

# **PROJECT SPECIFICATIONS**

## **SAN ANTONIO PORCH**

**AT SAN ANTONIO ELEMENTARY SCHOOL**

**(PROJ#-2020-1300)**

**650 CARNE RD, OJAI, CA 93023**

**OJAI UNIFIED SCHOOL DISTRICT**

**414 E OJAI AVE, OJAI, CA 93023**

**Prepared By**

**RNT Architects**

**285 N Ventura Ave #102**

**Ventura, Ca 93001**

**June 04, 2020**

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## SECTION 011000 - SUMMARY OF WORK

### PART 1 - GENERAL

#### 1.1 SUMMARY OF THE WORK:

The Work under this Contract necessary for and incidental to the execution and completion of all Work indicated and inferred in the Contract Documents for the wood repair and gutter and downspout replacements at the locations indicated in the summary of work below.

A. Drawings and Specifications, were prepared by:

ROESLING NAKAMURA TERADA ARCHITECTS, INC.  
285 N Ventura Ave #102, Ventura, CA 93001

B. Summary of Work:

1. San Antonio Elementary School (PROJ#-2020-1300) 650 Carne Rd, Ojai, CA 93023
  - a. Replace post of exterior walk – includes brackets and walkway railing and flashing of (E) concrete bases (and repair of damaged concrete).
  - b. Replace original half-round gutters and brackets and downspouts.
  - c. Replace gable end half-timber on South and West elevations with fiber cement boards.

#### 1.1 OCCUPATIONAL SAFETY AND HEALTH ACT REQUIREMENTS:

- A. During the entire construction period, it shall be the responsibility of the Contractor to maintain conditions at the Project site so as to meet in all respects the requirements of the Federal Occupational Safety and Health Administration (OSHA) and the California Occupational Safety and Health Administration (CAL-OSHA). These provisions shall cover the Contractor's employees and all other persons working upon or visiting the site. To this end, the Contractor shall inform himself and his representatives of Federal OSHA and California OSHA standards.
- B. Bid Documents are available online at the Ojai Unified School District's Website (<http://www.ojaiusd.org/>)

#### 1.2 COORDINATION REQUIREMENTS:

- A. It is the Contractor's responsibility to coordinate the Work so as to minimize conflicts and optimize efficiency.
- B. Coordinate scheduling, submittals, and Work of the various Sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

1.3 BUILDING SYSTEM COORDINATION:

- A. Notify Architect if conditions are uncovered which would prevent the completed construction from conforming to the requirements of the Work.
- B. Materials/Systems: As specified. Verify compatibility with District-wide standard systems.
- C. "NIC" construction is indicated and specified herein as an aid to the Contractor in scheduling the amount of time and materials necessary for the completion of the Contract.

1.4 DISTRICT OCCUPANCY:

- A. The District will occupy the campus during the entire period of construction for certain administrative operations during the summer months. Cooperate with the District in all construction operations including the following to minimize conflict and to facilitate District usage.
- B. If and when it should be necessary for the Contractor to impact the day-to-day operations of District's functions in order to pursue the Work, the Contractor shall furnish at least 14 days notice to the District and coordinate the means and timing to avoid, minimize, or circumvent such impacts. The District reserves the right to assess and anticipate such impacts and the right to stop or postpone the Work until a mutually satisfactory time and means can be agreed upon. The Contractor shall include costs for delays caused by normal school operations and scheduled special events.

1.1 CONTRACTOR'S USE OF THE PREMISES:

- A. The Contractor shall limit his use of the premises for construction activities and for storage, to allow for District occupancy or for construction activities by other Contractors.
- B. The Contractor shall be responsible for the following:
  - 1. Coordinate the use of the premises under the direction of the District and construction activities by other Contractors.
  - 2. Assume full responsibility for the protection and safekeeping of products under this Contract which are stored at the site.
  - 3. Move stored products that are under the Contractor's control, which interfere with operations of the District or the other Contractors.

4. Obtain and pay for the use of additional storage or construction areas needed for operations.

1.2 COORDINATION OTHER DISTRICT CONTRACTORS:

- C. The District may have separate contractors or vendors working on the site at the time of this project. The Contractor shall coordinate work activities to not interfere with other District work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

End of Section



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## SECTION 012100 - 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.
- B. Types of allowances include the following:
  - 1. Contingency allowances.
- C. Related Requirements:
  - 1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.

#### 1.3 DEFINITIONS

- A. Allowance is a quantity of work or dollar amount established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

#### 1.4 SELECTION AND PURCHASE

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

#### 1.5 ACTION SUBMITTALS

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

#### 1.6 INFORMATIONAL SUBMITTALS

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

#### 1.7 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.
- D. 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 purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
  - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
  - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
  - 3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
  - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Contingency Allowance: The Contractor shall include of \$10,000 in the bid an allowance for miscellaneous unforeseen conditions.

END OF SECTION 012100

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## SECTION 012200 - UNIT PRICES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
  - 1. Section 012100 "Allowances" for procedures for using unit prices to adjust quantity allowances.

#### 1.2 DEFINITIONS

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

#### 1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. **Unit Price No. 1** – Stucco Repair:

1. Description: Removal of damaged stucco adjacent to area of work according to Section 092400 "Portland Cement Stucco."
2. Unit of Measurement: Square Foot.
3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."

B. **Unit Price No. 2** – Trim Replacement:

1. Description: Removal and replacement of wood trim adjacent to area of work discovered to be compromised according to Section 092400 "Portland Cement Stucco."
2. Unit of Measurement: Square Foot.
3. Quantity Allowance: Coordinate unit price with allowance adjustment requirements in Section 012100 "Allowances."

END OF SECTION 012200

SECTION 012500 - PRODUCT OPTIONS AND SUBSTITUTIONS

1 GENERAL

1.1 SUMMARY

- A. Section Includes: Procedures for submittal of requests for substitution for materials.

1.2 GENERAL REQUIREMENTS

- A. Whenever in the specifications products are by reference standard, any product meeting the standards referenced may be used. Products or manufacturers which the specifying agency has previously investigated and found in compliance with the reference standards are listed for the Contractor's information only and are not meant to restrict use to these products only. Submit information on such products in accordance with Section 013300.
- B. Whenever in the specifications any material, article or process is indicated or specified by trade, patent or proprietary name or name of manufacturer such specification for material, article or process, unless marked "no substitution", shall be deemed to be followed by the words "or approved equal in accordance with Section 012500."
- C. Where more than one proprietary name is specified, the Contractor may provide any one of the materials or equipment specified that is most expensive. Use only one brand, kind of make of material or equipment for each specific purpose throughout the Work notwithstanding that similar materials or equipment of two or more manufacturers or producers may be specified for the same purpose.
- D. Submit a written request for proposed substitutions to the Architect not later than 10 days after date of "Notice to Proceed". Submit proposed substitutions relating to a particular subcontract or trade at one time on the Contractor's letterhead, listing proposed items for indicated or specified items, and stating amounts for all variations in costs. If the Architect accepts any proposed substitution, such acceptance will be set forth in a Change Order. No substitution will be considered after this 10 day period. Each request must specify the total variation in the product, materials, costs, etc.
1. No substitution will be considered during bidding period.
- E. Drawings have been detailed in compliance with the ICC Evaluation Report for material specified. If a proposed substitute material is accepted by the Architect, the Contractor will assume the responsibility for construction modifications and additional costs required by reason of this acceptance.
- F. Where materials or items of manufacturer are specified in groups and are made or furnished by one manufacturer, no substitution will be considered that is not made or furnished similarly by one manufacturer. Where the Contractor proposes to use a system of equipment other than that specified or detailed on the Drawings the substitution shall be proposed as a complete system.



