAGE

The County shall not be answerable or accountable in any manner for: (1) any loss or damage that may happen to the work or any part thereof, for any loss or damage to any of the materials or other things used or employed in performing the work; (2) injury to or death of any person or persons, either workers or the public; (3) damage to property from any cause which might have been prevented by the Contractor or his workers or anyone employed by him. The Contractor shall be responsible for any liability imposed by law for injuries to or death of any person including, but not limited to, workers and the public or damage to property resulting from defects or obstructions or from any cause whatsoever during the progress of the work or at any time before its completion and final acceptance. The Contractor shall indemnify, save harmless and defend the County of Mendocino, its elected or appointed officers, agents, employees or volunteers connected with the work, from all claims or actions for injuries or death of any person, or damage to property, resulting from the Contractor's performance of the Contract. With respect to third party claims against the Contractor, the Contractor waives any and all rights to any type of express or implied indemnity against the County of Mendocino, its elected or appointed officers, agents, employees or volunteers.

In addition to any remedy authorized by law, so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the County may be retained by the County until disposition has been made of such suits or claims for damages as aforesaid.

9. LAWS TO BE OBSERVED

The Contractor shall keep himself fully informed of all existing and future State, Federal and local laws, codes and regulations 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 and tribunals having any jurisdiction or authority over the same and shall be solely responsible for insuring compliance with those laws, codes and regulations.

A partial, though not necessarily complete listing of laws to be observed by the Contractor is as follows:

- A. Federal Americans with Disabilities Act of 1990.
- B. Federal Labor Standards Act.
- C. The Anti Kick-Back regulations found in 29 CFR Part 3.
- D. All contract clauses required by 29 CFR 5.5 (a) and (c), 20 U.S.C. 1232b ; 40 U.S. C. 276a, 276c, 327-332; 29 CFR Parts, (926).
- E. Nondiscrimination clause and Certification of Non-Segregated Facilities prescribed by Executive Order No. 11246, September 24, 1965 as amended by Executive Order 11375.
- F. Executive Order No. 11288 of July 7, 1966 (31 FR 9261) "Prevention, Control and Abatement of Water Pollution".
- G. Executive Order 11988, relating to evaluation of flood hazards.
- H. Compliance with all Federal, State and local requirements for handicapped access, fire safety and seismic resistance.

#### 10. BONDS REQUIRED

The successful bidder shall furnish bonds as required in the document entitled "Instructions to Bidders" which is part of these Contract documents.

#### 11. INSURANCE

The Contractor, at his expense, shall secure and maintain at all times during the entire period of performance under this Contract, insurance as set forth below with insurance companies acceptable to the County of Mendocino.

The Contractor shall provide to the County of Mendocino certificates of insurance with endorsements properly executed by an officer or authorized agent of the issuing insurance company evidencing coverage and provisions as stated below:

##### A. INSURED

Name the County of Mendocino, its elected or appointed officials, employees, agents and volunteers as additional insured with regard to damages and defense of claims arising from: (a) activities performed by or on behalf of the Named Insured, (b) products and completed operations of the Named Insured, (c) Premises owned, leased or used by the Named Insured, or (d) Ownership, operation, maintenance, use, loading or unloading of any vehicle owned, leased,



hired or borrowed by the Named Insured, regardless of whether liability is attributable to the Named Insured or a combination of the Named Insured and the County of Mendocino, its elected or appointed officials, employees, agents and volunteers.

**B. SEVERABILITY OF INTEREST**

Provide that the inclusion of more than one named insured shall not operate to impair the rights of one insured against another insured, and the coverages afforded shall apply as though separate policies had been issued to each insured.

**C. CONTRIBUTION NOT REQUIRED**

Provide that as respects: (a) work performed by the Named Insured on behalf of the County of Mendocino; or (b) products sold by the Named Insured to the County of Mendocino; or (c) premises leased by the Named Insured from the County of Mendocino; or (d) ownership, operation, maintenance, use, loading or unloading of any vehicle owned, leased, hired or borrowed by the Named Insured, the insurance afforded by this policy shall be primary insurance as respects the County of Mendocino, its elected or appointed officials, employees, agents and volunteers; or stand in an unbroken chain of coverage excess of the Named Insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the County of Mendocino, its elected or appointed officials, employees, agents and volunteers shall be excess of this insurance and shall not contribute with it.

**D. COVERAGE BELOW MINIMUM REQUIRED NOTICE**

Provide that the limits of insurance afforded by this policy shall not fall below the minimum requirements of the County of Mendocino without notice to the County of Mendocino by certified mail return receipt requested. Such notice shall be addressed to: County of Mendocino, Courthouse, Ukiah, Calif. 95482, Attn: Risk Management.

**E. CANCELLATION NOTICE**

Provide that the insurance afforded by this policy shall not be suspended, voided, canceled, non-renewed or reduced in coverage or in limits except after thirty (30) day's prior written notice, delivered in person or by First Class U.S. Mail, has been given to the County of Mendocino. Such notice shall be addressed to: County of Mendocino, 841 Low Gap Road, Ukiah, Calif. 95482, Attn: Risk Management.

Contractor shall furnish to the County of Mendocino certificate(s) of insurance evidencing Workers Compensation Insurance coverage to cover its employees. The Contractor shall require all subcontractors similarly to provide Workers Compensation Insurance as required by the Labor Code of the State of California for all of the Contractor's and subcontractors' employees.

The Contractor shall not commence work, nor shall he allow his employees or subcontractors or anyone to commence work until all insurance required and provisions contained herein have been submitted to and accepted by the County of Mendocino. Failure to submit proof of

insurance as required herein may result in awarding said Contract to another bidder. Failure to comply with the insurance requirements set forth herein shall constitute a material breach of contract and, at County of Mendocino's option, shall subject this Contract to termination.

Insurance coverage in the minimum amounts set forth herein shall not be construed to relieve the Contractor for liability in excess of such coverage, nor shall it preclude the County of Mendocino from taking such other action as is available to it under any other provisions of this Contract or otherwise in law.

### SCOPE OF LIABILITY COVERAGES

Contractor shall furnish to the County of Mendocino certificates of insurance evidencing at the minimum the following:

1. Commercial General Liability (CGL) including products and completed operations, property damage, bodily injury and personal & advertising injury \$1,000,000 each occurrence and \$2,000,000 aggregate.

2. Vehicle-Bodily Injury \$500,000 each person, \$1,000,000 each occurrence,

and

Vehicle-Property Damage \$1,000,000 each occurrence.

---or---

Combined Single Limit Vehicle Bodily Injury and Property Damage Liability \$1,000,000 each occurrence.

3. Contractor shall obtain, at Contractor's expense, and keep in effect until final acceptance by the County, all risk Builder's Risk Insurance (including earthquake and flood) covering the real and personal property of others in the care, custody, and control of the contractor. Coverage shall include theft and damage to building interiors. The minimum amount of coverage to be carried shall be equal to the full amount of the contract. Contractor shall be financially responsible for any deductible applied to loss. This insurance shall include Mendocino County, the Contractor and its subcontractors as their interests may appear.

### 12. WORKERS COMPENSATION CERTIFICATION

Contractor certifies as follows:

"I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Workers Compensation or to undertake self-insurance in accordance with

the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract". (Labor Code Section 1861)

13. CONTRACTOR'S RESPONSIBILITY FOR WORK

Until the formal acceptance of the work by the County, the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof or to materials or thing employed in doing the work or stored on the site by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, replace, and make good all injuries or damages to any portion of the work occasioned by any of the above caused before final acceptance and shall bear the expense thereof, except such injuries or damages occasioned by acts of the Federal Government or the public enemy. The Contractor's responsibility also extends to adjoining property as related to the construction operation.

14. RESPONSIBILITY OF COUNTY

The County shall not be held responsible for the care or protection of any material or parts of the work prior to final acceptance, except as expressly provided in these Specifications.

15. COOPERATION BETWEEN CONTRACTORS

Where two or more contractors are employed on related or adjacent work, each shall conduct his operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor shall be responsible to the other for all damage to work, to person or property, or for loss caused by failure to furnish the work within the time specified for completion.

Should the Contractor, through acts of neglect on the part of any Contractor, suffer loss or damage to the Work, the Contractor agrees to settle with such other Contractor by agreement. If such other Contractor should file claim against the County on account of alleged damages to be sustained, the County shall notify the Contractor who shall, at his expense, indemnify and save harmless the County against any such claim.

16. SUBCONTRACTING AND ASSIGNMENT

The Contractor shall give his personal attention to the fulfillment of the Contract and shall keep the work under his control. Should the Contractor subcontract any part of his Contract, the Contractor shall be fully responsible to the County for the acts and omissions of his subcontractor and of the persons either directly or indirectly employed by the subcontractor as he is for the acts and omissions of persons directly employed by himself.

No subcontractor will be recognized as such, and all persons engaged in the work on construction shall be considered as employees of the Contractor.

17. PERMITS AND LICENSES

The Contractor shall procure all permits and licenses, pay all charges and fees, and file all notices necessary and incidental to the due and lawful prosecution of the work.

18. PATENTS

The Contractor shall assume all responsibilities arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the work.

19. LIENS

Liens shall be enforced as provided by California State Law pertaining to Public Works.

20. CHANGES IN THE WORK

- A. The County may authorize or order changes in the work, in which event the Contract sum shall be adjusted by one or more, or a combination of, the following methods:
1. Unit bid prices previously approved or as may be agreed upon.
  2. An agreed lump sum substantiated by Contractor, itemizing labor, material, equipment, overhead, profit, bond, etc.
  3. By ordering Contractor to proceed with work and keep correct account with vouchers the actual cost of:
    - a. Labor, including foreman;
    - b. Materials entering permanently into the work;
    - c. The ownership or rental cost of construction plant and equipment during the time of use on the extra work;
    - d. The work of subcontractors, accounted for as described herein;
    - e. Power and consumable supplies for the operation of power equipment;
    - f. Insurance;
    - g. Social Security and old age and employment contribution.
- B. To the cost under (2) and (3), there may be added a fixed fee to be agreed upon but not to exceed fifteen percent (15%) for the estimated cost of the work. The fee shall be compensation to cover the cost of administrative overhead, and profit.

- C. On changes which involve a credit to the County, no allowances for overhead need be figured.
- D. All such change orders and adjustments shall be in writing.
- E. All Claims by Contractor for extra cost shall be made in writing before executing the work involved. Refer to specification section 011900 – Unforeseen Physical Conditions for Claims procedures.
- F. All change orders shall be reviewed and approved by the County.

21. COUNTY'S RIGHT TO TERMINATE CONTRACT

If the Contractor should refuse or neglect to properly perform or prosecute the work or if he should substantially violate any provision of the Contract, then the County may, without prejudice to any other right or remedy upon seven (7) days written notice to the Contractor, terminate the services of the Contractor and take possession of the premises, and all materials, tools, and equipment thereon and complete the work. The expense thereof shall be deducted from the balance otherwise due the Contractor. If such expense should exceed such unpaid balance, then the Contractor shall pay the difference to the County.

22. CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

If the work is stopped for a period of thirty (30) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the work under a contract with the Contractor, or if the work should be stopped for a period of thirty (30) days by the Contractor because no certificate for payment has issued as provided in Paragraph 25 or because the County has not made payment thereon as provided in Paragraph 25, then the Contractor may, upon seven (7) additional days' written notice to the County, terminate the Contract and recover from the County payment for all work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

23. TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. In case all the work called for under the Contract is not completed before or upon the expiration of the time limit as set forth in these specifications, damage will be sustained by the County, and it is impracticable to determine the actual damage which the County will sustain in the event of and by reason of such delay. It is therefore agreed that the Contractor will pay to the County the sum of money per calendar day for each day's delay beyond the time prescribed as required in the document entitled "Instructions to Bidders", which is a part of these Contract Documents. The Contractor agrees to pay such liquidated damages as herein provided, and in case the same are not paid, agrees that the County may deduct the amount thereof from any money due or that may become due the Contractor under the Contract.

- B. In case the work called for under the Contract is not finished and completed in all parts and requirements within the time specified, the County shall have the right to extend the time for completion or not, as may best serve the interest of the County. If the County decides to extend the time limit for the completion of the Contract, the County shall further have the right to charge the Contractor, his 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 cost of County, including inspections, superintendence, and other overhead expenses directly chargeable to the Contract, and which accrue during the period of such extension. The cost of final inspections shall not be included in such charges.
- C. The Contractor shall not be assessed with liquidated damages nor the cost of County's services and inspection during any delay in the completion of the work caused by acts of God or the public enemy, acts of the County, fire, flood, earthquake, epidemics, quarantine restrictions, strikes, freight embargoes, shortages of materials, labor, fixtures or equipment (provided the Contractor furnishes satisfactory and acceptable proof that he has made diligent attempts to obtain same) and unusually severe weather or delays of subcontractors due to such causes, provided the Contractor shall within ten (10) days from the beginning of such delay notify the County in writing of the delay. County's findings of fact thereon shall be final and conclusive.
- D. The County agrees that changes in work ordered pursuant to Paragraph 20 and extensions of completion time made necessary by reasons thereof, shall in no way release any guarantee given by the Contractor or the Contract let hereunder, nor shall such changes in the work relieve or release the sureties on bonds executed pursuant to these specifications. Sureties shall be deemed to have expressly agreed to any change in the work and to any extension of time made by reason thereof.

24. ACCEPTANCE

- A. The Contract will be accepted as completed only when the whole and entire Contract shall have been completed satisfactorily to the County. In judging the work, no allowance for deviations from the original plans and specifications will be made unless already approved in writing at proper times and in a manner as called for herein.
- B. Should it become necessary to occupy a portion of the work before the Contract is fully completed, such occupancy shall not constitute acceptance.

25. PARTIAL PAYMENTS

On the twenty-fifth (25th) day of each month, the Contractor shall submit to the County for approval an application for payment, using the standard AIA forms, showing an itemized statement for work that has been performed. The County within thirty (30) days of receipt of an approved application, shall issue to the Contractor a certificate for the amount the County has approved for work that has been performed less retention as authorized by law.

Contractor shall submit certified copy of payroll showing payment of California State Prevailing wages with each request for payment submitted.

26. FINAL PAYMENT

Upon completion of the Contract, the County will cause to be made a final estimate of the amount of work done, and the value of such work. After approval by the County representative, the County shall pay the remainder due on the contract (with the exception of retainage) after deducting there from, all previous payments. All amounts retained (retainage) under the provisions of the Contract shall be due and payable 30 days from the date of acceptance in writing of the completion of Contract and / or Notice of Completion issued by the County representative. All prior partial estimates and payments shall be subject to correction in the final estimate and payments. Payment and the final estimate is due within thirty-five (35) days from the recorded date of the Notice of Completion, provided all as-built drawings, equipment manuals, instructions to the owner and guarantees have been received and accepted by the County.

27. PAYMENT WITHHELD

The County may withhold or, on account of subsequently discovered evidence, may nullify the whole or part of any certificates to such extent as may be necessary to protect the County from (1) defective work not remedied, (2) asserted claims against Contractor, (3) failure of the Contractor to make payments properly to employees or for material or labor, (4) any reasonable doubt that the Contract work can be completed for the balance then unpaid, or (5) damage to another contractor.

28. FAULTY WORK AND MATERIALS

The Contractor shall promptly remove from the premises all materials condemned by the County as failing to conform to the Contract, whether incorporated in the work or not. The Contractor shall promptly replace and re-execute his own work in accordance with the Contract and without expense to the County. The Contractor shall bear the expense of making good all work of other contractors destroyed or damaged by such removal.

If the Contractor does not remove such condemned work and materials within reasonable time, fixed by written notice, the County may remove them and may store the materials at the expense of the Contractor. If the Contractor does not pay the expenses of such removal within ten (10) days thereafter, the County may upon ten (10) days written notice, sell such materials at auction or at private sales and shall account for the net proceeds thereof after deducting all costs and expenses that should have been borne by the Contractor.

29. TEMPORARY SUSPENSION OF WORK

The County shall have the authority to suspend the work wholly or in part, for such period as it may deem necessary, due to unsuitable weather or to such other conditions as are considered unfavorable for the suitable progression of the work, or for such time as it may deem necessary due to the failure of the Contractor to carry out orders given by County, or to perform any provision of the Contract. The Contractor shall immediately obey such order of the County and shall not resume work until ordered in writing by the County.

30. SAMPLES

When requested, the Contractor shall submit for the County's review samples of the various materials, together with the finish thereof, as specified for and intended for use in the work. Samples of bulk materials shall be selected by the lab. All materials and workmanship shall in all respects be equal to the samples so submitted and reviewed. Samples shall be sent or delivered to the County, samples and delivery charges paid by Contractor. Samples will be returned to the Contractor if requested, shipping or delivery charges collect.

31. CLEANING AND REMOVAL OF DEBRIS

The Contractor shall, as directed by the County during the progress of the work, remove and properly dispose of dirt and debris and shall keep the premises reasonably clean. Upon completion of the work, the Contractor shall remove all of his equipment and unused materials provided for the work, and shall put the building and appurtenances in a neat and clean condition and shall do all cleaning and washing required by the specifications.

32. OBSTRUCTIONS

The Contractor may be required to work around public utility facilities and other improvements which are to remain in place within the construction area. The Contractor shall be held liable to the owners of such facilities and improvements for any damage or interference with service resulting from the Contractor's operation.

The exact location of underground facilities and improvements within the construction area, whether shown on the drawings or not, shall be ascertained by the Contractor before using equipment that may damage such facilities or interfere with their service.

33. SUPERINTENDENT IN CHARGE

The Contractor shall keep on the work site, at all times, and until the acceptance certificate is issued a competent superintendent or foreman for the purpose of receiving and executing without delay any orders from County in keeping with the terms of the Contract. This foreman shall have charge of the plans and specifications kept on the job. He shall be instructed to familiarize himself closely with all provisions of the plans and specifications and to follow the same accurately.

34. STORAGE OF MATERIALS AND EQUIPMENT

Materials and equipment shall not be stockpiled or placed outside of the site property lines unless written permission is obtained by the appropriate owner or political subdivision having jurisdiction over the adjacent property, roads, streets, etc.

35. GENERAL GUARANTY

Neither the final payment nor any partial payment, nor partial or entire use of the premises by occupancy by the County shall constitute an acceptance of the work not completed in accordance with



the Contract. Final Payment or partial payment or partial or entire use of the premises by occupancy shall not relieve the Contractor of liability with respect to any warranties or responsibilities for faulty materials or workmanship. The Contractor shall remedy any defect in the work and pay for any damage to other work resulting therefrom which shall appear within a period of one (1) year from the date of final acceptance of the work, unless a longer period is specified elsewhere in these specifications. The County shall notify the Contractor of observed defects with reasonable promptness.

36. MATERIALS AND SUBSTITUTIONS

- A. Specific reference to materials, appliances, fixtures and equipment by trade name is intended to be used as standard, but this implies no right on the part of the Contractor to use other materials, fixtures, appliances, equipment, until review by the County.
- B. The County alone shall determine what will be considered as equal, but the burden of proof as to quality, utility and function, etc. shall be upon the Contractor.

If the Contractor desires to substitute any item, he shall in writing state the cost of such item and the original item named in the specifications if requested and shall submit a substitution warranty in the format shown in the specifications.

- C. As soon as practicable and within twenty (20) days after official award of Contract and before any fixtures, materials or equipment are purchased, the Contractor shall submit to the County a complete list of materials, fixtures and equipment in triplicate, giving the manufacturers' names, catalog numbers, etc., and, when requested, the original and substitute item of each article which he proposes to install as a substitution.
- D. Requests for substitution will not be considered after the above period of time unless the item specified is not obtainable or, in the opinion of the County, such substitution would serve the County's interest.

37. CONSTRUCTION, MATERIAL AND LABOR COST SCHEDULES

- A. The successful Contractor shall submit the following schedules to the County within ten (10) days after commencing the work:
  - 1. A construction schedule indicating the start and finish of each phase of the work.
  - 2. A detailed statement of the cost of material and labor included in the original estimate for each phase of the work so arranged that the value of the work as it progresses may be readily determined.

38. CONFERENCES

At any time during the progress of the work, the County may request the Contractor to attend a conference of any or all of the Contractors engaged on the work, and any notice of such conference shall be duly observed and complied with by the Contractor.

39. INSPECTION AND PAYMENTS - NOT ACCEPTABLE

The fact that the work and materials have been inspected by the County of Mendocino and payments on account have been made does not relieve the Contractor from the responsibility of replacing and making good any defective work or materials that may be discovered within one (1) year from the date of the completion of the work by the Contractor and its acceptance by the County. [Five (5) years for roof.]

40. RETURN OF DRAWINGS AND SPECIFICATIONS

All plans and specifications shall be returned to the Office of the County Director of General Services or shall be accounted for by the Contractor before the final certificate will be issued.