1.3 REQUIREMENTS FOR SUBMITTING SUBSTITUTIONS:

- A. Submit written request for each proposed substitution on form shown at the end of this Section. Provide data substantiating request as well as a "Certificate of Suitability" certifying that the proposed substitution is equal or better in all respects to that specified and that it will, in all respects perform the function for which it is intended. Include with request all required samples. Submit 7 copies of all written requests and data for proposed substitutions. If the proposed substitution requires that portion of the work be redesigned or removed in order to accommodate the substituted item, submit design and engineering calculations prepared by a design professional licensed in the State of California.
- B. Submit complete information to the Architect so that proper evaluation can be made. The burden of proof of equality of the substituted item shall be on the Contractor. Acceptance of such substitutions is entirely at the discretion of the Architect and the District. All materials or items of manufacturer, which the Contractor proposes to substitute for those specified, must be accepted by the Architect before they may be ordered. In reviewing the supporting data submitted for substitutions, the Architect will use for purposes of comparison all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Specifications. If more than two (2) submissions of supporting data are required, the cost of reviewing the additional supporting data shall be borne by the Contractor, and the District will deduct the costs from the Contract price.
- C. The Architect will issue to the Contractor a list setting forth those items for which substitutions are accepted. No substitution will be accepted for any materials or item of manufacture called for in the Contract Documents which is not of equal quality and utility and which does not possess equal design or color characteristics to those of the specified material or item. No acceptance is valid if all differences have not been fully identified at time of request.
- D. If, in the opinion of the Architect or the District, the proposed substitution is not equal or better in every respect to that so indicated or specified, or was not submitted for acceptance in the manner outlined above, the Contractor shall furnish the specified materials at no additional cost to the District.
- E. It shall be the responsibility of the Contractor, in proposing a substitution for any item herein specified, to inform all other trades, vendors, and subcontractors of effects said substitution will have upon their construction activities or products. Failure to so notify shall require that the Contractor make all payments arising from alterations in specified materials or methods necessary to complete the Work in an approved and acceptable manner. If any substitution is approved and later determined not be an equal due to failure of Contractor to identify differences, the original specified item shall be installed.
- F. Any substitution approved, that affects any other part of the work and creates cost impact, shall be paid for by the Contractor.

2 PRODUCTS (Not Applicable)

3 EXECUTION (Not Applicable)

End of Section

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SUBSTITUTION REQUEST FORM

Re: \_\_\_\_\_  
Project Name

\_\_\_\_\_  
Project Manual Section Number

\_\_\_\_\_  
Item

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

From: \_\_\_\_\_  
General Contractor

We hereby submit for your consideration the following product comparisons of the specified item and the proposed substitution:

A.	Comparison:	Specified Item	Substitution
1.	Product Name/Model	_____	_____
2.	Manufacturer	_____	_____
	Address	_____	_____
	Phone Number	_____	_____
3.	Product Cost	_____	_____
	Installation/Labor Cost	_____	_____
4.	Delivery Time	_____	_____
	Installation Time	_____	_____
5.	Product Characteristics	_____	_____
		_____	_____
		_____	_____
		_____	_____
		_____	_____
6.	Dimensions	_____	_____

- Effects \_\_\_\_\_
7. Guarantee/Warranty \_\_\_\_\_  
\_\_\_\_\_
8. ICC No. \_\_\_\_\_
9. UL Rating \_\_\_\_\_

B. Substantiating Data:

Attach manufacturer's literature for both specified item and substitution.

C. Samples:

Provide samples for both specified item and substitution, if applicable.

D. Similar Projects:

1. \_\_\_\_\_  
Name Date  
\_\_\_\_\_  
Address  
\_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
Name Date  
\_\_\_\_\_  
Address  
\_\_\_\_\_  
\_\_\_\_\_

E. Maintenance Service/Parts:

\_\_\_\_\_  
Name  
\_\_\_\_\_  
Address

F. What Effect does this substitution have on applicable code requirements?

G. Change Data:

Attach complete information for changes to be made to drawings and project manual.

\* \* \* \* \*

- \* Certification of equal performance and assumption of liability for equal performance.
- \* The Contractor shall agree to pay for costs involved in changing the building design; including engineering, drafting and detail cost caused by the proposed substitution.

Submitted by:

Signature	Name
Title	

Firm	Date
------	------

Address

City	State	Zip	Telephone
------	-------	-----	-----------

Remarks:

Signature must be by persons having authority to legally bind his firm to the above terms.  
Failure to provide legally binding signature will result in retraction of approval.

For Use by District’s Representative:

\_\_\_\_\_Accepted\_\_\_\_\_Not Accepted

District's Consultant:

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

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

\_\_\_\_\_ Accepted \_\_\_\_\_ Not Accepted

School District:

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

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

\* \* \* \* \*

SECTION 012600 - MODIFICATION PROCEDURES

1 GENERAL

1.1 SUMMARY:

- A. Section Includes: Procedures for processing Change Orders.

1.2 CHANGE INITIATION PROCEDURES:

- A. The Contractor may initiate a change by submittal of a request to the Architect describing the proposed change with a statement of the reasons for the change and the effect on the Contract Sum and the Contract Time with full documentation.
- B. The Architect may issue a Price Modification Request (PMR), signed by the District, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. The directive will describe changes in the Work, and will designate method of determining changes in Contract Sum and/or Contract Time.
- C. The Architect may issue Supplemental Instructions for minor changes that will not affect Contract Sum or Contract Time. The Contractor shall sign and return the original copy of the form to the Architect.

1.3 CONTRACTOR'S PROPOSALS AND DOCUMENTATION:

- A. In response to each PMR issued by the Architect, submit an itemized quotation detailing all changes in Contract Sum and Contract Time. Upon request, the Contractor shall provide additional data, including the following, to support the quotation.
  - 1. Quantities of products, labor, and equipment.
  - 2. Taxes, insurance, and bonds.
  - 3. Overhead and profit.
  - 4. Justification for change in Contract Time.
  - 5. Credit for deletions from the Contract, similarly documented.
  - 6. Quotation shall include all components necessary, whether or not specifically described, to complete the work, such as, but is not limited to, cutting, patching and painting, additional power supply required for equipment, etc. By failing to provide quotation for component(s) of the work without prior notification to the District that additional quotation(s) to be furnished at a later date, the Contractor



waives all claims for extra costs for such component(s) required to complete the work.

- B. If additional costs necessitated by a Construction Change Directive are indicated to be paid on a time and materials basis, provide additional data, including the following, after completing the Change.

- 1. Date and number of Change Authorization.
- 2. Dates and times work was performed and by whom.
- 3. Time records and wage rates paid.
- 4. Invoices and receipts for products, equipment, and subcontracts.

#### 1.4 EXECUTION OF CHANGE ORDERS:

- A. The Architect will issue Change Orders on AIA Form G701 for signatures of parties as provided in the Conditions of the Contract.
- B. On fixed price Change Orders, changes in Contract Sum and Contract Time will be based on the PMR and the Contractor's quotation as accepted by the District.
- C. On time and material Change Orders, changes in Contract Sum and Contract Time will be determined by the District and Architect from the Contractor's data.

#### 1.5 CORRELATION OF CONTRACTOR SUBMITTALS:

- A. Promptly revise the Schedule of Values, and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum as shown on the Change Order.
- B. Promptly revise Progress Schedules to reflect changes in Contract Time, revise subschedules to adjust times for other items of Work affected by the change and resubmit.
- C. Promptly enter changes on the Project Record Documents.

#### 2 PRODUCTS (Not Applicable)

#### 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 013100 - PROJECT MEETINGS

PART 1 GENERAL

1.1 SUMMARY:

- A. Section Includes: Requirements for preconstruction meeting, progress meetings, preinstallation conferences, specially called meetings, and post-construction meeting.

1.2 CONTRACTOR'S RESPONSIBILITIES:

- A. Prepare agenda for progress meeting and for preinstallation conferences, notify participants, and make physical arrangements for all meetings.

1.3 PRECONSTRUCTION MEETING:

- A. After issuance of notice to proceed, a preconstruction meeting will be held at a time and location designated by the District.
- B. Attendance: The meeting shall be chaired by the Architect and attended by the District's Inspector, District Representative, and his professional consultants as needed, the Contractor and his superintendent, all major subcontractors as requested to be present and other persons designated by the District.
- C. Agenda: The agenda for the meeting shall include the following items as a minimum.
  - 1. Discussion of the construction schedule including critical construction sequencing.
  - 2. Designation of persons authorized to represent and sign documents for the District, Architect and Contractor, with examples of official signature of each.
  - 3. Procedures and forms for processing submittals, field decisions, proposal requests, change orders, applications for payment, revised construction schedules, and establishment of proper lines of communication.
  - 4. Procedures for maintaining record documents.
  - 5. Contractor's use of premises including location of office, construction and storage areas, parking areas and routes for construction traffic.
  - 6. Procedures for resolving interruptions of construction activities to accommodate the District's use of the site.
  - 7. Temporary barricades, utilities, sanitary facilities, signs and other temporary facilities required.

8. Normal working hours and extended hours.
9. Security procedures.
10. Housekeeping procedures.
11. Communication procedures between parties.
12. List names, addresses and telephone numbers of those persons authorized to act for the Contractor in emergencies.
13. Construction permit requirements, procedures and posting.
14. Testing laboratory or agency and testing procedures.
15. Establish schedule for progress meetings.
16. Other administrative items as appropriate.
17. Long lead items.

D. Architect will record and distribute minutes within five (5) days after the meeting.

#### 1.4 PROGRESS MEETINGS:

- A. Progress meetings shall be held at the dates and times scheduled at the preconstruction meeting unless changes are agreed to by all parties and appropriate notification of such changes has been given.
- B. Attendance: The meeting shall be attended by the Architect, the Contractor's superintendent and project manager, the District's representatives, and the District's Inspector of Record. When requested by the District, the Architect or the Contractor, subcontractors, and the Architect's consultants shall also attend.
- C. Agenda: The agenda for these meetings shall include, but not be limited to, the following items:
  1. Review progress of construction since the previous meeting.
  2. Discuss user's activities that will impact construction activities.
  3. Discuss field observations, problems and conflicts.
  4. Identify problems which impede planned progress and develop corrective measures as required to regain the projected schedule. Revise the construction schedule if necessary.

5. Plan progress during the next construction period.
6. Coordinate the progress of subcontractors.
7. Review changes proposed by the District for their effect on the construction schedule and completion time.
8. Review Price Modification Requests (PMRs).
9. Review Pay Requests.
10. Review As-Built Documents.
11. Long lead items.

D. Architect will record and distribute minutes within two (2) days after the meeting.

#### 1.5 PREINSTALLATION CONFERENCES:

- A. Before beginning construction activities that require coordination with any other construction activity or process, a preinstallation conference will be held at a time designated by the Contractor.
- B. Attendance: The meeting shall be attended by the District's Inspector, Testing Agency when required by the District's Inspector, the Contractor's superintendent, and the installers and manufacturer's representatives involved in or affected by the installation. Advise the Architect of scheduled conference dates and times.

C. Agenda: The conference shall:

1. Assure a clear understanding of the Drawings and Specifications.
2. Resolve possible conflicts and compatibility problems.
3. Establish coordination between all parties involved.
4. Assure a clear understanding of the shop drawing, manufacturer's installation recommendations and Contract Documents.
5. Establish acceptable requirements for substrates.

D. Contractor to record and distribute minutes.

#### 1.6 SPECIAL MEETINGS:

- A. Upon appropriate notice to other parties, special meetings may be called by the District, Architect or Contractor, at times agreed to by all parties involved.

1.7 POST-CONSTRUCTION CONFERENCE:

- A. A post-construction conference shall be held before final inspection of the Work to discuss and resolve all unsettled matters. Bonds and insurance to remain in force, and the other documents required to be submitted by the Contractor will be reviewed and all deficiencies determined. Schedules and procedures for the final inspection process and for the correction of defects and deficiencies shall be discussed and agreed.
- B. Attendance: The meeting shall be attended by the Architect, the Contractor's superintendent and project manager, the District representatives, and the District's Inspector of Record. When requested by the District, the Architect or the Contractor, subcontractors and the Architect's consultants shall also attend.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

End of Section

## SECTION 013110 - SCHEDULES AND REPORTS

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Section Includes: Preparation and submission of progress schedule, periodical progress reports, submittal schedule, schedule of values, and periodic payment submittals.
- B. Related Sections
  - 1. General Conditions: Contract completion time.

#### 1.2 CONSTRUCTION SCHEDULE

- A. Immediately upon being awarded the Contract and before request for first partial payment, the Contractor shall prepare and submit to the District a construction progress schedule. Requests for partial payment will not be processed until progress schedule has been submitted and reviewed by the District and the Architect.
- B. Prepare the construction progress schedule using computer generated network analysis system.
  - 1. The graphic display shall be a standard network or arrow diagram capable of illustrating the required data. The graphic display system used shall be readily legible with a clear, consistent method for continuations and detail referencing. The critical path shall be clearly delineated on the display. When milestone dates are included in the Contract they shall be clearly indicated on the display.
  - 2. Data shall be presented as a separate printout on paper or, where feasible, may be printed on the same sheet as the graphic display. Data shall be organized in a logical coherent display capable of periodic updating.
  - 3. Data shall include verbal activity descriptions with a numerical ordering system cross referenced to the graphic display. Additionally, costs (broken down into separate materials and labor costs), duration, early start date, early finish date, late start date, late finish date, and float shall be detailed for each activity. A running total of the percent completion based on completed activity costs versus total contract cost shall be indicated. A system for indicating schedules versus actual activity dates and durations shall be provided.
  - 4. The schedule shall be of sufficient detail to facilitate the Contractor's control of the job and to allow the District, District's Inspector and Architect, to readily follow progress for portions of the work.

5. The contractor shall also incorporate into the construction schedule a submittal sequence showing the dates for all the submittal of all required shop drawings, product data, samples, mock-ups, and long lead items.
  6. The contractor shall include concurrent work activities of other contractors working at the same area under separate Contract with the District. The schedule shall include proper interface and sequencing of such activities so work of both contracts can be completed within their required Contract Completion Time.
  7. A schedule fragnet is to be generated for any PMR for which a time extension is requested.
- C. The Construction schedule shall be continuously updated and, redrawn and submitted simultaneously with the application for progress payments. Each revised schedule shall indicate the Work actually accomplished during the previous period and the schedule for completion of the remaining Work. Requests for monthly partial payment will not be processed until updated progress schedule has been submitted and approved.
- D. A copy of the most recent updated Construction Schedule shall be posted in the Contractor's job office, and copies of out-of-date schedules shall be kept at the job office for perusal by the Architect and the District.
- E. The Contractor is required to submit a recovery schedule at any time when the monthly update reflects more than ten (10) days of negative float time. This recovery schedule replaces the project schedule until the original milestones are recovered, or until it expires and a new recovery schedule is required.

### 1.3 SCHEDULE OF VALUES

- A. Immediately upon being awarded the Contract, and before first request for partial payment, prepare and submit to the District and the Architect, a Schedule of Values allocated to the various portions of the Work.
- B. Submit a subschedule for each separate phase of Work specified in Section 011000 "Summary of Work" at a minimum with the schedule shown by building and categories in excess of \$25,000.
- C. The schedule shall list the installed value of the component parts of the Work in sufficient detail to serve as a basis for computing values for progress payments during construction. Follow the table of contents of this Project Manual as the format for listing component items. Also, list any items in excess of \$25,000. For each major line item, list subvalues of major products or operations under the item, where applicable.
- D. No overhead and profit is to be loaded onto the costs of individual items.

- E. For items on which progress payments will be requested for stored materials, break down the value into (1) the cost of the materials, delivered and unloaded, with taxes paid, and (2) the total installed value. It is within the District's prerogative to pay for uninstalled materials on a case by case basis.
- F. Submit a subschedule for each separate phase of Work specified in Section 011000 "Summary of Work" at a minimum plus any items of work exceeding \$25,000.
- G. The sum of all values listed in the schedule shall equal the total Contract sum.