41. ARRANGEMENT OF SPECIFICATION SECTION

- A. For convenience, these specifications are arranged in several sections, but such separation shall not be considered as limiting any work required to a particular trade. The Contractor shall in cooperation with other contractors establish responsibility for any work required by the plans and specifications which may be improperly arranged or not included in the appropriate section.
- B. In areas where one trade meets another for joining, the Contractor is responsible to be certain that all work shown is included in his bid.

42. QUALITY OF MATERIALS AND LABOR

All materials used on this Contract shall be new and the best market quality, unless specified or shown otherwise. All labor used on this Contract shall be competent and skilled for the work. All work executed under this Contract shall be done in the best, most thorough, substantial and workmanlike manner.

All material and labor not meeting these standards shall be removed. The County may refuse to issue any certificate of payment until all defective materials or work have been removed, and other material of proper quality substituted therefor.

43. INCOMPETENT WORKERS

If at any time any foreman or worker who shall be employed by the Contractor shall be declared by the County to be incompetent or unfaithful in executing the work, the Contractor, on receiving written notice, shall forthwith initiate appropriate action to dismiss such person from the work.

44. COUNTY TO DECIDE

All matters of color, texture, design, interpretation of plans and specifications shall be referred by the Contractor to County, whose decision thereon shall be final.

45. CODES

All work and materials shall be in full accordance with the latest rules and regulations of the State Fire Marshal; the Safety Orders of the Division of Industrial Safety; the California Electric Code; the California Building Code; California Mechanical Code; the California Fire and Plumbing Codes; OSHA and other applicable State and local codes and laws. Nothing in these plans or specifications is to be construed to permit work not conforming to these Codes.

46. PAYMENT OF FEDERAL, STATE OR LOCAL TAXES

Any Federal, State or Local tax payable on articles furnished by the Contractor under the Contract shall be included in the Contract price and paid by the Contractor.

47. LIMITATIONS OF HOURS OF WORK

Eight (8) hours labor constitutes a legal day's work. The Contractor shall forfeit as a penalty \$25.00 for each worker employed in the execution of the Contract by the Contractor for each calendar day which such worker is required or permitted to work more than eight (8) hours in one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of the provisions of the California Labor Code, and in particular Sections 1810 and 1816. Work performed by employees of Contractors in excess of eight (8) hours per day and forty (40) hours during any one (1) week, shall be permitted upon 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, as provided in Section 1815.]

48. PAYMENT OF NOT LESS THAN THE GENERAL PREVAILING RATE OF PER DIEM WAGES

- A. The Contractor shall pay his workers on all work included in this Contract not less than the general prevailing rate of per diem wages for legal holiday and overtime work in said locality. Such per diem wages shall not be less than the stipulated rates contained in a schedule thereof which has been ascertained and determined by the State Director of Industrial Relations to be the general prevailing rate of per diem wages for each craft or type of worker needed to execute this Contract.
- B. The Contractor shall comply with Labor Code Section 1775. In accordance with Section 1775, the Contractor shall forfeit as a penalty twenty-five dollars (\$25.00) for each calendar day or portion thereof, for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any work done under the Contract in violation of the provisions of the Labor Code in particular Labor Code Sections 1770 and 1780. In addition to said penalty, and pursuant to Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor.

49. LABOR CODE CLARIFICATION

It is to be understood that references to the California Labor Code shall mean the current Code or as may be amended during the period of the Contract.

50. NOTIFICATION OF READINESS FOR REQUIRED TESTS AND INSPECTIONS

The Contractor shall be responsible to notify all inspectors, testing agencies, and County representatives a minimum of seventy-two (72) hours before required tests and/or inspections.

51. RESPONSIBILITY FOR PROJECT SAFETY AND CONSTRUCTION TECHNIQUES

Specifically omitted from the services of the County are all design and construction review services relating to the Contractor's safety precautions or to means, methods, techniques, sequences, or procedures required for the Contractor to perform his work.

Omitted services include, but are not limited to, shoring, scaffolding, underpinning, temporary retainment of excavations and any erection methods and bracing.

52. RECORD DRAWINGS

- A. The Contractor shall furnish one complete set of clean "Record" drawings to the County prior to project acceptance, showing clearly any changes made during construction. The Contractor shall use one of the blue line contract sets issued for construction for "Record" drawings. The set used must be complete, clean, and in good condition.
- B. In addition to any changes, all mechanical, electrical and plumbing items concealed in the building and underground, actually installed and routed. Depth below surface to top of underground item shall be indicated.
- C. All underground items shall be dimensioned from permanent reference points in a manner that they can be easily found in the field at a later time.
- D. Each sheet of the "Record" drawings shall be identified with the following label to be signed by the Contractor:

\_\*\_\*\*\_

These are record drawings which have been prepared or supervised by the undersigned.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Date

\_\*\_\*\*\_

- E. The Contractor is solely responsible for the preparation, completeness, and accuracy of the "Record" drawings. The County and its representatives are not responsible to review the "Record" drawings.

53. OCCUPANCY OR USE BEFORE ACCEPTANCE OF COMPLETION

The County may occupy any building or portion thereof or use any improvement contemplated by the Contract prior to the completion of the entire work. A list of work to be completed and corrected by the Contractor, if any, shall be prepared and agreed to between the County and the Contractor before occupancy or use. Such occupancy or use shall not operate as an acceptance of any part of the work but shall start the guaranty-warranty period on the structure or portion thereof so occupied or improvement of equipment so used, provided, however, that such occupancy shall not start the guaranty-warranty period as to items appearing on the list of work to be completed and corrected. No such occupancy or use shall be deemed to have occurred unless and until the County has given the Contractor formal written notice of intention to so occupy or use, specifying the portion or portions of the structure, improvement or equipment which will be deemed so occupied or used.

54. COMPLIANCE WITH HANDICAPPED ACCESS LAWS

- A. It is the County's intent for all features on these plans and specifications to conform to applicable regulations for the accommodations of physically handicapped persons in buildings and facilities used by the public, whether or not said plans and specifications so conform.
- B. It shall be the responsibility of the manufacturers, suppliers and distributors to insure that all manufactured and fabricated products, devices and items they supply for this project conform to applicable regulations of Title 24 of the California Code of Regulations.
- C. When shop drawings and/or manufacturers product literature, and other matters subject to handicapped regulations are submitted to County, the following shall be provided:
  - 1. Statement that the item shown complies with the handicapped regulations of Title 24 of the California Code of Regulations.
  - 2. Show all required dimensions, heights, clearances, and locations that must be followed when items are installed on project.

55. CONTRACT AMBIGUITY

This Contract shall be deemed to have been prepared jointly by the parties signing the Contract and if any inconsistencies or ambiguities exist, they shall not be interpreted or construed against any of the parties as the drafter.

56. FAIR EMPLOYMENT PRACTICES/NONDISCRIMINATION

The Contractor shall comply with Federal and State Fair Employment Practices provisions.

The Contractor, in connection with performance of work under this agreement, agrees to comply with the rules and regulations which deal with or relate to nondiscrimination set forth as follows:

- A. During the performance of this Contract, the Contractor and its subcontractors shall not deny the Contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex or age, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, age, or sex. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.
- B. The Contractor shall comply with the provisions of the California Fair Employment and Housing Act (Gov. Code, sections 12900 *et seq.*), the regulations promulgated thereunder (2 Cal. Code of Regulations sections 7285.0 *et seq.*), and Government Code Sections 11135 - 11139.5).
- C. The Contractor shall permit access by representatives of the Department of Fair Employment and Housing and the County upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours notice, to view such of its books, records, accounts, other sources of information and its facilities as said Department or County shall require to ascertain compliance with this clause.
- D. The Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
- E. The Contractor shall include the above nondiscrimination and compliance provisions in above subparagraphs 1 and 2 in all subcontracts to perform work under the Contract.

# SECTION 00811 - UNFORESEEN PHYSICAL CONDITIONS

## PART 1 - GENERAL

### 1.1 SUMMARY

This Section includes special requirements for unforeseen hidden conditions, differing site conditions and underground facilities as required for California Public Works Contracts.

### 1.2 UNFORESEEN SITE CONDITIONS

- A. Pursuant to Section 7104 of the California Public Contract Code, if any of the following conditions, hereinafter called hidden conditions, are encountered at the site, then Contractor shall promptly, before such conditions are disturbed and in no event later than three (3) days after discovery, notify County in writing using the "Hidden Conditions Report" attached to this Document:
1. Material that Contractor believes may be hazardous waste material, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or a Class III disposal site in accordance with provisions of existing law.
  2. Subsurface or latent physical conditions at the site or in the building differing materially from those represented in the Contract Documents.
  3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents or conditions that could be observed by examination of the site and the Reference Documents.
- B. Conditions that are not unforeseen, hidden, unknown or differing site and building conditions include but are not limited to, the following.
1. All that is indicated in or reasonably interpreted from the Contract Documents.
  2. All that is indicated in or reasonably interpreted from the Reference Documents specified in Section 00500, "Agreement".
  3. All that could be seen on site and that could be observed.
  4. Conditions that are materially similar or characteristically the same.
  5. Conditions where the location of the building component is in the proximity where indicated in or reasonably interpreted from the Contract Documents or Reference Documents.
- C. County will promptly investigate the conditions reported which appear to be unforeseen conditions.

1. If County determines that the reported conditions are inherent in work of the character provided for in the Contract Documents or observed by examination of the site and Reference Documents, or that the condition is not hidden, unforeseen or materially different, Contractor shall execute the Work at no additional cost to County.
  2. If County determines that the conditions are hidden or differing conditions and that they will materially cause a decrease or increase in Contractor's cost of any portion of the work, a Contract Modification will be issued for compensation of such portion of the work as provided in the General Conditions.
  3. If County determines that the conditions are hidden or differing conditions and that they will materially affect the performance time, Contractor, upon submitting a written request, will be granted an extension of time subject to the provisions of the General Conditions.
    - a. Time extensions or contract costs will not be granted for delays that could be or could have been avoided by Contractor redirecting his forces and equipment to perform other work on the Contract.
- D. Should Contractor disagree with County's determination, Contractor shall submit a Request for Change (RFC) to County that the condition is not indicated in or reasonably interpreted from the Contract Documents, and that the condition is not similar in character to the material that could have been observed by examination of the site and Reference Drawings, but that the condition is materially different and the condition is unforeseen and unknown.
1. Contractor shall submit proof with written explanation, drawings, photographs, material and labor cost breakdowns, and other relevant data to show the condition.
  2. County will review Contractor's submission and make a determination. Contractor shall not file for claim or RFC before County makes the determination.
  3. In the event of continued disagreement, 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.
  4. Contractor shall retain any and all rights provided either by the Contract or by law which pertain to the resolution of RFC and protests between the contracting parties.

### 1.3 REMOVAL, RELOCATION, OR PROTECTION OF EXISTING UTILITIES

- A. In accordance with the provisions of Section 4215 of the California Government Code, County will assume the responsibility for the removal, relocation, or protection



of existing main or trunk-line utilities located on the site of the Contract work, if such utilities are not identified in the Contract Documents.

- B. Contractor shall immediately notify County and the public utility in writing of such utility facilities it discovers while performing the work which are not identified in the Contract Documents.
  - 1. Contractor shall negotiate with the owner of the utility, who shall have the sole discretion to perform repairs or relocation work or permit Contractor to do such repairs or relocation work at a reasonable price.
- C. Contractor shall not be assessed liquidated damages for delay in Substantial Completion if the delay was caused by such existing utilities in direct conflict with the work and not shown on the Drawings.
- D. Contractor will be compensated under the provisions of Article 7 for extra work involving existing utilities not shown on the Drawings or included in the Specifications but in direct physical conflict with Contractor's operations.
  - 1. This extra work shall include the following costs:
    - a. Locating, supporting, working around, and protecting or repairing damage not due to the failure of Contractor to exercise reasonable care.
    - b. Removing and relocating, as directed by County, existing main or trunk line utility facilities located on site but not indicated on the Drawings and Specifications with reasonable accuracy.
    - c. Equipment on the project necessarily idled during such work.
- E. Contractor shall not be entitled to any adjustment in the Contract Sum or Time if the existence of such condition:
  - 1. Could have been reasonably discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Contract Documents to be conducted by or for Contractor prior to commencing such work, or
  - 2. Could have been inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the work site.

PART 2 - PRODUCTS  
NOT USED

END OF SECTION

**HIDDEN CONDITIONS REPORT (HCR)**

Mendocino County {Project Name} HCR No. \_\_\_\_\_

Submitted By: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ Ctr to PM PM to Arch Arch to PM PM to Ctr

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

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

Type of Conditions Reported:

- Site Work       Structural       Architectural       HVAC
- Plumbing       Fire Protection       Electrical       Other

Location and Reference to Drawing: \_\_\_\_\_

Conditions Reported: \_\_\_\_\_

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Investigated By: \_\_\_\_\_ Firm: \_\_\_\_\_ Date: \_\_\_\_\_

Check this box if the hidden condition reported is not hidden. Reply with location(s) where the information can be obtained.

Reply of Findings: \_\_\_\_\_

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By: \_\_\_\_\_ Firm: \_\_\_\_\_ Date: \_\_\_\_\_

The reply is a finding from the investigation. No change in the Contract Sum or Time is authorized. See Specifications Document 00811 for the timeliness of investigation.

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## **SECTION 01010 - SUMMARY OF WORK**

### **PART 1 - GENERAL**

- 1.1 REQUIREMENTS of the drawings and general provisions of the Prime Construction Agreement and other sections of Division 1 apply to this section.
- 1.2 THIS SECTION sets forth general project scope, and general provisions regarding work to be performed by the Contractor.
- 1.3 THE WORK OF THIS CONTRACT consists of:

**WORK INCLUDED:** Provide all construction documentation, labor, material, superintendence, and administration as depicted in the drawings, as described in the project manual or as necessary for a complete and proper turnkey fabrication and installation of the Fort Bragg Justice Center HVAC system replacement project. The work generally consists of replacement of the existing hydronic HVAC system with a new Variable Refrigerant Flow (VRF) HVAC system connected to the existing air distribution duct system, including related demolition, site work, electrical and patching as shown and required. Present to the Owner, at the close of construction, signed copies of all required permits indicating successful completion of all permit requirements.

- 1.4 **APPLICABLE CODES AND REGULATIONS:**
  - A. **General Requirements:** All materials and workmanship shall comply with the most recent edition of the California Code of Regulations (CCR), Title 24 (California Building Standards Code) with current State and local amendments. CCR, Title 24 consists of the following twelve parts:
    - Part 1 - California Building Standards Administrative Code
    - Part 2 - California Building Code
    - Part 3 - California Electrical Code
    - Part 4 - California Mechanical Code
    - Part 5 - California Plumbing Code
    - Part 6 - California Energy Code
    - Part 7 - (No longer published in Title 24. See Title 8, CCR)
    - Part 8 - California Historical Building Code
    - Part 9 - California Fire Code
    - Part 10 - California Existing Building Code
    - Part 11 - California Green Building Standards Code (CALGreen)
    - Part 12 - California Reference Standards Code
  - B. **Energy Requirements:** All materials and workmanship shall comply with the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the Building Energy Efficiency Standards published by the California Energy Commission.

- C. Grading and Paving Requirements: All materials and workmanship shall comply with the most recent California Department of Transportation Standard Specifications and the State of California Department of Transportation Standard Plans for earthwork, grading and paving.
- D. Air Quality Requirements: All materials and workmanship shall comply with all current requirements of the Mendocino County Air Quality Control District. Provide all application materials, fees and documentation necessary to obtain all permits required by the Mendocino County Air Quality Control District. Obtain approval for all operations and present to the Owner, at the close of construction, signed copies of all required permits indicating successful completion of all permit requirements.
- E. Accessibility Requirements: All materials and workmanship shall comply with all the requirements for accessibility as set forth in the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the Federal Americans with Disabilities Act in effect at the time of construction.
- F. California Department of Forestry and Fire Protection (Cal Fire) Requirements: All materials and workmanship shall comply with Cal Fire "SRA Fire Safe Regulations", Title 14 - Natural Resources, California Code of Regulations, Division 1.5 - Dept. of Forestry, Chapter 7 - Fire Protection, Subchapter 2 - SRA Fire Safe Regulations, Articles 1-5.
- G. Fire Alarm System: The proposed facility shall have an integrated fire alarm system in conformance with all requirements for fire alarm systems as set forth in the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the National Fire Protection Association Standard 72.
- H. City of Fort Bragg Requirements: All materials and workmanship shall comply with the most recent editions of the City of Fort Bragg General Plan, City Code, Commercial Development Design Guidelines and regulations enacted by the City of Fort Bragg Planning and Community Development Department, Public Works, Fort Bragg Utilities and Fort Bragg Fire Department.
- I. Recycling Requirements: This project is subject to the Mendocino County "Construction and Demolition Recycling and Reuse" Ordinance and the Department of Toxic Substances Control "Requirements for Generators of Treated Wood Waste." and the requirements of California Green Building Standards Code (CALGreen) and specific City of Fort Bragg ordinances.
- J. Other Requirements: All materials and workmanship shall comply with the most recent edition of any other codes or regulations adopted by governmental agencies having jurisdiction over any portion of the work.

## 1.5 PROJECT DATA:

- A. Construction Type: The proposed facility shall conform to all requirements for Type V-B Sprinklered construction as set forth in the most current edition of the California Building Code in effect at the time of construction with current State and local amendments.
- B. Occupancy Classification: The proposed facility shall conform to all requirements for Group A-3 (Assembly), I-3 (Institutional), M (Mechanical) and B (Business) Occupancy as set forth in the most current edition of the California Building Code in effect at the time of construction with current State and local amendments.

## 1.6 PRECEDENCE OF DOCUMENTS

- A. In the case of discrepancy or ambiguity in the Contract Documents the following order of precedence shall prevail:
  - 1. Modifications in inverse chronological order and in alphanumeric order.
  - 2. Signed Agreement and terms and conditions referenced in the Signed Agreement.
  - 3. Supplemental Conditions.
  - 4. General Conditions.
  - 5. Division 1 specifications.
  - 6. Drawings and Division 2 through 16 specifications.
  - 7. Written numbers and figures, unless obviously incorrect.
  - 8. Figured dimensions over scaled dimensions.
  - 9. Large format drawings over small-scale drawings.
- B. Any conflict between the Drawings and Division 2 through 16 specifications will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are not the same or are not determinable, then in favor of the specifications.
- C. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete the Work required, then the actual quantity shall take precedence.

## 1.7 USE OF PREMISES

- A. General: Comply with requirements in General Conditions and Section 01500.
- B. Area available for Contractor's use for work and storage, if any, is limited to the area designated on the Drawings.
- C. Fire Department Access: Contractor's use of premises shall not limit required Fire Department access.

## 1.8 EXAMINATION

- A. General: As stipulated in Document 00100, Contractor is responsible for inspection of the existing site conditions prior to bidding and shall include in the Contract any modifications of the Contract Documents proposed as a result of Contractor's inspection. Such modifications shall be included in the bid.
- B. Persons performing work shall examine conditions that affect their work and shall report in writing to Contractor, with a copy to County, conditions detrimental to work.
  - 1. Failure to examine and report makes the person responsible, at no increase in the Contract Sum, for corrections necessary for the proper installation of their work.
  - 2. Commencement of Work constitutes acceptance of existing condition.
- C. Field Verification: Contractor shall verify all existing conditions in the field prior to commencing the Work.

## 1.9 LISTING OF RELATED WORK

Listings of related work or sections in the various Sections are not necessarily complete listings. They are provided for information and convenience only and are intended to highlight related or similar work which is specified in other Sections. Related work listings and omissions from such listings are not intended to control Contractor in dividing the work among subcontractors or in establishing the extent of the work to be performed by any trade.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION (not applicable)

## SECTION 01210 - ALLOWANCES

### 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 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 to permit evaluation of existing conditions before defining the required scope for each allowance item and final direction that 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. Force account allowances.
- C. Related Requirements:
  - 1. Section 00700 "General Conditions" for Changes in the Work
  - 2. Section 00811 "Unforeseen Physical Conditions" for definition of hidden conditions.

#### 1.3 SURVEY AND ASSESSMENT

- A. Base bid ceiling work includes installation of ceiling access doors and removal and replacement of ceiling systems required to complete the work. Prior to interior demolition work, the Contractor shall coordinate observation of the condition of the (E) suspended ceiling system and tiles with the Architect and the County.
- B. In consultation with the Contractor and the Architect, the County will determine the extent of repairs to the ceiling system and ceiling tiles and provide direction to the contractor. Should repairs be required, the County will provide the Contractor with a Request for Proposal defining the scope of repairs. The Contractor shall promptly provide a Lump Sum or Unit Cost Proposal in accordance with Section 00700 General Conditions, Chapter 20 – Changes in the Work.
- C. Base bid includes work during normal business hours and premium time performed at the contractor's discretion or as needed to maintain mechanical and electrical systems during business hours. In the event that work in occupied areas must be performed outside of normal business hours, the Contractor shall promptly provide a Lump Sum or Unit Cost Proposal in accordance with Section 00700 General Conditions, Chapter 20 for premium pay required for such work.