1.4 PERIODIC ESTIMATE FOR PARTIAL PAYMENT

- A. Submit seven (3) original copies of each periodic pay request to the District's Inspector and Architect within the time limits set out in clause entitle "Payments - Periodic" of the General Conditions. Prepare the application on forms supplied by the District. Complete every entry provided for on the form including signature by authorized officer. Incomplete and or inaccurate applications will be returned without action. Entries shall match current data shown on the schedule of values and progress schedule. Listing shall include amounts of change orders issued prior to last day of the period of construction covered by the application. Pay request shall be notarized.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

End of Section



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SECTION 013300 - SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY:

- A. Description of Requirements: The types of submittal requirements specified in this Section include: Shop Drawings, product data, samples, catalog data, equipment and material lists, elementary diagrams, wiring diagrams, installation instructions, maintenance manuals and instructions, operation brochures and miscellaneous work-related submittals. Individual submittal requirements are specified in applicable sections for each unit of work. Refer to other Sections of the Specifications and other Contract Documents of this project of administrative submittals.
- B. Related Documents:
  - 1. Section 013110: Schedules and reports
  - 2. Section 012500: Product Options and Substitutions
  - 3. Section 017700: Closeout Procedures

1.2 DEFINITIONS: Work related submittals of this Section are categorized for convenience as follows:

- A. Shop Drawings: These include specially prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to a range of similar projects.
- B. Product Data: These include standard printed information on materials, products and systems; not specially prepared for this project, other than the designation of selections from among available choices printed therein.
- C. Samples: These include both fabricated and unfabricated physical examples of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.
- D. Mock-Ups: These are a special form of samples, which are too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals.
- E. Long Lead Items: These include windows and doors, acoustical paneling and lighting fixtures. Submittals for each of these items shall be submitted to Architect within 10 days after Award of Contract, or Notice to Proceed, whichever is sooner.

- F. Miscellaneous Submittals: Related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock and similar information, devices and materials applicable to the work and not processed as Shop Drawings, product data or samples.
- G. As used herein, the term "manufactured" applies to standard units usually mass-produced; and "fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements.

### 1.3 GENERAL SUBMITTAL PROCEDURES:

- A. Submit shop drawings, product data, and samples in accordance with the submittal schedule specified in Section 013100. Extension of Contract time will not be granted because of the Contractor's failure to make timely and complete submittals. If submittal of shop drawings does not generally adhere to the submittal schedule, the turn around time shall be appropriately adjusted. Do not purchase materials or equipment or begin construction activities covered by the required submittals until submittals have been reviewed and returned.
- B. Transmittal: Accompany each submittal with a dated, signed and sequence numbered transmittal. Include information required by this form including project identification, name and address of Contractor and of subcontractor or supplier, a list of items included in the submittal, and identification of drawing numbers, specification section and paragraph numbers to which the submittal pertains, and space for Contractor's review and approval stamp. The form must certify that the items submitted conform in every particular way to the item specified, including finish, assembly, materials, etc. Items without certification shall be submitted as a substitution accompanied by a substitution request form.
- C. Coordination: Submittals shall include a typewritten list showing each item and manufacturer for approval by the Contractor and review by the Architect and shall be submitted concurrently with all equipment which forms a system or subsystem that must be reviewed simultaneously because of coordination requirements. These submittals shall be corrected by the Contractor to "as-built" conditions prior to the completion of the Project and turned over to the District.
- D. Check of Returned Submittals: Check the submittals returned for correction and ascertain if the corrections result in extra cost above that included under the Contract Documents, and give written notice within five (5) days if, in Contractor's opinion, such extra cost results from corrections. By failing to so notify or by starting any Work covered by a submittal, Contractor waives all claims for extra costs resulting from required corrections.
- E. Submittal Size and Identification: The size of submittal shall be suitable for intended purpose. Minimum size 8-1/2" x 11" drawn to an indicated scale and dimensioned in English (not metric) measurements. Callouts clear and legible. Each submittal shall indicate:

1. Name and originating company or firm.
2. Contractor's name.
3. Subcontractor's and supplier's name.
4. Preparation and revision dates.
5. Street sequence number.
6. Project title.
7. Description of each enclosure.
8. Specification reference.
9. Reference to any prior actions on the submission.
10. Full identification of materials called out.
11. Statements of reason for any proposed change, proposed adjustment in price and contract time when shop drawings show variations from Contract requirements.
12. Contractor's review and approval stamp for compliance with Contract Documents.
13. Highlight any deviation from plans and specifications.

1.4 SHOP DRAWINGS AND PRODUCT DATA:

- A. Shop Drawings: The term "Shop Drawings" as used herein includes fabrication and installation, layout, and setting drawings; wiring and control diagrams; and other drawings, diagrams, schedules and data specially prepared for the Work by the Contractor, or a subcontractor, sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.
1. Check and verify all field measurements and submit for review, with such promptness as to cause no delay to the Work or that of any other contractor or subcontractor, all shop or setting drawings and schedules required for the construction activities of the various trades. Shop Drawings shall be prepared at the Contractor's expense and shall be sent to the Architect, carriage prepaid. No draw or payments will be made based on submittals and their reviews.
  2. Drawings shall show all information required by the applicable technical section and shall be in sufficient detail as may be required to show that fabricated materials, equipment or systems, and the positions thereof conform to the Contract Documents.

Any deviations from Contract requirements must be noted in writing, with justification.

3. Shop Drawings shall establish the actual detail of fabricated items, indicate proper relation of adjoining construction, amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure, and incorporate minor changes of design or construction to suit actual conditions. Changes shall be noted to direct designer's attention to them. Shop Drawings shall be drawn to scale and shall be completely dimensioned. Copies of Contract Documents or xerox portions of Contract Documents shall not be used as Shop Drawings and shall be rejected.
- B. Product Data: The term "product data" as used herein includes manufacturer's standard drawings, certificates of conformance to each and every detail of the specified item, substantiating calculations, schedules, performance charts, instructions, brochures, diagrams, and other data furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
1. The data shall include all information required by the applicable technical section and shall be in sufficient detail to show that manufactured materials and equipment conform to the Contract Documents.
  2. Catalog Cuts: Clearly mark each copy to indicate the product or model as well as optional sizes, finishes or other features proposed for use. Delete inapplicable data or clearly marked "NOT APPLICABLE". Identify any inconsistent details to those specified.
  3. Submittal Preparation: Bind product data with sturdy, labeled covers with an index listing the contents. Loose unbound submittals will be returned without review. Submit three (3) copies of all product data.
- 1.5 SAMPLES: Unless otherwise specified, samples to be standard commercial samples designed to show all qualities specified.
- A. Furnish for review samples of the various materials, together with the finish thereon, as specified for and intended to be used on or in the Work. Samples shall be sent to the office of the Architect, carriage prepaid.
  - B. Submit samples to the Architect for distribution and review before purchasing, fabricating, applying, or installing such materials and finishes. The Architect will review and take action on samples within 20 working days of the Contractor's submittal. All actions by the Architect will be in writing.
  - C. Submit three (3) copies of samples, other than field samples. A standard transmittal copy, attached at end of this section, shall accompany the sample per Paragraph 1.3E, and shall list all items being transmitted, designating their particular usage and location in the Work

and shall be identified as to manufacturer, trade name, style, model. One approved sample will be returned to the Contractor.

- D. Approval of a sample shall not be taken in itself to change or modify any contract requirement. Materials, finishes, and workmanship in the completed building shall be equal in every respect to that of the approved sample.
- E. Unless otherwise specified, samples shall be 8" by 10" in size and shall be limited in thickness to a minimum consistent with sample analysis. In lieu thereof, the actual full size item may be submitted.
- F. Samples of value may be returned to the Contractor for use in the Work after review, analysis, comparison or testing as may be required by the Architect, provided that the location is recorded and the samples bear temporary identification as samples.
- G. Field samples shall be prepared at the site by the Contractor as specified in the various sections of these Specifications. Affected finished construction shall not be commenced until the Architect has given written approval of the field samples.