- D. In order to complete the removal and replacement of the Heating Ventilation and Air Conditioning (HVAC) system a temporary HVAC system will need to be provided for the duration of the work on site. Base bid work includes the maintenance and servicing of the temporary system installed by the Contractor under Allowance No. 2. Upon award of contract, the Contractor shall promptly provide a Lump Sum Proposal in accordance with Section 00700 General Conditions, Chapter 20 to provide and install the temporary HVAC system as shown on sheet A3.1 or as required by the County.
- E. In the event that a proposal is not authorized by the County, the County may direct the contractor to proceed with the authorized work by Force Account in accordance with Section 00700 – General Conditions, Chapter 20.
- F. In the event other unforeseen conditions are encountered, the Contractor shall promptly notify the County and Architect, and proceed according to paragraph 1.3B. above.

#### 1.4 ACTION SUBMITTALS

- A. Submit proposals for the work noted above.
- B. Upon completion of identified repairs, submit revised Schedule of Values noting allowance amounts used.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Submit timecards, invoices or delivery slips to show actual labor time and quantities of materials delivered to the site for use in completing allowance work authorized under force account.
- B. Coordinate and process submittals for allowance work items in same manner as for other portions of the Work.

#### 1.6 COORDINATION

- A. Coordinate allowance items with other portions of the Work.

#### 1.7 ALLOWANCE ITEMS

- A. Provide for each allowance item on the schedule of Values.
- B. Use the allowances only as directed by the County for ceiling system repairs, overtime pay differential for nights/weekend work required in occupied areas, installation of temporary HVAC system or unforeseen conditions, by unit cost, lump sum price or force account authorized in writing by the owner.
- C. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

## 1.8 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between the authorized cost of all repairs completed and the allowance amount.
  - 1. If requested, include cost of lump sum proposals for the work performed.
  - 2. Submit substantiation of any force account work related to allowance work authorized in advance by the owner.
- B. Submit Contract Change Order to refund the balance of the Allowance to the County, or claims for increased costs for work performed on authorized work items that exceed the allowance amount included in the Contract Documents.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine existing conditions at the time work is to be performed to verify that the conditions are suitable for the work under the allowances. Immediately report all unsatisfactory conditions to the County.

### 3.2 PREPARATION

- A. Submit and secure approval of all ceiling system repair materials, temporary HVAC system materials and equipment and premium time pay rates prior to beginning work.

### 3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No.1: Unforeseen Condition Allowance: Include the sum of \$45,000 for ceiling system repairs, overtime pay differential for nights/weekend work required in occupied areas, and unforeseen conditions encountered during the project.
  - 1. This allowance includes labor, material, equipment costs and Contractor overhead and profit documented for either lump sum or force account work to complete ceiling system repairs, overtime pay differential for nights/weekend work required in occupied areas, or to address other unforeseen conditions.
- B. Allowance No.2: Temporary HVAC Allowance: Include the sum of \$75,000 for installation of temporary heating and cooling system.
  - 1. This allowance includes labor, material, equipment costs and Contractor overhead and profit documented for either lump sum or force account work to complete installation of temporary heating and cooling system.

END OF SECTION

# SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

## PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
  - 1. General coordination procedures.
  - 2. RFIs.
  - 3. Project meetings.
- B. Related Requirements:
  - 1. Section 01320 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
  - 2. Section 01730 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
  - 3. Section 01770 "Closeout Procedures" for coordinating closeout of the Contract.

### 1.2 DEFINITIONS

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

### 1.3 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
  - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.
  - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses, 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.

#### 1.4 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. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

#### 1.5 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
  - 1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
  - 2. Coordinate and submit RFIs in a prompt manner 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. Owner name.
  - 3. Owner's Project number.
  - 4. Name of Architect and Construction Manager.
  - 5. Architect's Project number.
  - 6. Date.
  - 7. Name of Contractor.
  - 8. RFI number, numbered sequentially.
  - 9. RFI subject.
  - 10. Specification Section number and title and related paragraphs, as appropriate.
  - 11. Drawing number and detail references, as appropriate.
  - 12. Field dimensions and conditions, as appropriate.

13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  14. Contractor's signature.
  15. 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.
1. Attachments shall be electronic files in PDF format.
- D. Architect's and Construction Manager's Action: Architect and Construction Manager will review each RFI, determine action required, and respond. Allow seven days for Architect's response for each RFI. RFIs received by Architect or Construction Manager after 1:00 p.m. will be considered as received the following working day.
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 by Architect or Construction Manager of additional information.
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Manager in writing within 5 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 weekly. Include the following:
1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Architect and Construction Manager.
  4. RFI number, including RFIs that were returned without action or withdrawn.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Architect's and Construction Manager's response was received.

8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.
- F. On receipt of Architect's and Construction Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect and Construction Manager within three days if Contractor disagrees with response.

## 1.6 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 and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of seven days prior to meeting.
  2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, Construction Manager, and Architect, within three days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner , Construction Manager, 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.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Responsibilities and personnel assignments.
    - b. Tentative construction schedule.
    - c. Phasing.
    - d. Critical work sequencing and long lead items.
    - e. Designation of key personnel and their duties.
    - f. Lines of communications.
    - g. Use of web-based Project software.
    - h. Procedures for processing field decisions and Change Orders.
    - i. Procedures for RFIs.

- j. Procedures for testing and inspecting.
  - k. Procedures for processing Applications for Payment.
  - l. Distribution of the Contract Documents.
  - m. Submittal procedures.
  - n. Preparation of Record Documents.
  - o. Use of the premises and existing building.
  - p. Work restrictions.
  - q. Working hours.
  - r. Owner's occupancy requirements.
  - s. Responsibility for temporary facilities and controls.
  - t. Procedures for disruptions and shutdowns.
  - u. Construction waste management and recycling.
  - v. Parking availability.
  - w. Office, work, and storage areas.
  - x. Equipment deliveries and priorities.
  - y. First aid.
  - z. Security.
  - aa. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 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, Construction Manager, 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 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 demonstration and training.
    - f. Preparation of Contractor's punch list.
    - g. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    - h. Submittal procedures.
    - i. Owner's partial occupancy requirements.

- j. Installation of Owner's furniture, fixtures, and equipment.
  - k. Responsibility for removing temporary facilities and controls.
4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- D. 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 , Construction Manager, 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 the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.
      - 3) Status of submittals.
      - 4) Deliveries.
      - 5) Off-site fabrication.
      - 6) Access.
      - 7) Site use.
      - 8) Temporary facilities and controls.
      - 9) Progress cleaning.
      - 10) Quality and work standards.
      - 11) Status of correction of deficient items.
      - 12) Field observations.
      - 13) Status of RFIs.
      - 14) Status of Proposal Requests.
      - 15) Pending changes.
      - 16) Status of Change Orders.



- 17) Pending claims and disputes.
  - 18) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. 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 013100

## SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Startup construction schedule.
2. Contractor's Construction Schedule.
3. Construction schedule updating reports.
4. Material location reports.
5. Site condition reports.
6. Unusual event reports.

#### 1.2 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. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

C. Event: The starting or ending point of an activity.

#### 1.3 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. PDF file.

B. Startup construction schedule.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

D. Construction Schedule Updating Reports: Submit with Applications for Payment.

- E. Material Location Reports: Submit at weekly intervals.
- F. Site Condition Reports: Submit at time of discovery of differing conditions.
- G. Unusual Event Reports: Submit at time of unusual event.
- H. Qualification Data: For scheduling consultant.

#### 1.4 QUALITY ASSURANCE

- A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 01310 "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's Construction Schedule, including, but not limited to, the following:
  - 1. Review software limitations and content and format for reports.
  - 2. Verify availability of qualified personnel needed to develop and update schedule.
  - 3. Discuss constraints, including phasing, work stages, and, partial Owner occupancy.
  - 4. Review submittal requirements and procedures.
  - 5. Review time required for review of submittals and resubmittals.
  - 6. Review requirements for tests and inspections by independent testing and inspecting agencies.
  - 7. Review time required for Project closeout and Owner startup procedures, including commissioning activities.
  - 8. Review and finalize list of construction activities to be included in schedule.
  - 9. Review procedures for updating schedule.

#### 1.5 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, list of subcontracts, 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. Specifically identify activities requiring coordination with county staff and or operations; ensure proper notice is provided prior to work affecting county operations.
  - 3. Coordinate each construction activity in the network with other activities, and schedule them in proper sequence.

#### 1.6 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Computer Scheduling Software: Prepare schedules using current version of a program that

has been developed specifically to manage construction schedules.

B. Time Frame: Extend schedule from date established for commencement of the Work to date of Substantial Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows a revised completion date unless specifically authorized by Change Order.

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. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
2. 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.
3. 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. Fabrication.
  - e. Sample testing.
  - f. Deliveries.
  - g. Installation.
  - h. Tests and inspections.
  - i. Adjusting.
  - j. Curing.
  - k. Startup and placement into final use and operation.
4. 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. Completion of Structural pads and underground work.
  - b. Completion of pre-engineered concrete building.
  - c. Completion of new electrical service.
  - d. Completion of emergency generator.
  - e. Substantial Completion.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including,

but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

1. Delivery of building structure.
2. Delivery of electrical switch gear.
3. Delivery of emergency generator.
4. Completion of electrical service change.
5. Completion of emergency generator changover.

E. 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 the Contract Time.

F. 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. Provide material location report update at each regular project meeting for all outstanding material and equipment deliveries.
2. 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.
3. 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.
4. As the Work progresses, indicate Final Completion percentage for each activity.

G. Recovery Schedule: When periodic update indicates the Work is 14 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, equipment required to achieve compliance, and date by which recovery will be accomplished.

H. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. 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.

## 1.7 STARTUP CONSTRUCTION SCHEDULE

- A. Gantt-Chart Schedule: Submit startup, horizontal, Gantt-chart-type construction schedule within 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 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

## 1.8 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed.
  - 1. 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 percent increments within time bar.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01320

## SECTION 01330 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Submittal schedule requirements.
  - 2. Administrative and procedural requirements for submittals.

#### 1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's and Construction Manager'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 and Construction Manager'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."

#### 1.3 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list 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 Construction Manager 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 as required 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 and Construction Manager's final release or approval.
  - g. Scheduled dates for purchasing.
  - h. Scheduled date of fabrication.
  - i. Scheduled dates for installation.
  - j. Activity or event number.

#### 1.4 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
  1. Project name.
  2. Date.
  3. Name of Architect.
  4. Name of Construction Manager.
  5. Name of Contractor.
  6. Name of firm or entity that prepared submittal.
  7. Names of subcontractor, manufacturer, and supplier.
  8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier and alphanumeric suffix for resubmittals.
  9. Category and type of submittal.
  10. Submittal purpose and description.
  11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
  12. Drawing number and detail references, as appropriate.
  13. Indication of full or partial submittal.
  14. Location(s) where product is to be installed, as appropriate.
  15. Other necessary identification.
  16. Remarks.
  17. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect and Construction Manager on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.



- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

## 1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
  - 1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
    - a. Architect, through Construction Manager, will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
  - 2. Paper: Prepare submittals in paper form and deliver to Architect.
- 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 submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow 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 15 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 15 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 21 days for initial review of each submittal.
  5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- D. 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 and Construction Manager's action stamp.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. 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 and Construction Manager's action stamp.

## 1.6 SUBMITTAL REQUIREMENTS

- A. 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 unsuitable 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 that show 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 Shop Drawings, and before or concurrently with Samples.
- B. 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 unless submittal based on Architect's digital data drawing files is otherwise permitted.
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.
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
  2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
    - a. Project name and submittal number.
    - b. Generic description of Sample.
    - c. Product name and name of manufacturer.
    - d. Sample source.
    - e. Number and title of applicable Specification Section.
    - f. Specification paragraph number and generic name of each item.
  3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
  2. Manufacturer and product name, and model number if applicable.
  3. Number and name of room or space.
  4. Location within room or space.
- E. 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.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
1. Certificates and Certifications Submittals: Submit 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. Provide a notarized signature where indicated.
  2. 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.
  3. 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.
  4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
  5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
  6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:
1. 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 substrate preparation and primers required.
  2. 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.

3. 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.
4. 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.
5. 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.
6. 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:
  - a. Name of evaluation organization.
  - b. Date of evaluation.
  - c. Time period when report is in effect.
  - d. Product and manufacturers' names.
  - e. Description of product.
  - f. Test procedures and results.
  - g. Limitations of use.

## 1.7 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 insufficient 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 file, and, three 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.

## 1.8 CONTRACTOR'S REVIEW

- A. Action Submittals 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 and Construction Manager.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include 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.
  - 1. Architect and Construction Manager will not review submittals received from Contractor that do not have Contractor's review and approval.

## 1.9 ARCHITECT'S AND CONSTRUCTION MANAGER'S REVIEW

- A. Action Submittals: Architect and Construction Manager will review each submittal, indicate corrections or revisions required, and return.
  - 1. PDF Submittals: Architect and Construction Manager will indicate, via markup on each submittal, the appropriate action.
- B. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect and Construction Manager 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 and Construction Manager.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect and Construction Manager will discard submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

## **SECTION 01410 - TESTING AND LABORATORY SERVICES**

### **PART 1 - GENERAL**

- 1.1 THIS SECTION includes all testing and inspecting, complete, as described in this Section and elsewhere in the Contract Documents, and as needed for a complete and proper installation.
- 1.2 QUALITY ASSURANCE:
  - A. Provide access and cooperation to the soil engineer, construction inspectors and a testing laboratory hired by the Owner to perform inspections services during the construction.
  - B. Coordinate the work of all required inspectors to provide access to the inspectors at the appropriate times to perform required inspections.
  - C. Upon completion of each test and/or inspection, promptly obtain and distribute copies of test or inspection reports to the Architect, to governmental agencies requiring submission of such reports, and to such other persons as directed by the Architect.

### **PART 2 - PRODUCTS**

- 2.1 PAYMENT FOR TESTING
  - A. All initial testing and inspecting required under this Section of these Specifications shall be paid for by the Owner under separate contract with the inspection agencies. Include within the Contract Sum an amount sufficient to cover all coordination of inspection services and cooperation with inspection procedures. Contractor shall include within the Contract Sum an amount sufficient to cover all job costs associated with testing and inspecting required by governmental agencies having jurisdiction.
  - B. When initial tests indicate non-compliance with the Contract Documents subsequent retesting occasioned by the non-compliance shall be performed by the same testing laboratory and the costs thereof shall be paid by the Contractor.
- 2.2 SPECIFIC TESTS AND INSPECTIONS
  - A. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and such other tests and inspections as are directed by the Architect.

- B. Tests include, but are not necessarily limited to, those described in detail in Part 3 of this Section.

### PART 3 - EXECUTION

- 3.1 TAKING SPECIMENS: Except as may be specifically otherwise approved by the Architect, have the testing laboratory secure and handle all samples and specimens for testing.
- 3.2 COOPERATION WITH TESTING LABORATORY: Provide access to the Work at all times and at all locations where the Work is in progress. Provide facilities for such access to enable the laboratory to perform its functions properly.
- 3.3 SOIL INSPECTING AND TESTING: Make required inspections and tests including, but not necessarily limited to:
  - A. Visually inspect on-site and imported fill and backfill, making such tests and retests as are necessary to determine compliance with the Contract requirements and suitability for the proposed purpose;
  - B. Make field density tests on samples from in-place material as required;
  - C. As pertinent, inspect and test the scarifying and recompacting of cleaned subgrade inspect the progress of excavating, filling, and grading; make 90% density tests at fills and backfills; and verify compliance with provisions of the Contract Documents and governmental agencies having jurisdiction.
  - D. Make and distribute necessary reports and certificates.
- 3.4 CONCRETE INSPECTING AND TESTING
  - A. Portland cement:
    - 1. Secure from the cement manufacturer Certificates of Compliance delivered directly to the concrete producer for further delivery directly to the testing laboratory.
    - 2. Require the Certificates of Compliance to positively identify the cement as to production lot, bin or silo number, dating and routing of shipment, and compliance with the specified standards.
    - 3. If so required by the Architect, promptly provide such other specific physical and chemical data as requested.



B. Aggregate:

1. Provide one test unless character of material changes, material is substituted, or additional test is requested by the Architect.
2. Sample from conveyor belts or batching gates at the ready-mix plant:
  - a. Sieve analysis to determine compliance with specified standards and grading;
  - b. Specific gravity test for compliance with specified standards.

C. Laboratory design mix:

1. After approval of aggregate, and whenever character or source of materials is changed, provide mix design in accordance with ACI 613.
2. Provide designs for all mixes prepared by a licensed civil engineer.

D. Molded concrete cylinders:

1. Provide three test cylinders for each 150 cu yds, or fraction thereof, of each class of concrete of each day's placement.
2. Test one cylinder at seven days, one at 28 days, and one when so directed.
3. Report the mix, slump, gage, location of concrete in the structure, and test results.
4. Take specimens and make tests in accordance with the applicable ASTM standard specifications.

E. Core tests:

1. Provide only when specifically so directed by the Engineer because of low cylinder test results.
2. Cut from locations directed by the Architect, securing in accordance with ASTM C42, and prepare and test in accordance with ASTM C39.

F. Placement inspections:

1. On concrete over 2000 psi, provide continuous or other inspection as required by governmental agencies having jurisdiction.
2. Throughout progress of concrete placement, make slump tests

- to verify conformance with specified slump.
3. Using all required personnel and equipment, throughout progress of concrete placement verify that finished concrete surfaces will have the level or slope that is required by the Contract Documents.

### 3.5 CONCRETE REINFORCEMENT INSPECTING AND TESTING

- A. Prior to use, test all reinforcement steel bars for compliance with the specified standards.
  1. Material identified by mill test reports, and certified by the testing laboratory, does not require additional testing. Require the supplier to furnish mill test reports to the testing laboratory for certification.
  2. Tag identified steel at the supplier's shop. When steel arrives at the job site without such tags, test it as unidentified steel.
- B. Unidentified steel:
  1. Have the testing laboratory select samples consisting of two pieces, each 18" long, of each size.
  2. Have the testing laboratory make one tensile test and one bend test for each 2-1/2 tons or fraction thereof of each size of unidentified steel.
- C. Provide continuous inspection for all welding of reinforcement steel.

### 3.6 STRUCTURAL STEEL INSPECTING AND, TESTING

- A. Prior to use, test all structural steel for compliance with the specified standards.
  1. Material identified by mill test reports, and certified by the testing laboratory, does not require additional testing. Require the supplier to furnish mill test reports to the laboratory for certification.
  2. Tag identified steel at the supplier's shop. When steel arrives at the job site without such tags, test it as unidentified steel.
- B. Unidentified steel: Have testing laboratory make one tensile test and one bend test for each five tons or fraction thereof of each shape and size of unidentified structural steel.

- C. Shop welding:
  - 1. Provide qualified testing laboratory inspector.
  - 2. On single pass welds, inspect after completion of welding and prior to painting.
  - 3. On multiple pass welds, and on butt welds with cover pass on the backside, provide continuous inspection.
- D. Field welding: Provide continuous inspection by a qualified testing laboratory inspector.

### 3.7 ROOFING AND WATERPROOFING INSPECTING AND TESTING

- A. Prior to start of membrane waterproofing and membrane roofing installation, conduct a job site meeting attended by representatives of the installing subcontractors, the Contractor's field superintendent, the testing laboratory inspector, and the Architect, to agree upon procedures to be followed.
- B. Prior to start of installation, verify that materials at the job site comply with the specified standards, that the subcontractor is qualified to the extent specified, and that the installing personnel are fully informed as to procedures to be followed.
- C. During installation, verify that materials are installed in strict accordance with the manufacturers' recommendations as approved by the Architect.
- D. When so directed by the Architect, make test cuts to verify conformance with the specified requirements

- 3.8 WAIVER OF INSPECTION AND/OR TESTS: Specified inspections and/or tests may be waived only by the specific approval of the Architect, and such waivers will be expected to result in credit to the Owner equal to normal cost of such inspection and/or test.

## **SECTION 01500 - TEMPORARY FACILITIES & CONTROLS**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. Work included: Provide temporary facilities and controls need for the Work including, but not necessarily limited to:
  - 1. Temporary utilities such as heat, ventilation, water, electricity, lighting, telephone and fax;
  - 2. Field office for the Contractor's personnel;
  - 3. Sanitary facilities;
  - 4. Enclosures such as tarpaulins, barricades, and canopies;
  - 5. Temporary fencing of the construction site;
  - 6. Project sign.
  
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary conditions, and Sections in Division 1 of these Specifications.
  - 2. Except that equipment furnished by subcontractors shall comply with requirements of pertinent safe regulations, such equipment normally furnished by the individual trades in execution of their own portions of the Work are not part of this Section.
  - 3. Permanent installation and hookup of the various utility lines are described in other Sections.

#### **1.2 JOB SAFETY**

- A. Comply with all applicable laws and regulations pertaining to job safety, and be solely responsible for construction means, methods, techniques, sequences procedures and safety precautions and programs in connection with the Work. Owner or Architect will not be responsible for Contractor's failure to employ proper safety procedures.
  
- B. All work, including the temporary construction, shall be in full accord with the latest orders, rules and regulations of the State of California Division of Industrial Safety and the California Occupational Safety and Health Act (CAL-OSHA).
  
- C. The Contractor shall at all times so conduct his work as to cause the least possible obstruction and inconvenience to County and Court Staff and insure the protection of persons and property in the vicinity of the Work.

### 1.3 TEMPORARY BUILDING SERVICES

- A. The system being replaced with this project is serving a critical facility. The facility is fully staffed and occupied, making project coordination, notifications, and working conditions a high priority. Special care and consideration must be taken when conducting work near computer equipment and servers. Contractor must provide dust and debris protection for all equipment in all affected rooms.
- B. The Contractor shall schedule work in occupied areas of the building as specific activities in the construction schedules and updates required in Section 01320 Construction Progress Documentation. In addition, the Contractor shall notify the County at least 72 hours prior to starting work in areas occupied by building staff and secure written approval of the work schedule in occupied areas from the County. In the event that work can not be scheduled in occupied areas during normal business hours, the contractor shall coordinate with the County and Courts to identify a permissible work schedule. Proposals for premium time pay required for work on an alternate schedule may be submitted under the provisions of Specification Section 01210 Allowance Item 1.
- C. A proposed temporary ventilation, heating, and cooling plan is included in the plan set and is included in the project cost as Specification Section 01210 Allowance item 2. A temporary isolated system that is independent from existing and new system allows for the complete demolition of the existing Hydronic system and installation of the new VRF system with minimal impact on the comfort of the Justice Center staff. Exact location of temporary ducting and installation of temporary system to be determined and installed by the Contractor.
  - 1. The Contractor is responsible for installation of a temporary heating and cooling system providing equivalent capacity and distribution. Once the system is installed, it is the Contractor's responsibility to maintain operational functionality of the temporary system until such a time as the new VRF system is operational. Temporary duct work and associated ceiling registers are to be removed once new system is operational and new registers installed.
  - 2. The Contractor is responsible to maintain the temporary ventilation, heating and cooling system in order to keep thermostat temperatures between 68- and 78-degrees Fahrenheit in occupied areas during business hours.
  - 3. When transitioning to the new system in the courtroom. Contractor must coordinate any down time with Court and departmental calendars to minimize the impact on Court operations.

- D. Shut down of electrical panels or circuits required to complete the work shall be performed when Court is not in session, and shall be coordinated to minimize the effect on County and Court staff working in the building. The Contractor shall notify the County at least 72 hours prior to starting work on electrical panels and secure written approval of the shut down schedule from the County.

## PART 2 - PRODUCTS

### 2.1 UTILITIES

#### A. Electricity and Lighting:

1. Where applicable, building power will be available for use by the contractor. Verify circuit capacity is sufficient for Contractor loads. Contractor shall make necessary arrangements, obtain and pay for temporary electrical distribution from the main service panel and temporary wiring to work areas as required. Upon completion of the Work, remove all such temporary facility.
2. Provide and maintain lighting for construction operations to achieve a minimum lighting level of 1 watt/sq.ft.

### 2.2 FIELD OFFICE AND SANITARY FACILITIES

#### A. Field Offices:

1. Provide, maintain, and pay for field office, weather tight with lighting, electrical outlets, heating, cooling and ventilating equipment and equipped with sturdy furniture drawing rack and drawing display table.

#### B. Sanitary facilities:

1. Provide and pay for temporary sanitary facilities in quantity required for use by all personnel.
2. Maintain in a sanitary condition at all times.

### 2.3 ENCLOSURES

- A. General: Provide and maintain for the duration of construction all scaffolds, tarpaulins, canopies, warning signs, steps, platforms, bridges, and other temporary construction necessary for proper completion of the Work in compliance with pertinent safety and other regulations.
- B. Exterior: Provide temporary, insulated, weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual

specifications Sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

- C. Interior: Provide temporary partitions and ceilings as required to separate work areas from Owner occupied areas, to prevent penetration of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

## 2.4 MISCELLANEOUS FACILITIES

- A. Construction Aids: Hoists, ramps and ladders, enclosures, pumps, barriers, fences, barricades necessary to adequately move materials and equipment, de-water excavations, and to protect workmen and public.
- B. All temporary construction to comply with requirements of state and local authorities.

## 2.5 SECURITY:

- A. Provide security and facilities to protect the Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, fire and theft until Work is fully accepted by Owner.
- B. Coordinate with Owner's security program.

## 2.6 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work areas to minimize damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

## PART 3 - EXECUTION

### 3.1 MAINTENANCE AND REMOVAL

- A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the Work.
- B. Remove such temporary facilities and controls as rapidly as progress of the Work will permit or as directed by the Architect.
- C. Remove temporary above grade or buried utilities, equipment, facilities, materials prior to Substantial Completion inspection.
- D. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- E. Clean and repair damage caused by installation or use of temporary work.
- E. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

END OF SECTION



# SECTION 01600 - PRODUCT REQUIREMENTS

## PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

### 1.2 DEFINITIONS

- A. Products: Items obtained 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. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
  - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, 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. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.
  - 1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.

- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
  - 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
  - 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.

### 1.3 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
  - 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
  - 2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
    - a. Name of product and manufacturer.
    - b. Model and serial number.
    - c. Capacity.
    - d. Speed.
    - e. Ratings.
  - 3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

#### 1.4 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

#### 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

- B. Delivery and Handling:

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 determine compliance with the Contract Documents and that products are undamaged and properly protected.

- C. Storage:

1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
2. Store products to allow for inspection and measurement of quantity or counting of units.
3. Store materials in a manner that will not endanger Project structure.
4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

#### 1.6 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 standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
  2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
  3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

## SECTION 01710 - CLEANING

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. Work included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other Sections of these Specifications.

#### 1.2 QUALITY ASSURANCE

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

### PART 2 - PRODUCTS

#### 2.1 CLEANING MATERIALS AND EQUIPMENT

- A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.
- B. Provide covered containers for deposit of waste materials, debris and rubbish.
- C. Locate containers for deposit of waste materials, debris and rubbish within the fenced construction site or as directed by owner.

#### 2.2 COMPATIBILITY

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

- B. Use only the cleaning materials, methods and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

## PART 3 - EXECUTION

### 3.1 PROGRESS CLEANING

- A. General:
  - 1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
  - 2. Do not allow accumulation of scraps, debris, waste material, and other items not required for construction of this Work.
  - 3. At least twice each month, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
  - 4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.
- B. Site:
  - 1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
  - 2. Weekly, and more often if necessary, inspect all materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.1-A-1 above.
  - 3. Maintain the site in a neat and orderly condition at all times.
- C. Structures:
  - 1. Weekly, and more often if necessary, inspect the structures and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
  - 2. Weekly, and more often if necessary, sweep interior places clean.
    - a. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and a hand-held broom.
  - 3. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of succeeding material, using equipment and materials required to achieve the necessary cleanliness.

4. Following the installation of finished floor materials, clean the finish floor daily (and more often if necessary) at all times while work is being performed in the space in which finish materials are installed.
  - a. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from foreign material which, in the opinion of the Architect, may be injurious to the finish floor material.

### 3.2 DUST CONTROL

- A. Establish and enforce strict cleaning and dust control procedures before, during and after installation of health care equipment, as approved by Owner and Architect. This requirement is critical to successful completion of the Work.
- B. Clean interior spaces prior to the start of finish painting and continue cleaning on as-needed basis until painting is finished. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

### 3.3 FINAL CLEANING

- A. "Clean," for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.1 above.
- C. Site:
  1. Unless otherwise specifically directed by the Architect, broom clean paved areas on the site and public paved areas adjacent to the site affected by the work.
  2. Completely remove resultant debris.
- D. Structures:
  1. Exterior surfaces affected by the work:
    - a. Visually inspect exterior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
    - b. Remove all traces of splashed materials from adjacent surfaces.
    - c. If necessary to achieve a uniform degree of cleanliness, hose down the exterior of the structure.

- d. In the event of stubborn stains not removable with water, the Architect may require light sandblasting or other cleaning at no additional cost to the Owner.
- 2. Interior surfaces affected by the work:
    - a. Visually inspect interior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
    - b. Remove all traces of splashed material from adjacent surfaces.
    - c. Remove paint droppings, spots, stains, and dirt from finished surfaces.
- E. Ventilating Systems:
- 1. Clean permanent filters and replace disposable filters if units were operated during construction.
  - 2. Clean ducts, blowers and coils if units were operated without filters during construction.
- F. Schedule final cleaning as approved by the Architect to enable the Owner to accept a completely clean Work
- G. Prior to final completion, or Owner occupancy, Contractor shall conduct an inspection of sight exposed surfaces in all construction areas, to verify that the entire Work is clean.
- .



## SECTION 01730 - EXECUTION

### PART 1 - GENERAL

#### 1.1 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.
  - 3. Installation.
  - 4. Cutting and patching.
  - 5. Coordination of Owner's portion of the Work.
  - 6. Progress cleaning.
  - 7. Starting and adjusting.
  - 8. Protection of installed construction.
  - 9. Correction of the Work.

#### 1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

#### 1.3 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. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
  - 1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
    - a. Primary operational systems and equipment.
    - b. Fire separation assemblies.
    - c. Air or smoke barriers.
    - d. Fire-suppression systems.
    - e. Plumbing piping systems.
    - f. Mechanical systems piping and ducts.
    - g. Control systems.
    - h. Communication systems.
    - i. Fire-detection and -alarm systems.
    - j. Conveying systems.
    - k. Electrical wiring systems.
    - l. Operating systems of special construction.
  3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
    - a. Water, moisture, or vapor barriers.
    - b. Membranes and flashings.
    - c. Equipment supports.
    - d. Piping, ductwork, vessels, and equipment.
    - e. Noise- and vibration-control elements and systems.
  4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

## PART 2 - PRODUCTS

## 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, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, 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.
- 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 compatibility with existing finishes or primers.
- C. 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 to local utility that 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. 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.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect through Construction Manager in accordance with requirements in Section 013100 "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 and existing conditions. If discrepancies are discovered, notify Architect and Construction Manager promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following 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 and Construction Manager 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 pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including 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.

### 3.4 FIELD ENGINEERING

- A. 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 or Construction Manager. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect and Construction Manager before proceeding.
  - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

### 3.5 INSTALLATION

- A. 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.
- 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 satisfactory results as judged by Architect. 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 of type expected for Project.
- 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: Select tools or equipment that minimize production of excessive 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 portions of the 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 with manufacturer.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including 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, as judged by Architect. Fit exposed connections together to form hairline joints.

### 3.6 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
  - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  - 6. Proceed with patching after construction operations requiring cutting are complete.

- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
  4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
  5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

### 3.7 COORDINATION OF OWNER'S PORTION OF THE WORK

- A. Site Access: Provide access to Project site for Owner's construction personnel and Owner's separate contractors.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel and Owner's separate contractors.
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.

### 3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- 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 Section 01400 "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. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

### 3.10 CORRECTION OF THE WORK

- A. Repair or remove and replace damaged, defective, or nonconforming Work. Restore damaged substrates and finishes.
  - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Restore permanent facilities used during construction to their specified condition.
- D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.



- E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01730

## **SECTION 01770 - CLOSEOUT PROCEDURES**

### **PART 1 - GENERAL**

#### **1.1 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. List of incomplete items.
  - 4. Submittal of Project warranties.
  - 5. Final cleaning.

#### **1.2 DEFINITIONS**

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

#### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of cleaning agent.
- 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 MAINTENANCE MATERIAL SUBMITTALS**

- A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

#### **1.5 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 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 Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
  3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Submit testing, adjusting, and balancing records.
  5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 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 Section 015800 "Mechanical"
  6. Advise Owner of changeover in utility services.
  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.
  10. Touch up paint 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 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager 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. 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.

## 1.6 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
  1. 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 will state that each item has been completed or otherwise resolved for acceptance.
  2. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- 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 and Construction Manager 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. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

## 1.7 LIST OF INCOMPLETE ITEMS

- 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, 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, listed by room or space number.
  2. Organize items applying to each space by major element, including categories for ceilings, 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 and Construction Manager.
    - d. Name of Contractor.
    - e. Page number.

4. Submit list of incomplete items in the following format:
  - a. PDF Electronic File: Architect, through Construction Manager, will return annotated file.

#### 1.8 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
  1. Submit on digital media acceptable to Architect.

PART 2 - PRODUCTS

PART 3 - EXECUTION

#### 3.1 CORRECTION OF THE WORK

- A. Complete repair and restoration operations required by "Correction of the Work" Article in Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

## SECTION 02010 - SITE CONDITIONS

### PART 1-GENERAL

#### 1.01 RELATED INFORMATION

Related information and requirements are included in the General and Supplementary Conditions with regard to existing underground utilities.

Existing Utilities and Underground Structures Section 02016

#### 1.02 INFORMATION ON SITE CONDITIONS

- A. All information obtained by the engineer regarding site conditions, subsurface information, groundwater elevations, existing constructions of site facilities, and existing underground utilities and similar data are shown on the plans or provided herein.
- B. Information derived from inspection of topographic maps, or from plans showing locations of utilities and structures will not in any way relieve Contractor from any risk, or from properly examining the site and making such additional investigations as he may elect, or from properly fulfilling all the terms of the contract documents.

#### 1.03 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall satisfy himself as to the nature and location of the work and the general and local conditions.
- B. The contractor further shall satisfy himself as to the character, quality, and quantity of surface and subsurface materials to be encountered by performing site inspections, reviewing soils report (if applicable) and reviewing any other pertinent information. Any new exploratory work must be approved by the owner. Failure of the contractor to acquaint himself with the site and all available information will not relieve him of the responsibility for properly estimating the difficulty or cost of completing the work.
- C. The Contractor shall anticipate underground obstructions such as utility lines, concrete, water table and variation hereof due to rainfall, soil conditions and debris. No extra payment will be allowed for the removal, replacement, repair or possible increased cost caused by underground obstructions. Any such lines or obstructions indicated on the map show only the approximate location and must be verified in the field by the Contractor. The Owner and Engineer will endeavor to familiarize the contractor with all known underground obstructions, but this will not relieve the

Contractor from full responsibility in anticipating and locating all underground obstructions.

#### D. ADDITIONAL INFORMATION

Prior to bidding, bidders may make their own subsurface investigations subject to time schedules and arrangements approved in advance by the Owner. Before any subsurface test holes are excavated, obtain permits from governing agency to perform such work.

## **SECTION 02016 - EXISTING UTILITIES AND UNDERGROUND STRUCTURES**

### **PART 1-GENERAL**

#### **1.01 DESCRIPTION**

Related requirements specified elsewhere: See Division 1 regarding general conditions specific to the contract.

See also Plans for location of utilities and underground structures as are they believed to exist.

#### **1.02 CALIFORNIA ADMINISTRATIVE CODE**

- A. Section 1540(a)1 of Construction Safety Orders (Title 8) California Administrative Code, Section 1540 states:

(1) "Prior to opening and excavation, effort shall be made to determine whether underground installations; i.e., sewer, water, fuel, electric lines, etc. will be encountered and, if so, where such underground installations are located. When the excavations approaches the approximate locations of such an installation, the exact location shall be determined by careful probing or hand digging; and, when it is uncovered, adequate protection shall be provided for the existing installation. All known owners of underground facilities in the area concerned shall be advised of proposed work at least 48 hours prior to the start of actual excavation."

- B. The engineer has determined their locations as well as existing mapping permits. However, in line with California's Administrative Code, Section 1540, Contractor shall make the effort to determine the exact location of underground installations.

### **PART 2-PRODUCTS-OWNERS**

#### **2.01 UTILITIES AFFECTED**

- A. Electrical: Pacific Gas and Electric Company, Fort Bragg, California, 95437. In this area, P.G. & E. has control of overhead and underground power only. It should be noted that where overhead service to a structure known requiring it, does not exist, then underground power service shall be assumed to exist. For underground utility location call (800) 642-2444.
- B. Propane: Owner's Rep.
- C. Water Service: Owner's Rep.



- D. Drainage & Roads: City of Fort Bragg Public Works
- E. Telephone: AT&T for assistance with location of underground telephone facilities.

## 2.02 PRIVATE UTILITIES AFFECTED

No attempt has been made to locate private utilities on private property such as sprinkler irrigation systems, electrical conduits, gas pipes, etc. It is the responsibility of the Contractor to contact the various individual property owners prior to construction in such areas.

## PART 3- EXECUTION

### 3.01 LOCATION OF UTILITIES

- A. Pacific Gas and Electric Company has been cooperative in the past about remarking their facilities and making available personnel to assist in location of gas and electrical facilities. Underground electrical lines may exist in the project area: locate prior to digging.

### 3.02 CONTRACTOR RESPONSIBILITY

The contractor shall anticipate water, gas, electrical, telephone, and cable TV services to each residence, as well as water, telephone, electrical, cable TV, and gas mains in the streets to serve various residences. It may be expected that there will be variation in location from that as shown on the Plans to the actual location. Actual location can best be determined in the field after remarking by the various utilities affected.

No extra payment will be allowed for the removal, replacement, repair, or possible increased cost caused by inadvertent or planned interception and breaking of underground obstructions which may exist.

It should be understood that the various utilities are indicated on the Plans to show only the approximate location and must be verified in the field by the Contractor. The various utilities will cooperate with the Contractor to endeavor to familiarize him with all unknown underground utilities obstructions, but this will not relieve the Contractor from full responsibility in anticipating and locating their actual location and depth.

## SECTION 02070 - SELECTIVE DEMOLITION

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. Work included: Carefully demolish and remove from the site those items scheduled to be so demolished and removed.

#### 1.2 APPLICABLE CODES AND REGULATIONS:

- A. General Requirements: See Specification Section 01010 - Summary of Work.
- B. Recycling Requirements: This project is subject to the City of Fort Bragg and Mendocino County "Construction and Demolition Recycling and Reuse" Ordinance and the Department of Toxic Substances Control "Requirements for Generators of Treated Wood Waste."
- C. Air Quality Requirements: All materials and workmanship shall comply with all current requirements of the Mendocino County Air Quality Control District. Provide all application materials, fees and documentation necessary to obtain all permits required by the Mendocino County Air Quality Control District. Obtain approval for all operations and present to the Owner, at the close of construction, signed copies of all required permits indicating successful completion of all permit requirements.

#### 1.3 QUALITY ASSURANCE:

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

#### 1.4 PROJECT CONDITIONS

- A. County will occupy the building immediately adjacent to and shared with selective demolition area. Conduct selective demolition so County's operations will not be disrupted. Provide not less than 72 hours' notice to County of activities that will affect County's operations.
- B. Maintain access to existing unaffected areas, and other adjacent occupied or used facilities.
  - 1. Do not close or obstruct, occupied or used facilities without written permission from the County.

2. Provide a diagram for County and Architect's review indicating proposed barriers and subsequent staff and public circulation interfacing.
- C. County assumes no responsibility for condition of areas to be selectively demolished. Conditions existing at time of inspection for bidding purpose will be maintained by County as far as practical.
  - D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
    1. A hazardous materials inspection report for this project is available to the contractor with other project documents.
    2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
  - E. Storage or sale of removed items or materials on-site will not be permitted.
  - F. Utility Service: Maintain existing utilities and protect them against damage during selective demolition operations. All fire suppression and alarm systems to occupied areas are to remain fully operational at all times.

## PART 2 - PRODUCTS

(No products are required in this Section.)

## PART 3 - EXECUTION

### 3.1 SURFACE CONDITIONS

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

### 3.2 DEMOLITION

- A. By careful study of the Contract Documents, determine the location and extent of selective demolition to be performed.
- B. In company with the Architect, visit the site and verify the extent and location of selective demolition required.
  1. Carefully identify limits of selective demolition.