1.6 MAINTENANCE AND OPERATING MANUALS: To be submitted for applicable products.

1.7 INSTALLATION INSTRUCTIONS:

- A. Installation instructions shall incorporate all information necessary to properly install materials and equipment. For equipment, include proper sizing and rough-in location of all utility or service connections, fusing or circuit breaker sizing, exhaust requirements, foundation requirements, vibration isolators and requirements for leveling, anchoring, adjusting, lubrication and similar preparation. Submit when products and materials are delivered to the site.

1.8 NON-REQUESTED SUBMITTALS:

- A. Submittals not required by the individual sections of the technical provisions or Architect, which are submitted, will be returned with no comment.

1.9 ARCHITECT'S ACTION:

- A. The Architect will review the submittals and will affix the Architect's initials or signature as follows:
  - 1. Submittals stamped "NO EXCEPTION TAKEN", require no further action and fabrication or construction may proceed. The Architect will return to the Contractor, the stamped transparency of Shop Drawings and two (2) stamped copies of brochures, schedules, materials lists, and other product data, except where required otherwise.

2. Submittals stamped "MAKE CORRECTIONS NOTED", require no further action and fabrication or construction may proceed contingent upon all corrections being made as noted. Quantities returned will be as specified above for submittals stamped "NO EXCEPTION TAKEN".
  3. Submittals stamped "REJECTED" or "REVISE AND RESUBMIT", require the Contractor to resubmit them with reasonable promptness and no fabrication or construction may begin. The Architect will return to the Contractor; one (1) stamped transparency and one (1) marked copy of shop drawings and one (1) marked copy and three (3) unmarked copies, all stamped, of brochures, schedules, materials lists, and other product data.
- B. Resubmittals: If first or subsequent submittal is stamped "REJECTED" or "REVISE AND RESUBMIT", corrective action shall be taken and resubmittal procedure shall be same as for first submittal. The Contractor shall direct specific attention in writing on resubmitted Shop Drawing to revisions other than the correction requested by the Architect on previous submittals.
- C. Distribution Copies: In addition to prints required for his own use, the Contractor shall be responsible for obtaining required prints for, and for distribution to, the District's Inspector (two (2) copies), and all applicable subcontractors.
- D. The Architect will check and take action on such drawings and schedules only for conformance with the design concept of the Work and compliance with information given in the contract documents. When so directed by the Architect, the Contractor shall make corrections required.
1. The Architect will review the Shop Drawings as originally submitted as well as the first resubmittal thereof at his own cost.
  2. If additional resubmittals beyond the first resubmittal are made or required for failure to address previous comments or when resubmittal is incomplete, the Contractor will be back charged by the District on behalf of the Architect, at an hourly rate of \$100 for additional time spent by the Architect of this additional process.
  3. For items submitted that marginally meet the specifications but should be rejected and were not submitted for consideration as an approved equal, the Contractor will be back-charged by the District on behalf of the architect at an hourly rate of \$100 for additional time spent by the Architect for this additional process.
  4. Substitutions will not be considered when they are indicated or implied on shop drawings, or product data submittals without a separate written request for the specific substitution, or when acceptance will require revision of the Contract Documents. Refer to Section 012500.

- E. The shop drawings, product data and supporting data shall be prepared by the Contractor or his suppliers and subcontractors, but shall be submitted as the instruments of the Contractor.
- F. **The Contractor shall check the drawings of his suppliers and subcontractors as well as its own drawings before submitting them.** In particular, the Contractor shall ascertain that the drawings meet all requirements of the Contract Drawings and Specifications and conform to the structural and space conditions. If such shop drawings show variations from Contract Documents, whether because of standard shop practice or other reasons, the Contractor shall clearly describe such variations including other changes required to correlate the construction in his letter of transmittal.
- G. Shop Drawings when submitted to the Architect for review shall be accompanied by a written statement signed by the Contractor, that the Shop Drawings have been checked by its Quality Control organization and found to be in accordance with the Contract Drawings and Specifications and that proper provision has been made to accommodate abutting construction. This statement may be in the form of an approval stamp bearing the Contractor's signature.
- H. Substantiating calculations, when specified, shall be prepared and signed by a registered Civil or Structural Engineer licensed in the State of California, employed by the Contractor.
- I. The Architect's review of Shop Drawings will be general only and shall not relieve the Contractor from responsibility for errors of any sort, for deviations from Drawings or Specifications, or for conflict with the construction activities of others that may result from such deviations. Architect's review of a separate item does not indicate a review of an assembly in which the item functions.

1.10 CONTRACTOR RESPONSIBILITIES:

- A. Contractor shall thoroughly check all Shop Drawings, product data, and manufacturer's literature and all other submittals prior to submission for Architect's review.
- B. Contractor shall determine and verify field measurements, field construction criteria, catalog numbers and similar data and shall be responsible for conformance with specifications.
- C. Contractor shall notify Architect in writing, at time of submission, of any deviations in submittals from requirements of the Contract Documents.
- D. Contractor shall notify Architect of any discrepancies or conflicts in the Contract Documents immediately. Architect shall decide which item(s) is correct.
- E. Contractor will maintain a complete file of all project correspondence, meeting notes, submittals and deliver to District at conclusion of the project.



PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS: All submittals and resubmittals shall be accompanied by a transmittal letter per Paragraph 1.3B.

- A. Numbering: Serial number of submittal for the particular item, starting with No. 1 for initial submittal. Resubmittals shall be identified with initial submittal number followed by a lower case alphabetical letter continuing sequentially for each resubmittal for that particular item or submittal.
- B. Identification and Status: Submittals shall contain Contractor's stamp, initialed or signed, certifying to thorough checking of submittal, verification of products, field measurements, field construction criteria, and coordination of information within the submittal with requirements of the work and of Contract Documents.

3.1 QUANTITY:

- A. Shop drawings required by the technical provisions or called for by the Architect (including catalog data, brochures, etc.) shall be submitted as directed by the Architect. The number of copies and submittal address will be determined and announced at the pre-construction conference. Unless otherwise specified or directed, the following minimum quantities are required within thirty (30) days after award of Contract:
  - 1. Documents: Six (6) prints or copies (two (2) copies for the District, two (2) copies for the General Contractor, one (1) copy for the Architect and one (1) copy for the Consultant).
  - 2. Samples: Three (3) of each item (one each for District, Architect and General Contractor).
  - 3. Manuals: Three (3) bound copies.
  - 4. Blueline: Two (2) prints or copies and one (1) reproducible. Contractor shall make distribution copies from reproducible for the District's Inspector per paragraph 1.10C.

3.2 SUBMISSION PROCESS:

- A. Transmittal: Separate cover letters shall be prepared and transmitted with shop drawings for each related submission. This is required due to checking by various disciplines. Refer to Paragraph 1.3B.

- B. Stamp of Approval: Shop drawings shall have the Contractor's stamp of approval on each drawing signed and dated as evidence of the Contractor's check and coordination of the items submitted. Catalog cuts and brochures shall have items proposed for use marked for ready identification by reviewing personnel. Shop drawings that do not have the Contractor's stamp of approval, signature and date will be rejected.
  - C. General: Distribution will be made as follows:
    - 1. When "No Exception Taken" or "Make Corrections Noted": Two (2) copies of brochures shall be retained by the Architect. Remaining copies to Contractor. "Make Corrections Noted" drawings need not be resubmitted.
    - 2. When "Rejected": Two (2) copies retained by the Architect. Remaining copies to the Contractor. Rejected items shall be resubmitted within 10 days of receipt by the Contractor of the rejection.
  - D. Contractor: All submittals shall be thoroughly checked and approved by the Contractor prior to forwarding to the Architect for review. Stamp documents or otherwise indicate Contractor's approval and confirm approval in transmittal letter.
  - E. Architect: Will review submittals upon receipt and take appropriate action and return to the Contractor. The Architect will stamp documents indicating limits of reviewing process if any.
  - F. Rejected Submittals: Rejected submittals will be stamped "Rejected" and returned to the Contractor for action. Rejections, resubmittals and final approvals of shop drawings, materials, etc., will not be acceptable as a cause for delay under the contract COMPLETION TIME.
  - G. Variation from Contract requirements proposed by the Contractor on the Shop Drawings which are acceptable to the Architect, will be authorized by change order.
  - H. Resubmittals: Rejected submittals submitted for the Contractor's approval and Architect's re-review shall be clearly marked "Rejected" or "Revise and Resubmit" with explanatory statement indicating steps taken to remedy the rejection. See paragraph "GENERAL REQUIREMENTS" above.
- 3.3 CLOSEOUT SUBMITTALS: Refer to Section 017700.