2. Mark interface surfaces as required to enable workmen to identify items to be removed and items to be left in place intact.
- C. Prepare and follow an organized plan for demolition and removal of items.
1. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.
  2. Completely remove items scheduled to be so demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.
  3. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.
- D. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by County. Provide temporary services during interruptions to existing utility service, as acceptable to County and Provide at least 72 hours' notice to County if shutdown of service is required during changeover.
- E. If utility services are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary utilities that bypass area of selective demolition and that maintain continuity of service to other parts of building.
- F. Salvage of Existing Materials
- Remove existing materials identified in the Contract Documents which are suitable for reuse. Stack all salvaged materials in a safe place with wood boards separating units and wood protection all around. Salvaged materials shall be protected from damage by the contractor until the completion of the demolition contract.
- G. Use means necessary to prevent dust becoming a nuisance to staff, the public, neighbors, and to other work being performed on or near the site.

### 3.3 REPLACEMENTS

- A. In the event of demolition of items not so scheduled to be demolished, promptly replace such items to the approval of the Architect and at no additional cost to the Owner.

## **SECTION 02080 - CONSTRUCTION WASTE MANAGEMENT**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. Work included: Construction waste shall be managed in conformance with the applicable codes and regulations listed below.

#### **1.2 APPLICABLE CODES AND REGULATIONS:**

- A. General Requirements: See Specification Section 01010 - Summary of Work.
- B. Recycling Requirements: This project is subject to the City of Fort Bragg and Mendocino County "Construction and Demolition Recycling and Reuse" Ordinance and the Department of Toxic Substances Control "Requirements for Generators of Treated Wood Waste."
- C. This project is subject to the requirements of the most recent edition of the California Green Building Standards Code (CALGreen) with current State and Local amendments.

#### **1.3 QUALITY ASSURANCE:**

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

### **PART 2 - PRODUCTS**

(No products are required in this Section.)

### **PART 3 - EXECUTION**

#### **3.1 SITE AND SURFACE CONDITIONS**

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

#### **3.2 CONSTRUCTION WASTE MANAGEMENT**

- A. By careful study of the Contract Documents, determine the location and extent of construction waste management to be performed.
- B. In company with the Architect, visit the site and verify the extent and location of construction waste management required.
  - 1. Carefully identify limits of selective demolition.
  - 2. Mark interface surfaces as required to enable workmen to identify items to be managed according to the requirements of this section.
- C. Prepare and follow an organized plan for construction waste management.
  - 1. Establish a location on site for construction waste management tasks. Sort waste into required categories and stockpile materials until ready for disposal.
  - 2. Develop an organized plan for construction waste management and fully inform all employees of the requirements and conditions.
  - 3. Use means necessary to prevent dust, airborne debris and waterborne debris from becoming a nuisance to the public, to neighbors, workers and to other work being performed on or near the site.
- D. Disposal of Materials
  - 1. Completely remove items scheduled to be removed from site, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.
  - 2. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.

### 3.3 SUBMITTALS:

- A. Submit construction waste management plan, disposal confirmation and any other required documentation to governmental agencies having jurisdiction, Architect and Owner.

## SECTION 02221 - TRENCHING, BACKFILLING, AND COMPACTING

### PART 1 - GENERAL

- 1.1 Work included: Trench, backfill, and compact as specified herein and as needed for installation of underground utilities associated with the Work.
- 1.2 QUALITY ASSURANCE:
  - A. Building Code: California Building Code most recent edition with current State and local amendments.
  - B. Comply with State of California Department of Transportation Standard Specifications most recent edition for earthwork, grading and paving.
  - C. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- 1.3 SUBMITTALS:
  - A. Provide manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.

### PART 2 - PRODUCTS

- 2.1 SOIL MATERIALS
  - A. Fill and backfill materials:
    1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension, and with not more than 15 percent of the rocks or lumps larger than 2-3/8" in their greatest dimension.
    2. Fill material is subject to the approval of the soil engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soil free from roots and other deleterious matter
    3. Do not permit rocks having a dimension greater than 1" in the upper 12" of fill or embankment.
    4. Cohesionless material used for backfill: Provide sand free from, organic material and other foreign matter, and as -approved by the soil engineer.
- 2.2 OTHER MATERIALS
  - A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

## PART 3 - EXECUTION

### 3.1 SURFACE CONDITIONS:

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

### 3.2 PROCEDURES:

#### A. Utilities:

1. Unless shown to be removed, protect active utility lines shown on the drawings or otherwise made known to the Contractor prior to trenching. If damaged, repair or replace at no additional cost to the owner.
2. If active utility lines are encountered and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
3. If service is interrupted as a result of work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Architect and secure his instructions.
5. Do not proceed with permanent relocation of utilities until written instructions are received from the Architect.

#### B. Protection of persons and property:

1. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.
2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.

#### C. 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 trenches and site construction area free from water.

#### D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

#### E. Maintain access to adjacent areas at all times

### 3.3 TRENCHING



- A. Comply with pertinent provisions of Section 02220, and the provisions of this Section.
- B. Provide sheeting and shoring necessary for protection of the Work and for the safety of personnel.
  - 1. Prior to backfilling, remove all sheeting.
  - 2. Do not permit sheeting to remain in the trenches except when, in the opinion of the Architect, field conditions or the type of sheeting or methods of construction such as use of concrete bedding are such as to make removal of sheeting impracticable. In such cases, the Architect may permit portions of sheeting to be cut off and remain in the trench.
- C. Open cut:
  - 1. Excavate for utilities by open cut.
  - 2. If conditions at the site prevent such open cut, and if approved by the Architect, trenching may be used.
  - 3. Short sections of a trench may be tunneled if, in the opinion of the Architect, the conductor can be installed safely and backfill can be compacted properly into such tunnel.
  - 4. Where it becomes necessary to excavate beyond the limits of normal excavation lines in order to remove boulders or other interfering objects, backfill the voids remaining after removal of the objects as directed by the soil engineer.
  - 5. When the void is below the subgrade for the utility bedding, use suitable earth materials and compact to the relative density directed by the soil engineer, but in no case to a relative density less than 90%.
  - 6. When the void is in the side of the utility trench or open cut, use suitable earth or sand compacted or consolidated as approved by the soil engineer, but in no case to a relative density less than 80%.
  - 7. Remove boulders and other interfering objects, and backfill voids left by such removals, at no additional cost to the Owner.
  - 8. Excavating for appurtenances:
    - a. Excavate for manholes and similar structures to a distance sufficient to leave at least 12" clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.
    - b. Overdepth excavation beyond such appurtenances that has not been directed will be considered unauthorized. Fill with sand, gravel, or lean concrete as directed by the soil engineer, and at no additional cost to the Owner.
- D. Trench to the minimum width necessary for proper installation of the utility, with sides as nearly vertical as possible. Accurately grade the bottom to provide uniform bearing for the utility.
- E. Depressions:

1. Dig bell holes and depressions for joints after the trench has been graded. Provide uniform bearing for the pipe on prepared bottom of the trench.
2. Except where rock is encountered, do not excavate below the depth indicated or specified.
3. Where rock is encountered, excavate rock to a minimum overdepth of 4" below the trench depth indicated or specified.

F. Where utility runs traverse public property or are subject to governmental or utility company jurisdiction, provide depth, bedding, cover, and other requirements as set forth by legally constituted authority having jurisdiction, but in no case less than the depth shown in the Contract Documents.

G. Where trenching occurs in existing lawns, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.

H. Cover:

1. Provide trench depth required by governmental agencies having jurisdiction over the Work and in accordance with Cal Trans Standard Specifications. Provide the following minimum cover over the top of the installed item below the finish grade or subgrade where standards are less restrictive:

a. Areas subject to vehicular traffic:

- |                      |     |
|----------------------|-----|
| (1) Sanitary sewers: | 48" |
| (2) Storm drains:    | 36" |

b. Areas not subject to vehicular traffic:

- |                      |      |
|----------------------|------|
| (1) Sanitary sewers: | 30"; |
| (2) Storm drains:    | 18". |

c. All areas:

- |                        |      |
|------------------------|------|
| (1) Water lines:       | 30"; |
| (2) Natural gas lines: | 24"; |
| (3) Electrical cables: | 42"; |
| (4) Electrical ducts:  | 36". |

d. Concrete encased:

- |   |      |
|---|------|
| (1) Pipe sleeves for water and gas lines: | 24"  |
| (2) Sanitary sewers and storm drains:     | 12"; |
| (3) Electrical ducts:                     | 24". |

2. Where utilities are under a concrete structure slab or pavement, the minimum depth need only be sufficient to completely encase the conduit or pipe sleeve, and electrical long-radius rigid metal conduit riser, provided it will not interfere with the structural integrity of the slab or pavement.
3. Where the minimum cover is not provided, encase the pipes in concrete as indicated. Provide concrete with a minimum 28 day compressive strength of 2500 psi

3.4 BEDDING : Provide bedding required by governmental agencies having jurisdiction over the Work and in accordance with Cal Trans Standard Specifications, or as indicated in the Drawings.

### 3.5 BACKFILLING

#### A. General:

1. Do not completely backfill trenches until required pressure and leakage tests have been performed, and until the utilities systems as installed conform to the requirements specified in the pertinent Sections of these Specifications.
2. Except as otherwise specified or directed for special conditions, backfill trenches to the ground surface with selected material approved by the soil engineer.
3. Reopen trenches which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct to the approval of the soil engineer.
4. Do not allow or cause any of the Work performed or installed to be covered up or enclosed by work of this Section prior to required inspections, tests, and approvals.
5. Should any of the Work be so enclosed or covered up before it has been approved, uncover all such Work and, after approvals have been made, refill and compact as specified, all at no additional cost to the Owner.

#### B. Lower portion of trench:

1. Deposit approved backfill and bedding material in layers of 6" maximum thickness, and compact with suitable tampers to the density of the adjacent soil, or grade as specified herein, until there is a cover of not less than 24" over sewers and 12" over other utility lines.
2. Take special care in backfilling and bedding operations to not damage pipe and pipe coatings.

#### C. Remainder of trench:

1. Except for special materials for pavements, backfill the remainder of the trench with material free from stones larger than 6" or 1/2 the layered thickness, whichever is smaller, in any dimension.
2. Deposit backfill material in layers not exceeding the thickness specified, and compact each layer to the minimum density directed by the soil engineer.

#### D. Adjacent to buildings: Mechanically compact backfill within ten feet of buildings.

3.6 TUNNELING OPERATIONS: The Contractor may, at his option, tunnel pipes into position using procedures approved by the soil engineer and the governmental agencies having jurisdiction.

3.7 FIELD QUALITY CONTROL: The soil engineer or Architect will inspect and approve open cuts and trenches before installation of utilities, and will make the following tests:

- A. Assure that trenches are not backfilled until all tests have been completed;
- B. Check backfilling for proper layer thickness and compaction;

- C. Verify that test results conform to the specified requirements, and that sufficient tests are performed.
- D. Assure that defective work is removed and properly re placed.

## **SECTION 02510 – PAVING AND SURFACING OF WALKS AND PARKING AREAS**

### PART 1- GENERAL

#### 1.1 DESCRIPTION

Furnish all labor material and equipment complete to provide for spreading and compacting asphalt concrete pavement along with construction of finished asphalt concrete walkways.

#### 1.2 QUALITY ASSURANCE

A. Reference is made to the State of California, CALTRANS Standard Specifications, with the exception of the Payment paragraphs. All applicable subsections of Section 19 shall apply to this work.

### PART 2-PRODUCTS

#### 2.1 MATERIALS

A. Asphalt pavement; type B asphalt concrete, performance graded P.G. 64-16, steam refined, 3/4" maximum aggregate, medium grading.

B. Paint Binder: Asphalt emulsion, penetration type.

C. Traffic Paint: Fast-dry white conforming to California State Specification 8010-21E-04.

### PART 3-EXECUTION

#### 3.1 ASPHALT PAVING AND INSTALLATION

A. Placement shall be in strict accordance with CALTRANS Standard Specifications.

B. Paint Binder: All existing asphalt and concrete edges when constructed to meet the new asphalt services shall be sprayed with paint binder at the rate of 0.10 gallons per square yard..

C. Patch existing asphalt surfaces to achieve desired grades and repair any areas damaged by construction activities. Seams between existing asphalt and new patch material shall be straight, smooth and uniform.

#### 3.2 TEST

Testing of the asphalt pavement and concrete curbs and walks shall be at the discretion of the Engineer and approving agencies and shall be paid for by the Owner. Retesting shall be paid for by the Contractor.

\*\*\* END OF SECTION \*\*\*

## SECTION 02700 - SITE UTILITY SYSTEMS

### PART 1 - GENERAL

- 1.1 THIS SECTION includes all new connections to site utility systems and relocation and capping of all existing utility systems to be abandoned.
- 1.3 QUALITY ASSURANCE:
  - A. Building Code: California Building Code most recent edition with current State and local amendments.
  - B. Plumbing Code: California Plumbing Code most recent edition with current State and local amendments.
  - C. Mechanical Code: California Mechanical Code most recent edition with current State and local amendments.
  - D. Electrical Code: California Electrical Code most recent edition with current State and local amendments.
  - E. Fire Code: California Fire Code most recent edition with current State and local amendments.
  - F. Follow utility supplier instructions for hookups. Verify each individual utility supplier's requirements. Comply with all requirements of utility suppliers.
- 1.4 SUBMITTALS:
  - A. Provide manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.

### PART 2 - PRODUCTS

- 2.1 Provide all materials required for maintaining all existing connections and hookups to utilities and mechanical system. All couplings, connectors, fittings, gaskets, screws, and any other materials and all labor necessary for maintaining or repairing existing hookups shall be included in the bid price. All piping and wiring for hookups shall be buried underground.
- 2.2 Work includes, but is not limited to, the following utility systems:
  - Electrical Service
  - Propane Fuel Service
  - Water Service
  - Cold Water Supply and Return
  - Refrigerant Supply and Return

## PART 3 - EXECUTION

- 3.1 PROTECTION OF EXISTING UTILITIES: Verify the location of all existing utility services and mark all lines and conduits prior to commencing earthwork, when utilities are encountered during the Work, carefully dig out around existing services and protect from damage during the course of construction. Any existing services which are damaged during the course of construction shall be repaired or replaced by the Contractor with materials of same type and specification at no additional cost to the Owner.
- 3.2 REPAIRS: For all manufactured products, follow manufacturer's instructions and details unless specifically modified by the Drawings and specifications using materials and methods described in the installation instructions. Contractor shall provide any and all fasteners, hardware, mounting devices, brackets, valves, special fittings, or other specialty items called for in the installation instructions in order to assure proper installation. All such items required by the installation instructions shall be provided by the Contractor at no additional cost to the Owner.
- 3.3 Comply with all relevant code requirements.
- 3.4 Comply with all requirements of utility suppliers.
- 3.5 WARRANTIES: At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.



## SECTION 03300 - CAST-IN-PLACE CONCRETE

### PART 1 - GENERAL

- 1.1 THIS SECTION includes cast-in-place concrete shown on the Drawings, as specified herein, and as needed for complete and proper installation.
- 1.2 QUALITY ASSURANCE:
  - A. Building Code: California Building Code most recent edition with current State and local amendments.
  - B. "Specification for Structural Concrete for Buildings," ACI 301-89 is a standard intended to be used essentially in its entirety, by referral in project specifications, to cover all usual requirements for cast-in-place concrete for buildings.
- 1.3 SUBMITTALS:
  - A. Provide manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.

### PART 2 - PRODUCTS

- 2.1 Comply with pertinent provisions of ACI 301-89, except as may be modified by supplemental requirements stated in Part 3 of this Section.

### PART 3 - EXECUTION

- 3.1 INSTALLATION: For all manufactured products, follow manufacturer's installation instructions and details as specifically modified by the Drawings and Specifications using materials and methods described in the installation instructions. Contractor shall provide any and all fasteners, hardware, mounting devices, brackets, special fittings, or other specialty items called for in the installation instructions in order to assure proper installation. All such items required by the installation instructions shall be provided by the Contractor at no additional cost to the Owner.
- 3.2 WARRANTIES: At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.

- 3.3 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
- 3.4 SUPPLEMENTAL REQUIREMENTS: Where consistent with the design shown on the drawings and in these Specifications, provide the products and activities described in ACI 301-89 except as modified below. **Item numbers cited below are item numbers contained in ACI 301.**
- A. 1.3.1 Definitions: Delete the definition of “Contract Documents” and refer to the definition given in the General Conditions of the Contract.
- B 3.2 Strength of Concrete:
- a. For slabs on grade: 2500 psi
  - b. For wall footings: 2500 psi
  - c. For column footings: 3000 psi
  - d. For floors refer to Table 3.14.2(a)
- C. 3.14.2 Class of Floors:
- a. Residential portions: Class 1
  - b. Parking portions: Class 3
- D. 4.1.3 Use of earth cuts as forms: Earth cuts may be used as forms for vertical concrete when specifically so approved by the Architect and governmental agencies having jurisdiction, and when concrete is at least 2” thicker than thickness shown for formed concrete.
- E. 4.1.4 Shop Drawings for formwork: Design of formwork is the responsibility of the Contractor.
- F. 4.5.5 Minimum strengths of concrete to be reached before weight-supporting formwork and shoring may be removed:
- a. Formwork not supporting concrete (such as sides of beams, walls, columns, or similar parts of the Work) may be removed after cumulatively curing at not less than 50 degrees F for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided that curing and protecting operations are maintained.
- G. 5.2 Types of grades of reinforcing steel:

- a. Comply with ASTM A165:
  - (1) Temperature steel in walls and slabs, ties, and reinforcing in masonry: Use grade 40.
  - (2) All other: Use grade 60
  
- H. 5.2.5 Welded wire fabric: Comply with ASTM A185
  
- I. 5.3 Reinforcement supports: Provide plastic-tipped chairs and accessories for work exposed to view, exposed to weather, or where rust would impair applied finish, so that finished surface will not be marred or stained.
  
- J. 6.2.2 Expansion joints materials: Comply with ASTM D 944 and ASTM D 1751 or ASTM D 1752 as appropriate.
  
- K. 10.1.2 Finishes for formed surfaces;
  - a. Provide “rough form finish” for concealed concrete.
  - b. Provide “board formed finish” for all other concrete.
  
- L. 11.7 Types of slab finishes:
  - a. Provide “smooth trowel finish” for all interior surfaces.
  - b. Provide “broom finish” for landings and walkways.

## SECTION 05500 - MISCELLANEOUS METALS

### PART 1 - GENERAL

- 1.1 THIS SECTION outlines general requirements for all miscellaneous metal work.
- 1.2 QUALITY ASSURANCE:
  - A. Building Code: California Building Code most recent edition with current State and local amendments.
  - B. In addition to complying with pertinent codes and regulations of all government agencies having jurisdiction, unless otherwise specifically directed or permitted by the Architect, comply with the recommendations contained in the most recent editions of the following publications:
    - Welding Manual  
published by American Welding Society
    - Steel Construction Manual  
published by:  
American Institute of Steel Construction  
1 East Wacker Drive, Suite 3100  
Chicago, IL 60601-2001  
(312) 670-2400
  - C. Material quality standards, grades, load and stress ratings and connector schedules given in this Section and in the General Notes of the Drawings are MINIMUM values. Refer to Structural Drawings (S series sheets) for grades, load and stress ratings and connector schedules specific to this project. Where quality standards given on the Structural Sheets exceed values indicated in this Section or in the General Notes, values given on the Structural Drawings shall take precedence. Where quality standards given on the Structural Sheets are less than the values given in this Section or in the General Notes, the HIGHEST of the values shall take precedence.
- 1.3 SUBMITTALS:
  - A. Provide manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.
  - B. Shop Drawings: Submit Shop Drawings of all pipe railings showing all dimensions and methods of attachment.

### PART 2 - PRODUCTS

- 2.1 MATERIALS:
  - A. Steel Plates, Shapes, Bars: ASTM A 36.
  - B. Galvanized Steel Sheet: ASTM A 526, G 90, mill phosphatized.
  - C. Galvanizing: ASTM A 386 for assembled products; A 123 for iron and steel hardware. All materials designated as "Galvanized" shall be

Hot-Dip Galvanized. No Mechanical or electro-galvanization permitted.

- D. Anchor Bolts, washers, nuts, joist hangers, clips, connectors, and other framing items in contact with Pressure Treated wood at interior locations shall be Hot-Dip Galvanized in accordance with ASTM G 185, Simpson ZMAX, USP Triple Zinc G-185, type 316 stainless steel optional or equal products of other manufacturers. Galvanized fasteners shall be used with all galvanized framing connectors.

## 2.2 MISCELLANEOUS METAL ITEMS:

- A. Rough Hardware: Furnish custom fabricated bolts, plates, anchors and other miscellaneous steel and iron hardware required for framing, supporting and anchoring woodwork.
- B. Steel angles and lintels: Fabricate to sizes shown. Galvanize after fabrication.

## PART 3 -EXECUTION

- 3.1 PERFORM cutting, drilling, and fitting required for installation; set work accurately in location, alignment, and elevation, measured from established lines and levels. Provide anchorage devices and fasteners where necessary for installation to other work.
- 3.2 FABRICATION:
  - A. Use materials of size and thickness shown, or if not shown, of required size and thickness to produce adequate strength and durability in finished product.
  - B. Weld corners and seams continuously; grind exposed welds smooth and flush. For stainless work use fillet weld of stainless steel wire
  - C. Provide protective coating against galvanic action wherever dissimilar metals are in contact.
  - D. All other metal not specified: provide galvanized metal exposed to weather or in contact with concrete or masonry work.
  - E. Shop prime all items not galvanized. See Section 09900 for painting specifications.
  - F. Comply with NAAMM Pipe Railing Manual for all pipe rails.
- 3.3 TOUCH-UP SHOP PAINT after installation. Clean field welds, bolted connections, and abraded areas, and apply same type paint as used in shop. Use galvanizing repair paint on damaged galvanized surfaces.

## **SECTION 07311 - ASPHALT SHINGLES**

### **PART 1 - GENERAL**

- 1.1 THIS SECTION includes all asphalt shingle roofing where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 1.2 QUALITY ASSURANCE:
  - A. Building Code: California Building Code most recent edition with current State and local amendments.
  - B. Comply with requirements of the manufacturer of asphalt shingles.
- 1.3 SUBMITTALS:
  - A. Samples: Submit 3 samples of required shingle. Review of submittal will be to visual characteristics and their conformance to the requirements of the Contract Documents.
  - B. Warranty: Submit copy of manufacturer's standard material warranty.

### **PART 2 - PRODUCTS**

- 2.1 SHINGLES: Composition asphalt, fiberglass; 12" x 36", rectangular.
  - A. Manufacturer: Certain Teed, Elk, Owens Corning or equal.
  - B. Color: Color to match adjacent materials as approved by Architect.
  - C. UL Class: A
  - D. Warranty: 30 years
- 2.2 NAILS: Hot dip galvanized steel or aluminum barbed shank roofing nails (11 or 12 ga) with 3/8" diameter heads, length to penetrate 3/4" into solid decking or through plywood sheathing.
- 2.3 UNDERLAYMENT: One layer of 15# asphalt saturated felt for 4/12 and steeper roofs or two layers of 15# asphalt saturated felt for 3/12 to 4/12 roofs or as required by the shingle manufacturer whichever is the heavier.

### **PART 3 -EXECUTION**

- 3.1 INSTALL UNDERLAYMENT AND SHINGLES in straight true courses with uniform exposure to provide a weathertight roofing system free from leaks or defects.
- 3.2 ALL ROOFING procedures employed in the Work shall be done in strict accordance with Roofing Manufacturer's printed installation instructions.
- 3.3 PROVIDE FLASHINGS and roof jacks at all roof intersections and roof penetrations in strict conformance with the requirements with the referenced publications identified in the Quality Assurance standards

contained in this Section and in conformance with the provisions of Section 07600 of the Specifications. Install metal drip edge at all eaves and rakes of roof.

- 3.5 **WARRANTY:** Provide manufacturer's standard 30-year material and labor warranty.

## SECTION 07600 - FLASHING AND SHEET METAL

### PART I - GENERAL

- 1.1 THIS SECTION includes metal flashings, roof jacks, splash pans, downspouts, and other miscellaneous sheet metal items.
- 1.2 QUALITY ASSURANCE:
  - A. Building Code: California Building Code most recent edition with current State and local amendments.
  - B. In addition to complying with pertinent codes and regulations of all governmental agencies having jurisdiction, unless otherwise specifically directed or permitted by the Architect, comply with the recommendations contained in the most recent editions of the following publications:

Architectural Sheet Metal Manual

published by:

Sheet Metal and Air Conditioning Contractors National Association  
P.O. Box 22130  
Chantilly, VA 22022  
(703) 803-2980

The NRCA Construction Details

published by:

The National Roofing Contractor's Association  
O'Hare International Center  
10255 W. Higgins Road, Suite 600  
Rosemont, IL 60018  
(708) 299-9070

### PART 2 - PRODUCTS

- 2.1 FLASHING: 16 oz. copper or stainless steel unless otherwise noted on the drawings. Fold, bead or return exposed edges for rigidity and appearance. Fabricate with flat-lock seams.
- 2.2 ROOF JACKS: Performed neoprene or 16 oz. copper.
- 2.3 NAILS, SCREWS, BOLTS, CLIPS: Of a material that will not support galvanic action.



## PART 3 -EXECUTION

- 3.1 EXPANSION JOINTS: Provide where shown and otherwise as necessary to properly compensate for thermal expansion and contraction.
- 3.2 JOINTS AND SEAMS: Form and/or solder to provide watertight work throughout.
- 3.3 The use of pop rivets in any condition, which will be exposed on the finish surface of the project, is not allowed unless approved by the Architect in advance.
- 3.4 SEPARATE dissimilar metals and protect against galvanic action with a minimum 15-mil coating of bituminous mastic.
- 3.5 ANCHOR WORK permanently in place with non-corrosive fasteners.
- 3.6 INSTALLATION: For all manufactured products, follow manufacturer's installation instructions and details as specifically modified by the Drawings and Specifications using materials and methods described in the installation instructions. Contractor shall provide any and all fasteners, hardware, mounting devices, brackets, special fittings, or other specialty items called for in the installation instructions in order to assure proper installation. All such items required by the installation instructions shall be provided by the Contractor at no additional cost to the Owner.
- 3.7 WARRANTIES: At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. In addition, provide a 5-year warranty, in writing, to replace any or all joints failing within the warranty period at no cost to the Owners, labor and material inclusive. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.

## SECTION 07900 - SEALANTS

### PART 1 - GENERAL

- 1.1 THIS SECTION includes all general sealing work required throughout the project.
- 1.2 QUALITY ASSURANCE:
  - A. Building Code: California Building Code most recent edition with current State and local amendments.
  - B. Energy Requirements: All materials and workmanship shall comply with the most recent editions of the California Code of Regulations, Title 24 (California Building Standards Code) with current State and local amendments and the most recent edition of the Building Energy Efficiency Standards published by the California Energy Commission.
  - C. Comply with provisions of most recent edition of "Sealants and Caulking Spec Guide G07920" published by Construction Specifications Institute.
- 1.3 WARRANTY: Provide a 5-year warranty, in writing, to replace any or all joints failing within the warranty period at no cost to the Owners, labor and material inclusive.

### PART 2 - PRODUCTS

- 2.1 Materials, General
  - A. Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
  - B. Colors: Provide color of exposed joint sealers indicated or, if not otherwise indicated, as selected by the Architect from manufacturer's standard colors.
  - C. Exterior joints
    1. Between metal frames and cast concrete, brick, masonry use Mono (acrylic terpolymer) manufactured by Tremco Commercial Construction Sealants, 3735 Green Road, Beachwood, OH 44122, (800) 321-7906 or Vulkem 116 (polyurethane) manufactured by Mameco International, Inc., 4475 East 175th Street, Cleveland, Ohio 44128-3599, (800) 321-6412 and distributed by Harold A. Price and Company, Inc., 555 South 12th Street, P.O. Box 1389, Richmond, Ca. 94802, (800) 772-2521
    2. Expansion and control joints in concrete, use Vulkem 45 (polyurethane) by Mameco.
    3. Exterior sills, jambs, heads of windows, doors, openings, trim, etc., wood to wood connections, use Vulkem 116 or Mono.
    4. Glass to wood, use Mono.

5. Glass to glass, glass to metal, or glass to concrete: use Spectrem 2 by Tremco. Note: For maximum expansion conditions use Spectrem I by Tremco.

6. Glazing tape: Tremco 440 (polyisobutylene)

D. Interior:

1. Tile to masonry, tile to tile: Hydroment/Chem-Calk 900 (urethane) manufactured by Bostik, Inc. Boston Street, Middleton, MA. 01949; Bostik Western Headquarters 500 West 17th Street, Long Beach, Ca. 90813, (800) 523-6530.

2. Tile to tile, horizontal joints in water exposed situations: Hydroment/Chem-Calk 550.

3. Expansion joints: Sonolac (acrylic latex) manufactured by Sonneborn Building Products, A Division of Chemrex Inc., 7711 Computer Avenue, Minneapolis, MN 55435, (800) 433-9517

4. Acoustical caulking: Sonolac.

5. Sealing cracks, baseboards, window frames, plumbing fixtures to tile, wood, etc.: Lexel (copolymer rubber) as manufactured by Sashco Sealants Inc. 10300 East 107th Place, Brighton, Colorado 80601, (800) 767-5656

E. Concrete waterproofing: Clear Seal: Sonneborn Penetrating Sealer #20.

## PART 3 - INSTALLATION

### 3.1 GENERAL:

- A. Use and install per manufacturer's instructions to achieve effective adhesion and secure the work against penetration by water.
- B. Clean joint surfaces and prime as recommended by manufacturer.
- C. Accurately apply in one continuous operation to full depths and widths of joints or pockets. Surface shall have a thoroughly neat, extruded appearance when complete.
- D. Joint Width: As shown or 1/4" minimum and 1" maximum. Joint depth approximately one-half of joint width with a minimum depth dimension of 1/4".
- E. Support sealants from back with construction as shown or with backer rod.
- F. Sealant work shall precede asphaltic work, or painting.
- G. Clean adjacent surfaces free from caulking and sealant smears.

3.2 INSTALLATION: For all manufactured products, follow manufacturer's installation instructions and details as specifically modified by the

Drawings and Specifications using materials and methods described in the installation instructions. contractor shall provide any and all fasteners, hardware, mounting devices, brackets, valves, special fittings, or other specialty items called for in the installation instructions in order to assure proper installation. All such items required by the installation instructions shall be provided by the Contractor at no additional cost to the Owner.

- 3.3 WARRANTIES: At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. In addition, provide a 5-year warranty, in writing, to replace any or all joints failing within the warranty period at no cost to the Owners, labor and material inclusive. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.

## SECTION 09250 - GYPSUM BOARD

### PART 1 - GENERAL

- 1.1 THIS SECTION includes gypsum wallboard and related work where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 1.2 QUALITY ASSURANCE:  
QUALITY ASSURANCE:
  - A. Building Code: California Building Code most recent edition with current State and local amendments.
  - B. Comply with requirements of the most recent edition of GA-216 "Recommended Levels of Application and Finishing of Gypsum Board" published by the Gypsum Association, 810 First Street NE, #510, Washington, D.C. 20002
  - C. Comply with requirements of the most recent edition of GA-214 "Recommended Specifications of Gypsum Board Finish" published by the Gypsum Association, 810 First Street NE, #510, Washington, D.C. 20002.
- 1.3 SUBMITTALS:  
Provide manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.

### PART 2 - PRODUCTS

- 2.1 GYPSUM BOARD:
  - A. Type/Thickness: See Room Finish Schedule.
  - B. Manufacturer: US Gypsum, Georgia Pacific.
- 2.2 ACCESSORIES:
  - A. Corner and Edge Trim: Manufacturer's standard galvanized steel, beaded units with flanges for concealment in joint compound.
  - B. Joint Compound, Tape, Miscellaneous Materials: As manufactured or recommended by gypsum board manufacturer for the application indicated.
  - C. Screws: As recommended by gypsum board manufacturer.
  - D. Sealant: Waterproof compound made or recommended by gypsum board manufacturer.

### PART 3 - EXECUTION

- 3.1 COMPLY with applicable requirements of referenced quality standards, except where more detailed or more stringent requirements are indicated by the manufacturer.

- 3.2 WALL/PARTITION BOARDS: Install vertically to avoid butt end joints wherever possible. At high walls or other conditions where butt end joints are unavoidable, install boards horizontally with end joints staggered over studs.
- 3.3 SCREWING: As recommended by manufacturer.
- 3.4 TRIM:
  - A. Install metal corner beads at all exterior corners.
  - B. Install metal edge trim wherever edge of gypsum board would otherwise be exposed or semi-exposed.
- 3.5 SEALING: Fully seal all edges and penetrations through gypsum board in bathrooms, kitchen, and other areas subject to moisture or water. Clean and pre-treat surfaces to receive sealant in accordance with manufacturer's instructions.
- 3.6 FINISHING:
  - A. All gypsum board surfaces to achieve Level 4 finish as per GA-214 specifications. Match existing texture.
  - B. Apply treatment at all joints, trim flanges, penetrations, and fasteners as required to provide smooth flat, true surface for painting.
- 3.7 WARRANTY: During the first year of occupancy, the Contractor shall inspect the gypsum board finish for cracks, nail pops and other finish imperfections and shall repair and repaint all such imperfections in the finish at no cost to the Owner.

## SECTION 09900 - PAINTING

### PART 1 - GENERAL

- 1.1 THIS SECTION includes painting and finishing of all exposed interior and exterior surfaces where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- A. Definitions:
1. "Paint," as used herein, means coating systems materials including primers, emulsions, epoxy, enamels, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.
- B. Work included: Unless specifically noted otherwise, provide paint finish system for all building elements installed or modified by the work of this contract which are exposed to view in the completed Work. For patches to existing painted surfaces, paint entire wall floor to ceiling to nearest corner or finish transition.
- C. Work not included:
1. Unless otherwise indicated, painting is not required on surfaces not affected by the work of this contract, in concealed areas and inaccessible areas such as furred places, attic spaces, utility tunnels, pipe spaces, and duct shafts.
  2. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze, and similar finished materials will not require painting under this Section except as may be so specified.
  3. Do not paint moving parts of operating units; mechanical or electrical parts such as valve operators; linkages; sensing devices; and motor shafts, unless otherwise indicated.
  4. Do not paint over required labels or equipment identification, performance rating, name, or nomenclature.
- 1.2 QUALITY ASSURANCE:
- A. Building Code: California Building Code most recent edition with current State and local amendments.
- B. Paint coordination:
1. Provide finish coats which are compatible with the prime coats actually used.
  2. Review other Sections of these Specifications as required, verifying the prime coats to be used and assuring compatibility of the total coating system for the various substrata.
  3. Upon request, furnish information on the characteristics of the specific finish materials to assure that compatible prime coats are used.
  4. Provide barrier coats over noncompatible primers or remove the primer and reprime as required.
  5. Notify the Architect in writing of anticipated problems in using the specified coating systems over prime coatings supplied under other Sections.
- 1.3 SUBMITTALS:
- A. Provide Manufacturer's Literature describing all manufactured products proposed for inclusion in the Work of this Section.

- B. Provide Manufacturer's recommended Installation Instructions and Finish System Specifications for use on each surface type scheduled to receive finishes. Maintain copy of Finish System Schedule at job site.

#### 1.4 JOB CONDITIONS

- A. Do not apply solvent-thinned paints when the temperature of surfaces to be painted and the surrounding air temperatures are below 45 degrees F. Unless otherwise permitted by the manufacturers' printed instructions as approved by the Architect.
- B. Weather conditions:
  - 1. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85%; or to damp or wet surfaces unless otherwise permitted by the manufacturers' printed instructions as approved by the Architect.
  - 2. Applications may be continued during inclement weather only within the temperature limits specified by the paint manufacturer as being suitable for use during application and drying periods.

#### 1.5 EXTRA STOCK

- A. Upon completion of the Work of this Section, deliver to the Owner any extra stock equaling 10% of each color, type, and gloss of paint used in the Work, tightly sealing each container, and clearly labeling with contents and location where used.

### PART 2 - PRODUCTS

#### 2.1 SCOPE:

- A. Provide all products required for finishes that match existing adjacent surfaces as required to fully coat and protect all new exposed interior and exterior surfaces.
- B. Use the finish system listed in the Painting Schedule in Part 2 of this Section which is specified for the type of material to be covered. Where the material to be covered is not listed in Part 2 of this Section, provide a paint finish system for the material which is recommended for use on that material as manufactured by the approved paint Manufacturer.

#### 2.2 MANUFACTURERS

- A. Interior and Exterior Paint: Benjamin Moore or equivalent products of other manufacturers, when approved in advance by the Architect.
- B. Exterior Stain: Benjamin Moore or equivalent products of other manufacturers when approved in advance by the Architect.
- C. Interior Lacquer Finish: U.S. Cellulose or equivalent products of other manufacturers when approved in advance by the Architect.
- D. Exterior Oil Finish: Benjamin Moore or equivalent products of other manufacturers when approved in advance by the Architect.



2.3 UNDERCOATS and THINNERS:

- A. Provide undercoat paint produced by the same manufacturer as the finish coat.
- B. Use only the thinners recommended by the paint manufacturer, and use only to the recommended limits.
- C. Insofar as practical, use undercoat, finish coat, and thinner materials as parts of a unified system of paint finish.

2.4 FINISH COLORS:

- A. Architect will select all finish top coat colors from the full range of the paint manufacturer's color line. A maximum of three exterior and four interior colors will be specified. Contractor may provide paint systems using one of the following options:
  - 1. Use paint system of the manufacturer whose color was selected.
  - 2. Specially mix the color chosen by Architects approval.
- B. Interior Colors: To be chosen.
- C. Exterior Colors: To be chosen.

2.5. APPLICATION EQUIPMENT

- A. For application of the approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer of the particular paint, and as approved by the Architect.

Prior to use of application equipment, verify that the proposed equipment is actually compatible with the material to be applied, and that integrity of the finish will not be jeopardized by use of the proposed equipment.

2.6 FINISH SYSTEMS (Note: Paint Finish Systems referenced in this Schedule are products of Benjamin Moore Paint unless noted otherwise. Equivalent Paint Systems of other paint manufacturers will be considered for substitution.)

FINISH No. H-1

Clear Oil Finish for exposed Redwood decks and railings, wood siding or trim not scheduled for stain or paint finish. ( Benjamin Moore C323-10product )

3 coats clear Benjamin Moore or equivalent penetrating oil finish. ( Note: backprime all surfaces to receive clear oil finish prior to installation.)

FINISH No. H-2

Stain Finish for exterior siding and trim

1 coat 637-XX Benjamin Moore Arborcoat Semi-Transparent Stain

or

1 coat 640-XX Benjamin Moore Arborcoat Solid Coat Stain.

FINISH No. H-3

Opaque finish for exterior wood surfaces, Satin Finish

1 coat 023 Fresh Start Exterior Wood Primer  
2 coats N103-XX Moorgard Low Lustre House Paint

FINISH No. H-4

Opaque finish for exterior wood surfaces, Semi-Gloss Finish

1 coat 023 Fresh Start Exterior Wood Primer  
2 coats N096-XX Moorglo Soft Gloss House Paint

FINISH No. H-5

Painted finish for exposed ferrous metal

1 coat P06 Super Spec HP Alkyd Metal Primer

2 coats P29 DTM Acrylic Semi-Gloss

FINISH No. H-6

Painted finish for exposed galvanized metal: pretreatment as recommended by Manufacturer.

1 coat P04 Super Spec HP Latex Metal Primer  
2 coats P29 DTM Acrylic Semi-Gloss

FINISH No. H-7

Opaque for gypsum board, flat finish, latex.

1 coat 372 Eco Spec WB Primer 0 VOC

2 coats N373 Eco Spec WB Flat 0 VOC

FINISH No. H-8

Opaque for gypsum board in bathrooms, kitchen, utility rooms, semi-gloss finish, latex.

1 coat 372 Eco Spec WB Primer 0 VOC

2 coats 376 Eco Spec WB Semi-Gloss 0 VOC

FINISH No. H-9

Opaque for wood paneling, wood trim, doors and cabinets, semi-gloss finish, acrylic latex.

1 coat 372 Eco Spec WB Primer 0 VOC

2 coats 376 Eco Spec WB Semi-Gloss 0 VOC

FINISH No. H-10

Clear Finish for interior wood surfaces

2 coats 422-00 Stays Clear Gloss

Or

2 coats 423-00 Stays Clear Satin

FINISH No. H-11

Clear Lacquer finish for interior cabinets, paneling and trim.

1 coat S157 Mac Lac Sanding Sealer

2 coats F231 Mac Lac High Solid Satin Clear

FINISH No. H-12

Stain and Lacquer finish for interior cabinets, paneling and trim.

1 coat 0234-XX Benwood Penetrating Stain

2 coats F231 Mac Lac High Solid Satin Clear

FINISH No H-13

Clear Urethane finish on wood floors, doors and trim.

2 coats 422-00 Stays Clear Acrylic Polyurethane Gloss  
Or

2 coats 423-00 Stays Clear Acrylic Polyurethane Satin

FINISH No H-14

Stain and Urethane finish on wood floors, doors and trim.

1 coat 234-XX Benwood Penetrating Stain

2 coats 422-00 Stays Clear Acrylic Polyurethane Gloss  
Or

2 coats 423-00 Stays Clear Acrylic Polyurethane Satin

FINISH No H-15

Clear Marine Spar Varnish on wood floors, countertops, doors and trim.

1 coat 650-08 Master Marine Spar Varnish (thinned 10%)

2 coats 650-08 Master Marine Spar Varnish

FINISH No. H-16

Clear Oil Finish for ceilings, beams and wood trim.