End of Section

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SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY:

- A. Section Includes: Cutting into existing construction to provide for the installation, performance, or inspection of other work and subsequent fitting and patching required to restore surfaces to their original condition.

1.2 PROJECT CONDITIONS:

- A. Existing Conditions: Protect existing finishes, landscaping, equipment and adjacent work which is scheduled to remain or reuse, from damage.

1.3 QUALITY ASSURANCE:

- A. Requirements for Structural Work: Do not cut, drill or penetrate and patch structural work in any manner that would result in a reduction of load carrying capacity or of load deflection ratio, without written authorization from the Architect.
- B. Operational and Safety Limitations: Do not alter or demolish operational elements or safety related components in a manner that would result in a reduction of their capacity to perform in the manner intended, including energy performance, or that would result in increased maintenance, or decreased operational life or decreased safety.
- C. Visual Requirements: Do not cut and patch work in a manner that would result in substantial visual evidence of such work. Remove and replace work judged by the Architect to be cut and patched in a visually unsatisfactory manner.

1.4 SEQUENCING/SCHEDULING:

- A. Before commencing any alteration or demolition work, submit for review and approval of the District, a schedule showing the commencement, the order and the completion dates for the various parts of the work.

1.5 SUBMITTALS:

- A. Procedural Proposal for Alteration and Demolition: Where prior approval of alteration and demolition is required, submit proposed procedures for this work well in advance of the time work will be performed, minimum of two weeks and request approval to proceed. Include the following information, as applicable, in the submittal:

1. Describe nature of the work and how it is to be performed. Describe anticipated results of the work in terms of changes to existing work, including structural, operational and visual changes as well as other significant elements.
2. List products to be used and firms that will perform work.
3. Give dates when work is expected to be performed per Paragraphs 1.3 and 1.4.
4. List utilities that will be disturbed or otherwise be affected by work, including those that will be relocated and those that will be out of service temporarily. Indicate how long utility service will be disrupted, per Paragraphs 1.3 and 1.4.
5. Approval by the Architect to proceed with alteration work does not waive the Architect's right to later require complete removal and replacement of work found to be altered in an unsatisfactory manner.

## PART 2 PRODUCTS

### 2.1 MATERIALS:

- A. General: Except as otherwise indicated, or as directed by the Architect, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal or better performance characteristics.
- B. Products for Patching and Extending Work:
  1. New Materials: As specified in product Sections; match existing products and work for patching and extending work.
  2. Salvage sufficient quantities of cut or removed material to replace damaged work in existing construction when material is not readily obtainable on current market.
  3. Replacement Materials: Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work. Contract Documents do not define products or standards or workmanship present in existing construction. Determine products by inspection and any necessary testing, and workmanship by use of the existing as a sample of comparison.

## PART 3 EXECUTION

### 3.1 EXAMINATION:

- A. Before alteration, examine the surfaces to be altered, as-built drawings, and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, notify the Architect and the District for approval of corrective action to be taken before proceeding with the work. Beginning of alteration Work means acceptance of existing conditions.
- B. Before the start of alteration work, meet at the project site with all parties involved in such work, including mechanical and electrical trades. Review areas of potential interference and conflict between the various trades. Coordinate layout of the work and resolve potential conflicts before proceeding with the work.
- C. Verify that demolition is complete, and areas are ready for installation of new Work.
- D. Field Measurements: Verify dimensions before proceeding with the Work. Obtain field measurements for work required to be accurately fitted to other construction. Be responsible for the accuracy of such measurements and precise fitting and assembly of finished work.

### 3.2 PREPARATION:

- A. Temporary Support: To prevent failure provide temporary support of work to be cut.
- B. Protection: Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations.
  - 1. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas. Maintain all required exit routes of travel at all times.
- C. Take precautions not to cut existing pipe, conduit or duct serving the building, or buildings but scheduled to be relocated until provisions have been made to bypass them.
- D. Cut, move, or remove items as necessary for access to alteration work. Replace and restore at completion.
- E. Remove unsuitable material not marked for salvage, such as rotted wood and corroded metals. Replace materials as specified for finished Work.
- F. Remove debris and abandoned items from area and from concealed spaces.
- G. Prepare surface and/or removed surface finishes to provide for proper installation of new work and finishes.
- H. Make such explorations and probes as are necessary. Ascertain any required protective measures before proceeding with demolition and removal. Give particular attention to shoring and bracing requirements so as to prevent any damage to existing construction.

- I. Provide, erect and maintain barriers, erosion control, warning signs and other items as required for proper protection of the public, occupants of adjacent buildings, workmen engaged in demolition operations, and adjacent construction.
- J. Provide adequate fire protection in accordance with City of Ojai and Ventura County requirements.
- K. Do not close or obstruct walkways, passageways or stairways. Do not store or place materials in passageways, stairs or other means of egress. Conduct operations with minimum traffic interference.

3.3 PERFORMANCE:

- A. General: Keep dust, debris, noise to levels acceptable to the District. Employ skilled workmen to perform alteration work. Except as otherwise indicated or as approved by the Architect, proceed with such work at the earliest feasible time and complete work without delay. Coordinate work at alterations to expedite completion, sequentially and to accommodate District occupancy.
  - 1. Demolition, removal and alteration work shall be as indicated and/or required to accommodate the new work. Do such work required with due care, including shoring, bracing, etc. Be responsible for any damage which may be caused by such work to any part or parts of existing site or items designated for reuse. Perform patching, restoration and new work in accordance with applicable technical sections of the Specifications.
  - 2. Materials or items designated to be reinstalled shall be as shown on the Drawings. Remove such items with care, under the supervision of the trade responsible for reinstallation; protect and store until required. Replace material or items damaged in its removal with similar new material.
  - 3. Execute the work in a careful and orderly manner, with the least possible disturbance to the public and to the occupants of the adjacent buildings.
  - 4. Where alternations occur, or new and old work join, cut, remove, patch, repair, or refinish the adjacent surfaces or so much thereof as is required by the involved conditions, and leave in as good a condition as existed prior to the commencing of the work. Alteration work shall be performed by the various respective trades which normally perform the particular items or work.
  - 5. Finish new and adjacent existing surfaces as specified for new work. Clean existing surfaces or dirt, grease, loose paint, etc.
- B. Cutting: Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with the original installer; comply with original installer's recommendations.

- C. Patching: Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
  - 1. Where feasible, inspect and test patched areas to demonstrate integrity of work.
  - 2. Restore exposed finishes of patched areas and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.
- D. Transitions:
  - 1. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
  - 2. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and provide jointing materials appropriate to the finished surface.
- E. Adjustments:
  - 1. Where a change of plane of 1/4 inch or more occurs, submit recommendations for providing a smooth transition for District's or Architect's review
- F. Finishes:
  - 1. Finish surfaces as specified elsewhere in this Specification.
  - 2. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

### 3.4 CLEANING

- A. Remove debris as the Work progresses. Maintain the premises in a neat and clean condition.
- B. At completion of work of each trade, clean area and make surfaces ready for work or successive trades.
- C. Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely paint, mortar, oils and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.
- D. At completion of alterations work in each area, provide final cleaning of new and existing finishes and equipments and return area to a condition suitable for use by the District.