1 coat 50% Turpentine and 50% Boiled Linseed Oil

1 coat 25% Turpentine and 50% Boiled Linseed Oil

FINISH No. H-17

Oil Finish for Butcher Block Countertops

3 coats sterile mineral oil.

FINISH No. H-18

Wallpaper wall covering

Follow Manufacturer's Instructions for wall surface treatment and wallpaper installation.

FINISH No. H-19

Sealer over ceramic tile and stonework.

Obtain information for each tile or stone product used in the job from the Manufacturer of the product. Apply Manufacturer's recommended sealer product or products using the methods recommended by the Manufacturer. Provide sealer products to satisfy recommended coverages and thicknesses for each application.

Follow sealer manufacturer's written installation instructions for each product and application.

FINISH No. H 20

Opaque for gypsum board, eggshell finish acrylic latex.

1 coat 372 Eco Spec WB Primer 0 VOC

2 coats 374 Eco Spec WB Eggshell 0 VOC

2.4 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

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

3.2 MATERIALS PREPARATION

A. General:

1. Mix and prepare paint materials in strict accordance with the manufacturers' recommendations as approved by the Architect
2. When materials are not in use, store in tightly covered containers.
3. Maintain containers used in storage, mixing, and application of paint in clean condition, free from foreign materials and residue.

B. Stirring:

1. Stir materials before application, producing a mixture of uniform density.
2. Do not stir into the material any film which may form on the surface, but remove the film and, if necessary, strain the material before using.

3.3 SURFACE PREPARATION

A. General

1. Perform preparation and cleaning procedures in strict accordance with the paint manufacturer's recommendations as approved by the Architect.

2. Remove removable items which are in place and are not scheduled to receive paint finish; or provide surface-applied protection prior to surface preparation and painting operations.
3. Following completion of painting in each space or area, reinstall the removed items by using workmen who are skilled in the necessary trades.
4. Clean each surface to be painted prior to applying paint or surface treatment.
5. Remove oil and grease with clean cloths and cleaning solvent of low toxicity and flash point in excess of 200 degrees F, prior to start of mechanical cleaning.
6. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall onto wet newly painted surfaces.

B. Preparation of wood surfaces:

1. Clean wood surfaces until free from dirt, oil, and other foreign substance.
2. Smooth finished wood surfaces exposed to view, using the proper sandpaper. Where so required, use varying degrees of coarseness in sandpaper to produce a uniformly smooth and unmarred wood surface.
3. Unless specifically approved by the Architect, do not proceed with painting of wood surfaces until the moisture content of the wood is 12% or less as measured by a moisture meter approved by the Architect.
4. Trim and Siding: Back prime all trim and siding which is to receive paint, clear oil, or stain finish with one coat of sealant or stain as noted in the Finish System. Prime all edges and cut ends of trim and siding prior to installation.

C. Preparation of metal surfaces:

1. Thoroughly clean surfaces until free from dirt, oil and grease.
2. On galvanized surfaces, use solvent for the initial cleaning, and then treat the surface thoroughly with phosphoric acid etch recommended by Paint System manufacturer. Remove etching solution completely before proceeding.
3. Allow to dry thoroughly before application of paint.

### 3.4 PAINT APPLICATION

A. General

1. Touchup shop-applied prime coats which have been damaged, and touchup bare areas prior to start of finish coats application.
2. Slightly vary the color of succeeding coats.
  - a. Do not apply additional coats until the completed coat has been inspected and approved.
  - b. Only the inspected and approved coats of paint will be considered in determining the number of coats applied.
3. Sand and dust between coats to remove defects visible to the unaided eye from a distance of five feet.
4. On removable panels and hinged panels, paint the back sides to match the exposed sides.

B. Drying

1. Allow sufficient drying time between coats, modifying the period as recommended by the material manufacturer to suit adverse weather conditions.
2. Do not proceed with initial painting or application of subsequent coats until surfaces to be coated are completely dry and prepared to receive the specified finish.

- C. Brush applications
    - 1. Brush out and work the brush coats onto the surface in an even film.
    - 2. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, and other surface imperfections will not be acceptable.
  - D. Spray application
    - 1. Where spray application is used, apply each coat to provide the hiding equivalent of brush coats.
    - 2. Do not double back with spray equipment to build up film thickness of two coats in one pass.
  - E. For completed work, match the approved Samples as to texture, color, and coverage. Remove, refinish, or repaint work not in compliance with the specified requirements.
  - F. Miscellaneous surfaces and procedures:
    - 1. Exposed mechanical items:
      - a. Finish electric panels, access doors, conduits, pipes, ducts, grilles, registers, vents, and items of similar nature to match the adjacent wall and ceiling surfaces, or as directed.
      - b. Paint visible duct surfaces behind vents, registers, and grilles flat black.
      - c. Wash metal with solvent, prime, and apply two coats of semi-gloss enamel.
    - 2. Exposed pipe and duct insulation:
      - a. Apply one coat of latex paint on insulation which has been sized or primed under other Sections; apply two coats on such surfaces when unprepared.
      - b. Match color of adjacent surfaces.
      - c. Remove band before painting, and replace after painting.
    - 3. Hardware: Paint prime coated hardware to match adjacent surfaces.
    - 4. Wet areas:
      - a. In toilet rooms and contiguous areas, add an approved fungicide to paints.
      - b. For oil base paints, use 1% phenolmercuric or 4% tetrachlorophenol.
      - c. For water emulsion and glue size surfaces, use 4% sodium tetrachlorophenate.
    - 5. Interior: Use "stipple" finish where enamel is specified.
    - 6. Exposed vents: Apply two coats of heat-resistant paint approved by the Architect.
    - 7. Touch up all damaged surfaces prior to final acceptance.
- 3.5 WARRANTIES: At the conclusion of the job, deliver to the Owner full manufacturer's warranties for all manufactured products used in the Work. It is the responsibility of the Contractor to contact manufacturer's representatives and to register the product purchases and installations. Warranties shall be registered in the Owner's name. Delivery of completed warranty papers shall be a requirement necessary for the issuance of the Certificate of Substantial Completion.

## **SECTION 15400 - PLUMBING**

### **PART 1 - GENERAL**

#### **1.01 SCOPE**

- A. The General Conditions, Supplementary Conditions and Division 1 - General Requirements are hereby made a part of this Section of the Specifications.

#### **1.02 DESCRIPTION OF WORK**

- A. Work Included: Work under this Section includes, but is not necessarily limited to:
  - 1. All labor materials, tools, appliances, and equipment that are required to furnish and install the complete installation shown on the Drawings for this Section of the work and/or specified in the following Specifications, including that which is reasonable inferred.
  - 2. Condensate Drains.
  - 3. All hanger and supports for piping systems from the building structure.
  - 4. Repair of all damage done to premises as a result of this installation and removal of all debris left by those engaged in this installation.
  - 5. Testing and adjusting of piping and equipment.
  - 6. Be responsible for all damage to any part of the premises caused by leaks or breaks in pipe or equipment furnished or installed under this Section of the Work for a period of one (1) year after date of acceptance of the Work.
  - 7. Cleanliness of all exposed materials and equipment at time building is turned over to the Owner.
  - 8. All insurance and taxes required and applicable shall be included. The Owner will pay for permit fees.
  - 9. All rigging, hoisting, transportation, and associated work necessary for placement of all equipment in the final location shown.
  - 10. Fire stopping of all piping through rated assemblies.
- B. Related Work in Other Sections
  - 1. Interior and exterior painting: Prime and finish painting.

#### **1.03 GENERAL REQUIREMENTS**

- A. Visit the site of the work, compare it with the Drawings and Specifications as to the conditions under which Work is to be performed, ascertain and check all conditions and elevations and take all measurements which may affect the Work.
- B. Obtain all permits and licenses necessary for the completion of the Work and notify all interested authorities when this Work is ready for any necessary or required inspections. Deliver to the Owner a certificate of all inspections and acceptances issued by the jurisdictional authorities, approving the complete plumbing installation. The Owner will pay for all fees and permits.
- C. All work shall be in strict accordance with the latest rules of any local or State ordinances and codes, UPC, building codes, and the NFPA. No extra charge will be paid for furnishing items required by the regulations but not specified herein or shown on the Drawings. Rulings and interpretations of the agencies shall be considered as part of the regulations if commonly known to the trade prior to the submittal of bids.
- D. Do not permit or cause any Work to be covered or enclosed until it has been inspected, tested and approved. Should any of the Work be enclosed or covered before inspection and test, the Contractor shall, at his own expense, uncover the Work; and, after it has been inspected, tested and approved, make all repairs with such materials as may be required to restore his Work and that of the other Work to its original and proper condition.
- E. Be responsible for damage to any of this work before acceptance. Securely cover all openings, apparatus, fixtures, and appliances, both before and after setting into place, to prevent obstructions in the pipes and breakage or disfigurement of equipment. Should the equipment become damaged, restore it to its original condition and finish before final acceptance without change in Contract cost.
- F. Shop Drawings Submittals - Submit electronic shop drawings to the Architect for approval, within a reasonable time after award of Contract or when called for in ample time to prevent delay in construction, all materials specified hereinafter.

## PART 2 - MATERIALS

### 2.01 MATERIALS

- A. Equipment and Materials: All materials shall be new.
- B. Pipe and Fittings
  1. Copper Tubing: ANSI H23, Type "M" hard drawn water service tubing, as hereinafter indicated. DWV type fittings for condensate drainage.
  2. Fittings for Copper Tubing: ANSI B16.22, wrought copper sweat type.
  3. Nipples: Cut from same pipe as specified for the system in which the nipple is used.



4. Solder for Copper Tubing Joints: Shall be 95/5. Charred and collapsed pipe and fittings due to excessive heating will not be permitted and shall be removed from the job site.
- C. Pipe Hangers and Supports
1. Superstrut or approved equal.
  2. Piping Supported from Above: M-750 side beam brackets bolted through wood structural members and U-577 swing connector bolted to wood decks, all with C-711 hangers.
  3. Hanger Rods: Shall be sized in accordance with the manufacturer's directions.
  4. Provide support as required by the Uniform Plumbing Code and as required for proper support free of sways and bending. Provide isolators to separate pipes from hangers. All pipes must be isolated from the structure.
- D. Rated Pipe Penetrations: 3M or equal U.L. listed assemblies. Seal all rated wall, floor, shaft, roof, and other penetrations.
- E. Escutcheon Plates: Chromium-plated steel floor, wall, and ceiling plates with set-screw to hold firmly in place.

## PART 3 - EXECUTION

### 3.01 PIPING

#### A. General

1. Carry all horizontal lines of pipe on specified hangers properly spaced and set to allow the pipe to adjust for expansion and contraction.
2. Conceal all piping above ceilings, in furred walls and partitions and pipe spaces when possible. Check all piping runs beforehand with all other trades. Run piping to maintain proper clearance for maintenance and access. Run piping in strict coordination with mechanical ducts and equipment, all electrical conduit and equipment, structural, and architectural conditions. Where work of other trades prevents installation of the piping as shown on the Drawings, reroute piping at no extra cost. Verify all inverts and pitches of lines before starting work.
3. All piping shall be installed free from traps and air pockets.
4. Support all pipe from the building structure so that there is no apparent deflection in pipe runs. Fit piping with steel sway braces and anchors to prevent vibration and/or horizontal displacement under load when required. Do not support piping from, or brace to, ducts, other pipes, conduit, or any materials except building structure. Piping or equipment shall be rigid and immobile and shall not be supported or hung by wire rope, plumber's tape or blocking of any kind. Double wrap copper pipe

with heavy vinyl tape where pipe comes in contact with ferrous materials or concrete.

5. Support Piping From Structure By Hangers Spaced As Follows: Horizontal piping shall be supported by pipe hangers as hereinbefore specified. Hangers shall be spaced as indicated in the Uniform Plumbing Code. Each branch over 4 feet long shall have at least one hanger. Provide pipe anchors and sway braces to basic building structure where required for rigidity.
6. Furnish and install dielectric insulating unions or insulating flanges as hereinbefore specified at all connections of ferrous and nonferrous piping.
7. Install unions adjacent to threaded equipment and at other points where required for disassembly.
8. No valve and no piece of equipment or trim shall support the weight of any pipe. Install all valves, vents, traps, cleanouts, and other trim in accessible locations.
9. Whenever changes in sizes of piping occur, make such changes with reducing fittings, as the use of face bushings will not, in general, be permitted. Install eccentric reducing fittings where necessary to provide free drainage of lines.
10. Where exposed pipes pass through walls, ceilings, or floors, fit pipes in all finished rooms and conspicuous locations with escutcheon plates. Escutcheon plates must be securely held in position allowing enough clearance to care for expansion and shall be sufficient size to cover the opening around the pipe.

B. Condensate Drain Piping: Type "M" copper with sloped drainage fittings.

### 3.02 CLEANING

- A. Clean piping and fitting with soap and water. Remove marks and labels. Remove paint, concrete, plaster and other foreign materials.
- B. Clean all drains of dirt and debris.
- C. Thoroughly clean and flush all systems of all pipes contaminates such as cuttings, filings, lubricant, rust, scale, grease, solder, flux, welding residue, debris, etc., and thoroughly flush out with clear clean water until clean in the opinion of the inspector.

### 3.03 TESTING

- A. Condensate Drain Piping: Hydrostatically test and prove tight under a pressure of 50 PSI at the highest point.
- B. All tests shall be maintained for 2 hours or until complete and acceptable in the opinion of the inspector.

### 3.04 AS-BUILT DRAWINGS

- A. At completion of the work, turn over to the Architect one (1) complete set of reproducible drawings incorporating the original drawings and all changes made to the original drawings. Reproducible prints of the original drawings will be provided by the Architect. Make all changes to these reproducible drawings to provide a complete and accurate description and record of all the work as installed.

### 3.05 GUARANTEE

- A. At completion of the work, furnish the Owner a written guarantee, in triplicate, that work has been performed in accordance with Plans and Specifications and guarantee to replace or repair, to the satisfaction of the Owner, any portion of the new work that fails within a period of one (1) year after final acceptance, provided such failure is due to defects in material or workmanship. Also agree to replace or repair, with like workmanship and materials, any part of the building or equipment installed by other trades but damaged in installing this work

END OF SECTION

## SECTION 15800 - MECHANICAL

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.02 DESCRIPTION

##### A. Work Included

1. All labor, materials, tools, appliances and equipment that are required to furnish and install the complete installation shown on the Drawings for this Division of the work and/or specified in the following Specification, including that which is reasonably inferred.
2. All work involved in making stands and supports for all equipment requiring them.
3. Cooperation with other crafts in putting the installation in place at a time when space required is accessible.
4. Repair of all damage done to premises as a result of this installation and removal of all debris left by those engaged in this installation.
5. Cleanliness of all exposed materials and equipment at time building is turned over to the Owner.
6. All insurance, fees and taxes required and applicable are included.
7. Preparation of shop drawings.
8. Supervision of painting of materials and equipment installed by this Division.
9. Preparation of Operation and Maintenance Manuals.
10. Preparation of As-Built drawings for ducting systems to show alignment, sizes, location and size of return air filters, etc.
11. Adjusting and testing of air flow, controls, and equipment.
13. Preparation of coordination drawings.

##### B. Work Excluded

1. Electrical power material and connections to equipment, except as noted.
2. Motor starters, unless specified.
3. Framing around ducts and diffusers through walls and slabs.
4. Finish painting.

#### 1.03 REQUIREMENTS

- A. Examination of Premises: Examination of premises shall be made to make a comparison with the Drawings dated 12-16-2022 and Specifications and to examine the conditions under which work is to be performed. Ascertain and check all conditions which may affect this work. No allowance shall subsequently be made for any extra expense which may be required due to failure or neglect to make such examination.
- B. Drawings
1. The Drawings which constitute a part of this Contract indicate the general arrangement of ducts and locations of apparatus. Should it be necessary to deviate from arrangement indicated in order to meet structural conditions, such deviations shall be made without expense to the Owner.
  2. Extreme accuracy of data given herein and on the Drawings is not guaranteed. The Drawings and Specifications are for the assistance and guidance of the Contractor, and exact locations, distances and levels will be governed by the building site. The Contractor shall take his Contract with this understanding.
  3. In any case where there appears to be a discrepancy in the Drawings and Specifications, the Contractor shall figure the most expensive alternative and after award of the Contract shall secure directions from the Architect.
- C. Manufacturer's Directions: Manufacturer's directions shall be followed in all cases where manufacturers of articles used in this Contract furnish directions covering points not shown on the Drawings and specified herein.
- D. Regulations: All work and materials shall be in full accordance with the latest rules of the National Board of Fire Underwriters, any local or state ordinances, the State of California Industrial Accident Commission's Safety Orders, and the regulations of the State Fire Marshal, and with any prevailing rules and regulations pertaining to adequate protection and/or guarding of any moving parts or otherwise hazardous locations. Regulations included in building codes, plumbing codes and all other codes having jurisdiction shall also be followed. Whenever the Drawings and Specifications require larger sizes or higher standards than are required by the regulations, the Drawings, and Specifications shall govern; wherever the Drawings and Specifications shall violate the Regulations, the Regulations shall govern.
- E. Permits, Fees, and Inspections: All permits, fees, and inspections required by local authorities shall be arranged for and paid for by this Division. Insofar as they conflict with these requirements, the GENERAL CONDITIONS do not apply to this installation. Properly signed certificates of all final inspections required by local authorities must be furnished to the Owner before the work will be accepted.

- F. Cooperation with other crafts in putting the installation in place at a time when space required is accessible, and in such a manner that all other work in the space may be installed as shown on the Drawings. The general arrangement and location of ductwork, apparatus, etc. is shown on the Drawings or herein specified. Minor changes may be necessary to accommodate other work that may conflict with this work, such as electrical, plumbing, etc. Install this in harmony with these, making any minor changes that may be necessary without cost to the Owner.

#### 1.04 SUBSTITUTION OF MATERIALS AND EQUIPMENT

- A. Equipment of lesser range and ultimate capacity than the specified equipment will not be considered for substitution. This Division shall bear the burden of proof of the capacity and quality of the equipment for substitution. Complete engineering calculations including appropriate tables, curves, and charts must accompany such items as coils, fans, etc., which are to be considered for substitution. Substituted equipment without such documents will not be considered.
- B. When substituted equipment or material requires changes in piping, duct connections, arrangement, electrical wiring or other design changes, submit five (5) copies of complete scale drawings showing all necessary changes for approval before proceeding with the installation of any substituted item. Such drawings must be dated, bear a title block, and, when in scale, the scale shall be the same as used on the Contract Drawings.

1.05 SHOP DRAWINGS: Submit electronic shop drawings to the Architect for approval, within a reasonable time after award of Contract or when called for in ample time to prevent delay in construction, all materials specified hereinafter.

#### 1.06 OPERATION AND MAINTENANCE MANUALS

- A. Furnish to the Owner one (1) complete separately bound, set and one (1) electronic set of operating instructions, including manufacturer's literature of all equipment and controls, covering all items of instruction, operation and maintenance. Final inspection will not be made until these instructions are received. The following items are suggested but not totally inclusive.
  - 1. Fan Coils
  - 2. Condensing Units
  - 3. Make-Up Air Units
  - 4. Exhaust Fans
  - 5. Air Filters
  - 6. Temperature Control Diagrams and Devices
  - 7. Heat Recovery Ventilators
  - 8. Air Handling Units

- 1.07 AS-BUILT DRAWINGS: At completion of the work, turn over to the Architect one (1) complete set and one (1) electronic set in PDF format of reproducible drawings incorporating the original drawings and all changes made to the original drawings. Reproducible original drawings will be provided by the Architect. Make all changes to these reproducible drawings to provide a complete and accurate description and record of all the work as installed
- 1.08 GUARANTEE: At completion of the work, furnish the Owner a written guarantee, in triplicate, that work has been performed in accordance with Plans and Specifications and guarantee to replace or repair, to the satisfaction of the Owner, any portion of the new work that fails within a period of one (1) year after final acceptance, provided such failure is due to defects in material or workmanship. Also agree to replace or repair, with like workmanship and materials, any part of the building or equipment installed by other trades but damaged in installing this work.

## PART 2 PRODUCTS

### 2.01 VARIABLE REFRIGERANT FLOW SYSTEM INDOOR FAN COILS

- A. Ducted Ceiling Concealed Indoor Section: Mitsubishi, or approved equal, heat pump fan coil unit complete with direct expansion (DX) evaporator coil constructed of seamless copper tubing with mechanically bonded aluminum fins, three speed centrifugal fan with DC brushless type motor, filter box, prepainted galvanized steel cabinet, and microprocessor controls. Wall mounted thermostat to be hard-wired type, NOT remote control. Provide single point wiring connection. Sizes, capacities and model numbers as scheduled on the Drawings.
- B. Ducted Multi Position Indoor Section: Mitsubishi, or approved equal, heat pump fan coil unit complete with direct expansion (DX) evaporator coil constructed of seamless copper tubing with mechanically bonded aluminum fins, three speed centrifugal fan with DC brushless type motor, filter box, prepainted galvanized steel cabinet, and microprocessor controls. Wall mounted thermostat to be hard-wired type, NOT remote control. Provide single point wiring connection. Sizes, capacities and model numbers as scheduled on the Drawings.

### 2.02 VARIABLE REFRIGERANT FLOW ZONING SYSTEM

- A. Mitsubishi, Daikin, or approved equal variable refrigerant volume zoning system complete with heat pump condensing unit, fan coils, high-speed communication bus, R410A refrigerant. The R410A outdoor unit uses inverter-driven scroll compressor. The condensing unit shall be capable of simultaneous cooling and heating, using heat recovery type branch selection boxes to connect indoor units

to provide energy-saving heat-recovery operation. The heat recovery branch selector is used in unison with the outdoor unit to provide simultaneous cooling and heating. It redirects refrigerant away from the outdoor coil to be shared by various indoor coils. This unique function transfers heat energy that is otherwise wasted from zones calling for cooling to other zones that call for heating. Wall mounted thermostats are to be of the hard-wired type, NOT remote control. Performance for the connected system shall be as indicated in the schedules. Manufacturer's submittal information shall include rated performance at the conditions on the schedule.

## 2.03 PIPE AND FITTINGS

- A. Copper Tubing and Fittings: Type "L", hard drawn, deoxidized and dehydrated copper tubing and forged, sweat type, copper fittings conforming to ANSI specification B16.22.
- B. Flanges conform to ASA specification B16.5, forged steel or bronze (to match connecting pipe) flanges for a working pressure of 150 PSI. Flanges shall be welding neck, slip-on or threaded as required with 1/16" raised face when required. Gaskets shall be full faced factory fabricated. Flange bolts shall have square heads and cold pressed hexagonal nuts.
- C. Nipples: Cut from pipe or tubing as specified above.
- D. Copper Unions: 150 PSI ground joint cast bronze with sweat joints.
- E. Solder for copper tubing shall be 95/5 type or silver solder as specified hereinafter. All solder shall be leadless. Charred and collapsed pipe and fittings, due to excessive heating, will not be permitted and shall be removed from the job site.
- F. Copper to ferrous connections shall be Epco, or approved alternate, dielectric pipe unions, threaded or flanged as required.

## 2.04 REFRIGERANT SYSTEM ACCESSORIES

- A. Solenoid Valves: Sporlan Valve Company's 208 volt, 60 cycle, pilot operated, piston type, normally closed, packless, or approved equal. Valves shall be same voltage as compressor and shall be closed whenever the associated fan coil unit and the condensing unit is not inoperative.
- B. Thermostatic Expansion Valves: Shall be Sporlan Valve Company's model HVE, or approved equal, with exterior adjustment and external equalizer. Valve sizes shall be selected by the manufacturer.



- C. Strainers for Refrigerant Lines: Shall be Henry, Mueller Brass Company's, or approved equal, angle type with bronze bodies and monel strainer cartridges having an inner screen of 100 x 90 mesh and an outer screen of 12 mesh.
- D. Liquid Line Dehydrator: Shall be Sporlan, or approved equal, filter-dryer, complete with cores. Sizes shall be selected by the manufacturer.
- E. Liquid Moisture Indicator: Shall be Henry, Sporlan, or approved equal, with fused sight glass, colored moisture sensitive element and protective cap. Indicator shall have sweat connections and shall be refrigerant line size.
- F. Flexible Connections: In the refrigerant lines shall be American Brass Company's "Vibration Eliminators" or Chicago Metal Hose Company's, length as required.
- G. Refrigerant Valves: Henry model 626 diaphragm packless valves with globe style, brass construction, and nylon seat.

PART 3 EXECUTION

3.01 SHEET METAL DUCTS AND MISCELLANEOUS SHEET METAL WORKS

- A. All air ducts shall be made up of galvanized sheet steel, including dryer exhaust ducts.
- B. Weights and Thickness (Except Where Noted Otherwise on Drawings):

<u>Largest Dimension of Duct</u>	<u>U.S. Std. Gauge</u>
Up through 30 "	#20

- C. Seams and Stiffeners
  - 1. Low Pressure Ducts (2" Static Pressure)
    - a. Longitudinal Seams: Flat-crimped Pittsburg lock.
    - b. Transverse Joints: Pocket lock, except where absolutely required by space limitations, use S-drive seams reinforced with flat bars. Hammer up all joints and seal to make practically airtight on four (4) sides. Tape all transverse joints with 8-oz. canvas soaked in adhesive and pasted neatly over joints. Clean joints before application of strips. Strips shall be mitered and lapped 4" wide for pocket lock seams.
    - c. Transverse Joints and Stiffeners

<u>Largest Dim.</u>	<u>Size</u>	<u>of</u>	<u>Joint</u>	<u>Joint Reinforcement</u>
<u>of Duct</u>	<u>Joint</u>	<u>Spacing</u>		

Up to 18"	1"	96"	none
19" to 36"	1"	60"	none
37" to 42"	1"	60"	1" x 1/8" Bar
43" to 48"	1 1/2"	60"	none

- D. Round Ductwork (Low Pressure): Prefabricated, machine-wrapped, round duct with a sealed spiral-locked seam, or rectangular with equivalent area or internal insulation constructed as specified hereinbefore. The prefabricated round ductwork shall be of zinc-coated steel in minimum gauges of 26 gauge in sizes through 8" diameter, 24 gauge in sizes 9" through 22" diameter, and 22 gauge for duct 24" diameter and larger.
1. Fittings: Minimum 24 gauge, zinc-coated steel with continuously welded joints.
- E. Seal all seams and joints of ducts exposed to weather above roof with 4" wide, 8 ounce canvas with Arabol.
- F. Installation and Fittings
1. Install ducts true to line and grade. Make changes of direction by curved section with inside radius equal to 1 1/2 times duct diameter or square elbows with turning vanes as shown. Where square elbows are definitely shown, radius turns may not be used.
  2. Fit square elbows and angular turns or junctions with turning blades.
  3. Fixed Turning Vanes: Install in square elbows. Install vanes across full diagonal dimensions of elbows. Vane spaces as shown on the Drawings and their sector length shall encompass full 90 degree of turn. When turning vanes are installed in duct with internal insulation, install 20-gauge hat channels of same depth as insulation and secure vane runners to channel.
  4. Transformation Sections: Form with uniformly tapering pieces. Unless shown otherwise on Drawings, taper for duct transformations shall not exceed 15 degrees included angle.
- G. Duct Penetrations: Where ducts pass through walls, ceilings and floors, seal around four (4) sides of duct at both sides of wall with 2" x 2" x 20 gauge sheet metal flange collar neatly installed and trimmed to fit tightly to wall and duct. At fire walls, pack space between duct and wall solid with approved insulating material prior to installing collar.
- H. Rectangular Duct Supports: Support ductwork from construction with 1" x 16 gauge galvanized strap hangers suspended from overhead basic structure. Fold strap 1" under bottom of duct and screw straps to each side and bottom of duct with a minimum of three (3) #10 sheet metal screws in each strap.

1. Hangers for Ducts: Spaced not over 96" o.c. for ducts smaller than 18" in larger dimension, 60" centers for ducts 18" to 110". Install one (1) set of hangers at each duct termination and, where required, to hold ducts in position.
  2. Each Duct: Supported on at least two (2) sides.
- I. Round Duct Supports: Support ductwork from construction by galvanized strap hangers suspended from overhead structure. Provide continuous band, same size as hanger strap, around duct. Strap hangers shall be 1" by 22 gauge for ducts up through 26" diameter, 1" by 18 gauge for ducts 27" through 36" diameter. Hangers shall be spaced at maximum 12'-0" on center or as required. Install hangers at each duct termination and where required to hold ducts in position. Provide intermediate structural supports as required.
  - J. Access Panels with Felted Edges: Installed in ducts where shown and where required for cleaning and for access to equipment and devices in ducts. Access panels shall be airtight.
  - K. All new ducts and related openings shall be covered or sealed during construction until final system startup.
  - L. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30 percent based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.
  - M. Existing units that have UL-Listed smoke detectors in their main return air ducting must have wiring reconnected to their replacement units. New unit FC-13 will need wiring and connection to the smoke detector and fire alarm panel. The County's fire alarm monitoring company is North Bay AVS (707) 526-4549.

### 3.02 GENERAL REQUIREMENTS OF PIPING

- A. All pipes shall be run in the approximate location shown and shall be of sizes given on the Drawings, and shall be parallel to all walls and ceilings unless indicated.
- B. Wherever pipes are run through walls, sleeves shall be provided to allow large enough openings for the passage of the pipe and pipe insulation where required. Holes for pipes through furred walls or ceilings shall be lined with 24-gauge

galvanized steel sleeves. Where exposed pipes pass through walls, ceiling or floors, they shall be fitted with escutcheon plates. Escutcheon plates must be securely held in position, allowing enough clearance to care for expansion and shall be sufficient size to cover the opening around the pipe.

- C. Support Piping From Structure By Hangers Spaced As Follows: Horizontal piping shall be supported by pipe hangers as hereinbefore specified with steel rods and supports as specified or determined on the Drawings. Hangers shall be spaced as required by the Uniform Plumbing Code. Each branch over 4 feet long shall have at least one hanger. Vertical piping shall be supported at each floor level with approved pipe clamps. Vertical piping shall have not less than one intermediate support to resist horizontal loads. Provide pipe anchors and sway braces to basic building structure where shown and where required for rigidity. Provide 18-gauge full sheet metal sleeves around outside of insulation at each hanger and support. Hangers shall be sized to fit outside of pipe insulation.
- D. Slope piping in direction indicated by arrows on drawings or as required, 1" in 40 feet, except where space conditions will not permit this slope.
- E. Whenever changes in sizes of piping occur, the changes shall be made with reducing fittings, as the use of bushings will not, in general, be permitted. Eccentric reducing fittings shall be used wherever necessary to provide free drainage or venting of lines. Hot water piping shall have eccentric reducers to provide continuous slope at top of pipe.
- F. American Standard pipe threads shall be used for IPS threaded work. No screwed pipe joints shall be caulked or screwed up with rope or packing of any kind. Burrs formed by cutting tools shall be reamed out and, before installing, each section of pipe shall be examined to see that it is clean and clear. Pipes shall be free from tool marks.
- G. The intent of this Specification is that all equipment and material furnished by this Section shall be completely dust-free, clean and rust-free and freshly painted or polished when the final acceptance inspection is made.
- H. All systems of any nature shall be thoroughly cleaned and flushed of all pipe contaminates such as cuttings, filings, lubricant, rust, scale, grease, solder, flux, welding residue, debris, obstructions, etc., and thoroughly flushed out until clean in the opinion of the Inspector. Any piece of equipment or part of any system which malfunctions or is damaged by any worker due to failure, neglect or carelessness shall be required or replaced to the satisfaction of the Architect, by and at the total expense of this Contractor.

- I. Refrigerant: This division shall furnish and charge the systems with enough Refrigerant to operate the system correctly under all conditions. This division shall furnish all replacement refrigerant needed during the guarantee period at his expense.
- J. All piping shall be new and completely free from dents, rust, scratches, burrs, etc. Any piping which is not found to be perfect will be removed by the Contractor and replaced at his expense.

### 3.03 INSULATION

- A. Concealed Supply Air and Return Air Ducts: Shall be insulated on the outside with Fiberglas Pink Duct Wrap, or approved equal, 2" thick fine inorganic glass fiber material with an integral vapor barrier and a density or not less than 1 lb. per cubic foot. Attach to duct with steel wire on 12" maximum centers at each lap joint with stick pins, or equivalent. Lap all joints not less than 6". Where space limitations will not permit lap joints, butt and seal joints with 8 oz. canvas glued with low VOC duct mastic.
- B. Rigid Insulation: Shall be Fiberglas Aero Flex Duct Liner, Johns-Manville, or approved equal, 1" thick, 3-lb. density glass insulation with resilient black resistance coating. Attach insulation with rubber base adhesive applied in 4" bands on 12" minimum centers, and, in addition, attached with Gemco metal clips on 18" maximum centers both ways and as required. Coat all seams and edges with an approved sealant. Clip off all wire clips. Omit outside wrap insulation.
- C. Refrigerant Piping Insulation: Insulate piping with 1" thick insulation inside of the building and 2 inches thick outside of the building. Apply and finish insulation according to manufacturer's recommendations. Cover insulation where outside of the building with an aluminum jacket. Seal all joints in the aluminum jacket with mastic and/or canvas and Arabol in order to provide a watertight system.
- D. All insulated piping exposed to weather shall have aluminum jacket over insulation. Jacket shall be 0.016 inch aluminum with end bands. Seal all transverse joints and ends.
- E. All insulation shall be classified by Underwriters' Laboratories to have a flame-spread rating of 25; fuel contributing rating of 50; and smoke-developed rating of 50.
- F. Refrigerant piping below grade shall be installed within a continuous waterproof and non-crushable enclosure.

### 3.04 ADJUSTING AND TESTING:

- A. Before the test run is started, the Contractor shall thoroughly clean all ducts and equipment. Adjust the air conditioning units and controls. Thoroughly purge the refrigerant piping system with anhydrous carbon dioxide gas and test and prove tight all refrigerant piping at 300 PSI. After the system and controls are tested and adjusted for a normal operating condition, notify the Architect and shall operate the system for one (1) eight-hour day to demonstrate acceptability. Furnish all necessary labor and materials to operate the systems. Electric current will be furnished by the Owner. The final test shall be made at a time acceptable to the Owner. The final and acceptance test shall be made at time acceptable to the Architect and shall be paid for by the Owner as a portion of the Contract price. Should any part of the system or any material or workmanship fail in this test, it shall be rectified and the system made ready for a new test and inspection. The Architect shall then be notified that a new inspection will be called for. The cost of the rectifying of the defective work and/or materials and of the second test and inspection shall be borne by the Contractor, as shall the costs of any further tests and inspection, if required.
- B. The total leakage of the duct system shall not exceed 12 percent of the nominal system air handler airflow as determined utilizing the procedures in Reference Residential Appendix Section RA3.1.4.3.1; or

### 3.05 BALANCING OF FLOW SYSTEMS

- A. The Contractor shall obtain the services of an independent test and balance agency that specializes in and whose business is limited to the testing and balancing of air conditioning systems. Testing and balancing shall be performed in complete accordance with AABC Standards for Field Measurements and Instrumentation form No. 81266, Volume One, as published by the Associated Air Balance Council. Instruments used for testing and balancing of air and hydronic systems must have been calibrated within a period of six (6) months prior to balancing. All final test analysis reports shall include a letter of certification listing instrumentation used and last date of calibration. Three (3) copies of the complete test reports shall be submitted to the Architect prior to final acceptance of the project. Submit name of test and balance agency for approval by the Architect within 15 days after receipt of construction contract. HVAC contractor shall completely balance the system prior to obtaining an independent testing and balancing agency.
  - 1. Ventilating Systems
    - a. Adjust the air flow at each diffuser or supply register or other outlet and at each return on exhaust register to the quantities shown

- on the original as-built drawings. When the quantities are not definitely shown, balance to quantities as directed by the Architect.
- b. In general, the following procedure shall be followed.
- (1) With supply fan operating, adjust fan speeds to obtain 105% of the original as-built design air quantities. This procedure to be carried out with all doors and windows closed.
  - (2) Adjust branch ducts to proper flow quantities as nearly as possible using dampers provided. Pitot transverse is suggested for measuring air flow at main branch ducts.
  - (3) Adjust each supply outlet and each return inlet to the quantity shown on the Drawings using the dampers provided in the ducts. Volume controls provided in the diffusers and registers shall be used on the last pass only.
  - (4) Adjust fan speed to obtain 105% of specified capacity and trim to specified capacity with volume control. Repeat the two (2) paragraphs above for as many times as is required to obtain a perfect balance.
- c. Air Quantities: At outlets shall be determined by holding lengths of portable sheet metal ducts tightly to wall or ceiling outlets or edge of diffuser and transversing known outlet area of this fitting with a calibrated anemometer or by means approved by the Architect. Provide such portable sheet metal extension pieces as are required to fit various size outlets. Extension pieces used for this work shall be fabricated for minimum pressure loss and calibrated for each size and type of outlet.
- d. Filters: During balancing procedure, the air filters shall be provided with sufficient blanks to bring the filter resistance up to a constant 0.30" W.G. for main air system filters.
- e. Documents: Copies of recorded air balance data including rough preliminary runs shall be maintained and submitted three (3) copies. Final balance data submitted for approval shall include the following:
- (1) CFM shown on original as-built drawings and CFM obtained for each outlet and each inlet.
  - (2) RPM, motor manufacturer, name plate date and actual motor RPM and amperes drawn for each fan motor.
  - (3) Average static pressure across the fan and main duct.
  - (4) Entering and leaving air temperature and air flow for all heating and cooling systems during the full heating and full cooling modes.
  - (5) Minimum outside air quantities for furnaces. For outside air dampers with high low settings, measure the air flow with each setting.

- f. At completion of balance, fasten damper quadrant operating handle to duct with a #10 sheet metal screw. Fasten air extractors in place with a sheet metal screw. Mark final volume control positions.
3. Instruments for balancing system, such as anemometers, velometers, and pressure sensing instruments, shall be furnished by the Contractor. Certified copies of instrument calibration data for each instrument used shall be available to the Inspector at any time during balancing work.
4. Upon request by the Architect, the Contractor shall provide personnel, instruments, ladders, and all gear necessary for checking and verifying any of the test or balance data.

### 3.06 TEMPERATURE CONTROL SYSTEM

- A. This division of the work shall supervise, calibrate, and install the entire temperature control system. The entire control system shall be guaranteed for one (1) year and service shall be provided without cost to the owner during this period.
- B. Provide a complete wiring diagram of the entire control system, including terminal connections to all equipment, starters, relays, switches, and controllers. Provide all transformers and relays required for the control system. Mount all controls securely and neatly.
- C. All temperature control devices shall be furnished and installed under this Division of the work. The temperature controls work shall be done by ESI of Sacramento and shall be Delta Controls, no exceptions.
- D. All temperature control conduit, wiring, and connections shall be furnished and installed under this Division of the work.
- E. Temperature Control System: Shall be an electric/electronic system of automatic controls complete with all room thermostat, relays, switches, controllers, and other accessories required to produce the desired performance of the mechanical systems as indicated on the Drawings and as specified. Details of workmanship used shall conform to the requirements of the manufacturer. All controls mounted exterior to the building shall be watertight construction suitable for operation exposed to weather. Control manufacturer shall be Delta. The complete installation of all controls work shall be the complete responsibility of this Division including all wiring connections. The temperature control work shall be done by ESI of Sacramento.



- F. Furnish "As-Built" temperature control diagrams of the entire control system and written description of sequence of operation. Mount diagrams in plastic envelopes in location as directed by the owner.
- G. Furnish, install, and connect all control wiring for all voltages as necessary to perform the control functions described herein and/or shown on the Drawings. All wiring shall be in conduit or as required by the Uniform Electrical Code and shall conform to the Workmanship and Wiring Methods Section of the Electrical Specifications.
- H. The Contractor, before permitting operation of any equipment which is furnished, installed or modified under his Contract, shall review all wiring connections which have an influence on his equipment or work and shall verify that these connections are correct. He shall also satisfy himself that the overload protection devices installed are of the correct type, rating, and setting to properly protect his equipment.
- I. The Contractor, by giving permission for the operation of equipment furnished, installed or modified, under his Contract, shall assume responsibility for the correctness of the electrical connections and protective devices.

### 3.07 COMMISSIONING

- A. Manufacturer's service representative to be present at initial startup, and shall validate warranty. Manufacturer's service representative to instruct owner's personnel in operation and maintenance of mechanical systems and equipment. Training shall include startup and shutdown procedures, servicing and preventative maintenance schedule and procedures, and troubleshooting procedures including procedures for obtaining repair parts and technical assistance.
- B. Installing Contractor must be certified by the manufacturer to install the approved VRF system to ensure maximum warranty.
- C. Review operating and maintenance data contained in the operating and maintenance manuals specified in Division One.
  - a. Schedule training with the owner. Provide at least seven (7) day advance notice to the architect.
- D. Commissioning shall include test and balance services as described in section 15800 3.04 and 15800 3.05 and temperature control system as described in section 15800 3.06.

### 3.08 FINAL INSPECTION

- A. Set control devices to the following temperatures:  
Thermostats: 70°F. inside dry bulb, heating. 75°F inside dry bulb, cooling.
- B. Adjust temperature control system to maintain a temperature of plus or minus 1 degree F. either side of the set point.

END OF SECTION