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## SECTION 014200 - REFERENCES

### PART 1 - GENERAL

#### 1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

#### 1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

### 1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.
1. AABC - Associated Air Balance Council; [www.aabc.com](http://www.aabc.com).
  2. AAMA - American Architectural Manufacturers Association; [www.aamanet.org](http://www.aamanet.org).
  3. AAPFCO - Association of American Plant Food Control Officials; [www.aapfco.org](http://www.aapfco.org).
  4. AASHTO - American Association of State Highway and Transportation Officials; [www.transportation.org](http://www.transportation.org).
  5. AATCC - American Association of Textile Chemists and Colorists; [www.aatcc.org](http://www.aatcc.org).
  6. ABMA - American Bearing Manufacturers Association; [www.americanbearings.org](http://www.americanbearings.org).
  7. ABMA - American Boiler Manufacturers Association; [www.abma.com](http://www.abma.com).
  8. ACI - American Concrete Institute; (Formerly: ACI International); [www.concrete.org](http://www.concrete.org)
  9. ACPA - American Concrete Pipe Association; [www.concrete-pipe.org](http://www.concrete-pipe.org).
  10. AEIC - Association of Edison Illuminating Companies, Inc. (The); [www.aeic.org](http://www.aeic.org).
  11. AF&PA - American Forest & Paper Association; [www.afandpa.org](http://www.afandpa.org).
  12. AGA - American Gas Association; [www.aga.org](http://www.aga.org).
  13. AHAM - Association of Home Appliance Manufacturers; [www.aham.org](http://www.aham.org).
  14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); [www.ahrinet.org](http://www.ahrinet.org).
  15. AI - Asphalt Institute; [www.asphaltinstitute.org](http://www.asphaltinstitute.org).
  16. AIA - American Institute of Architects (The); [www.aia.org](http://www.aia.org).
  17. AISC - American Institute of Steel Construction; [www.aisc.org](http://www.aisc.org).
  18. AISI - American Iron and Steel Institute; [www.steel.org](http://www.steel.org).
  19. AITC - American Institute of Timber Construction; [www.aitc-glulam.org](http://www.aitc-glulam.org).
  20. AMCA - Air Movement and Control Association International, Inc.; [www.amca.org](http://www.amca.org).
  21. ANSI - American National Standards Institute; [www.ansi.org](http://www.ansi.org).
  22. AOSA - Association of Official Seed Analysts, Inc.; [www.aosaseed.com](http://www.aosaseed.com).
  23. APA - APA - The Engineered Wood Association; [www.apawood.org](http://www.apawood.org).
  24. APA - Architectural Precast Association; [www.archprecast.org](http://www.archprecast.org).
  25. API - American Petroleum Institute; [www.api.org](http://www.api.org).
  26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
  27. ARI - American Refrigeration Institute; (See AHRI).
  28. ARMA - Asphalt Roofing Manufacturers Association; [www.asphaltroofing.org](http://www.asphaltroofing.org).
  29. ASCE - American Society of Civil Engineers; [www.asce.org](http://www.asce.org).
  30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).

31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; [www.ashrae.org](http://www.ashrae.org).
32. ASME - ASME International; (American Society of Mechanical Engineers); [www.asme.org](http://www.asme.org).
33. ASSE - American Society of Safety Engineers (The); [www.asse.org](http://www.asse.org).
34. ASSE - American Society of Sanitary Engineering; [www.asse-plumbing.org](http://www.asse-plumbing.org).
35. ASTM - ASTM International; [www.astm.org](http://www.astm.org).
36. ATIS - Alliance for Telecommunications Industry Solutions; [www.atis.org](http://www.atis.org).
37. AWEA - American Wind Energy Association; [www.awea.org](http://www.awea.org).
38. AWI - Architectural Woodwork Institute; [www.awinet.org](http://www.awinet.org).
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; [www.awmac.com](http://www.awmac.com).
40. AWWA - American Water Works Association; [www.awwa.org](http://www.awwa.org).
41. AWS - American Welding Society; [www.aws.org](http://www.aws.org).
42. AWWA - American Water Works Association; [www.awwa.org](http://www.awwa.org).
43. BHMA - Builders Hardware Manufacturers Association; [www.buildershardware.com](http://www.buildershardware.com).
44. BIA - Brick Industry Association (The); [www.gobrick.com](http://www.gobrick.com).
45. BICSI - BICSI, Inc.; [www.bicsi.org](http://www.bicsi.org).
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); [www.bifma.org](http://www.bifma.org).
47. BISSC - Baking Industry Sanitation Standards Committee; [www.bissc.org](http://www.bissc.org).
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); [www.bissc.org](http://www.bissc.org).
49. CDA - Copper Development Association; [www.copper.org](http://www.copper.org).
50. CE - Conformite Europeenne; <http://ec.europa.eu/growth/single-market/ce-marking/>
51. CEA - Canadian Electricity Association; [www.electricity.ca](http://www.electricity.ca).
52. CEA - Consumer Electronics Association; [www.ce.org](http://www.ce.org).
53. CFFA - Chemical Fabrics and Film Association, Inc.; [www.chemicalfabricsandfilm.com](http://www.chemicalfabricsandfilm.com).
54. CFSEI - Cold-Formed Steel Engineers Institute; [www.cfsei.org](http://www.cfsei.org).
55. CGA - Compressed Gas Association; [www.cganet.com](http://www.cganet.com).
56. CIMA - Cellulose Insulation Manufacturers Association; [www.cellulose.org](http://www.cellulose.org).
57. CISCA - Ceilings & Interior Systems Construction Association; [www.cisca.org](http://www.cisca.org).
58. CISPI - Cast Iron Soil Pipe Institute; [www.cispi.org](http://www.cispi.org).
59. CLFMI - Chain Link Fence Manufacturers Institute; [www.chainlinkinfo.org](http://www.chainlinkinfo.org).
60. CPA - Composite Panel Association; [www.pbmdf.com](http://www.pbmdf.com).
61. CRI - Carpet and Rug Institute (The); [www.carpet-rug.org](http://www.carpet-rug.org).
62. CRRC - Cool Roof Rating Council; [www.coolroofs.org](http://www.coolroofs.org).
63. CRSI - Concrete Reinforcing Steel Institute; [www.crsi.org](http://www.crsi.org).
64. CSA - Canadian Standards Association; [www.csa.ca](http://www.csa.ca).
65. CSA - CSA International; (Formerly: IAS - International Approval Services); [www.csa-international.org](http://www.csa-international.org).
66. CSI - Construction Specifications Institute (The); [www.csinet.org](http://www.csinet.org).
67. CSSB - Cedar Shake & Shingle Bureau; [www.cedarbureau.org](http://www.cedarbureau.org).
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); [www.cti.org](http://www.cti.org).
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; [www.dasma.com](http://www.dasma.com).
71. DHI - Door and Hardware Institute; [www.dhi.org](http://www.dhi.org).
72. ECA - Electronic Components Association; (See ECIA).
73. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
74. ECIA - Electronic Components Industry Association; [www.eciaonline.org](http://www.eciaonline.org).

75. EIA - Electronic Industries Alliance; (See TIA).
76. EIMA - EIFS Industry Members Association; [www.eima.com](http://www.eima.com).
77. EJMA - Expansion Joint Manufacturers Association, Inc.; [www.ejma.org](http://www.ejma.org).
78. ESD - ESD Association; (Electrostatic Discharge Association); [www.esda.org](http://www.esda.org).
79. ESTA - Entertainment Services and Technology Association; (See PLASA).
80. ETL - Intertek (See Intertek); [www.intertek.com](http://www.intertek.com).
81. EVO - Efficiency Valuation Organization; [www.evo-world.org](http://www.evo-world.org).
82. FCI - Fluid Controls Institute; [www.fluidcontrolsintstitute.org](http://www.fluidcontrolsintstitute.org).
83. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); [www.fiba.com](http://www.fiba.com).
84. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); [www.fivb.org](http://www.fivb.org).
85. FM Approvals - FM Approvals LLC; [www.fmglobal.com](http://www.fmglobal.com).
86. FM Global - FM Global; (Formerly: FMG - FM Global); [www.fmglobal.com](http://www.fmglobal.com).
87. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; [www.floridarooft.com](http://www.floridarooft.com).
88. FSA - Fluid Sealing Association; [www.fluidsealing.com](http://www.fluidsealing.com).
89. FSC - Forest Stewardship Council U.S.; [www.fscus.org](http://www.fscus.org).
90. GA - Gypsum Association; [www.gypsum.org](http://www.gypsum.org).
91. GANA - Glass Association of North America; [www.glasswebsite.com](http://www.glasswebsite.com).
92. GS - Green Seal; [www.greenseal.org](http://www.greenseal.org).
93. HI - Hydraulic Institute; [www.pumps.org](http://www.pumps.org).
94. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
95. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
96. HPVA - Hardwood Plywood & Veneer Association; [www.hpva.org](http://www.hpva.org).
97. HPW - H. P. White Laboratory, Inc.; [www.hpwhite.com](http://www.hpwhite.com).
98. IAPSC - International Association of Professional Security Consultants; [www.iapsc.org](http://www.iapsc.org).
99. IAS - International Accreditation Service; [www.iasonline.org](http://www.iasonline.org).
100. IAS - International Approval Services; (See CSA).
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
103. ICEA - Insulated Cable Engineers Association, Inc.; [www.icea.net](http://www.icea.net).
104. ICPA - International Cast Polymer Alliance; [www.icpa-hq.org](http://www.icpa-hq.org).
105. ICRI - International Concrete Repair Institute, Inc.; [www.icri.org](http://www.icri.org).
106. IEC - International Electrotechnical Commission; [www.iec.ch](http://www.iec.ch).
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); [www.ieee.org](http://www.ieee.org).
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); [www.ies.org](http://www.ies.org).
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; [www.iest.org](http://www.iest.org).
111. IGMA - Insulating Glass Manufacturers Alliance; [www.igmaonline.org](http://www.igmaonline.org).
112. IGSHPA - International Ground Source Heat Pump Association; [www.igshpa.okstate.edu](http://www.igshpa.okstate.edu).
113. ILI - Indiana Limestone Institute of America, Inc.; [www.iliai.com](http://www.iliai.com).
114. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); [www.intertek.com](http://www.intertek.com).
115. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); [www.isa.org](http://www.isa.org).
116. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).

117. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); [www.isfanow.org](http://www.isfanow.org).
118. ISO - International Organization for Standardization; [www.iso.org](http://www.iso.org).
119. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
120. ITU - International Telecommunication Union; [www.itu.int/home](http://www.itu.int/home).
121. KCMA - Kitchen Cabinet Manufacturers Association; [www.kcma.org](http://www.kcma.org).
122. LMA - Laminating Materials Association; (See CPA).
123. LPI - Lightning Protection Institute; [www.lightning.org](http://www.lightning.org).
124. MBMA - Metal Building Manufacturers Association; [www.mbma.com](http://www.mbma.com).
125. MCA - Metal Construction Association; [www.metalconstruction.org](http://www.metalconstruction.org).
126. MFMA - Maple Flooring Manufacturers Association, Inc.; [www.maplefloor.org](http://www.maplefloor.org).
127. MFMA - Metal Framing Manufacturers Association, Inc.; [www.metalframingmfg.org](http://www.metalframingmfg.org).
128. MHIA - Material Handling Industry of America; [www.mhia.org](http://www.mhia.org).
129. MIA - Marble Institute of America; [www.marble-institute.com](http://www.marble-institute.com).
130. MMPA - Moulding & Millwork Producers Association; [www.wmmpa.com](http://www.wmmpa.com).
131. MPI - Master Painters Institute; [www.paintinfo.com](http://www.paintinfo.com).
132. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; [www.mss-hq.org](http://www.mss-hq.org).
133. NAAMM - National Association of Architectural Metal Manufacturers; [www.naamm.org](http://www.naamm.org).
134. NACE - NACE International; (National Association of Corrosion Engineers International); [www.nace.org](http://www.nace.org).
135. NADCA - National Air Duct Cleaners Association; [www.nadca.com](http://www.nadca.com).
136. NAIMA - North American Insulation Manufacturers Association; [www.naima.org](http://www.naima.org).
137. NBGQA - National Building Granite Quarries Association, Inc.; [www.nbgqa.com](http://www.nbgqa.com).
138. NBI - New Buildings Institute; [www.newbuildings.org](http://www.newbuildings.org).
139. NCAA - National Collegiate Athletic Association (The); [www.ncaa.org](http://www.ncaa.org).
140. NCMA - National Concrete Masonry Association; [www.ncma.org](http://www.ncma.org).
141. NEBB - National Environmental Balancing Bureau; [www.nebb.org](http://www.nebb.org).
142. NECA - National Electrical Contractors Association; [www.necanet.org](http://www.necanet.org).
143. NeLMA - Northeastern Lumber Manufacturers Association; [www.nelma.org](http://www.nelma.org).
144. NEMA - National Electrical Manufacturers Association; [www.nema.org](http://www.nema.org).
145. NETA - InterNational Electrical Testing Association; [www.netaworld.org](http://www.netaworld.org).
146. NFHS - National Federation of State High School Associations; [www.nfhs.org](http://www.nfhs.org).
147. NFPA - National Fire Protection Association; [www.nfpa.org](http://www.nfpa.org).
148. NFPA - NFPA International; (See NFPA).
149. NFRC - National Fenestration Rating Council; [www.nfrc.org](http://www.nfrc.org).
150. NHLA - National Hardwood Lumber Association; [www.nhla.com](http://www.nhla.com).
151. NLGA - National Lumber Grades Authority; [www.nlga.org](http://www.nlga.org).
152. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
153. NOMMA - National Ornamental & Miscellaneous Metals Association; [www.nomma.org](http://www.nomma.org).
154. NRCA - National Roofing Contractors Association; [www.nrca.net](http://www.nrca.net).
155. NRMCA - National Ready Mixed Concrete Association; [www.nrmca.org](http://www.nrmca.org).
156. NSF - NSF International; [www.nsf.org](http://www.nsf.org).
157. NSPE - National Society of Professional Engineers; [www.nspe.org](http://www.nspe.org).
158. NSSGA - National Stone, Sand & Gravel Association; [www.nssga.org](http://www.nssga.org).
159. NTMA - National Terrazzo & Mosaic Association, Inc. (The); [www.ntma.com](http://www.ntma.com).
160. NWFA - National Wood Flooring Association; [www.nwfa.org](http://www.nwfa.org).
161. PCI - Precast/Prestressed Concrete Institute; [www.pci.org](http://www.pci.org).
162. PDI - Plumbing & Drainage Institute; [www.pdionline.org](http://www.pdionline.org).

163. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); <http://www.plasa.org>.
164. RCSC - Research Council on Structural Connections; [www.boltcouncil.org](http://www.boltcouncil.org).
165. RFCI - Resilient Floor Covering Institute; [www.rfci.com](http://www.rfci.com).
166. RIS - Redwood Inspection Service; [www.redwoodinspection.com](http://www.redwoodinspection.com).
167. SAE - SAE International; [www.sae.org](http://www.sae.org).
168. SCTE - Society of Cable Telecommunications Engineers; [www.scte.org](http://www.scte.org).
169. SDI - Steel Deck Institute; [www.sdi.org](http://www.sdi.org).
170. SDI - Steel Door Institute; [www.steeldoor.org](http://www.steeldoor.org).
171. SEFA - Scientific Equipment and Furniture Association (The); [www.sefalabs.com](http://www.sefalabs.com).
172. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
173. SIA - Security Industry Association; [www.siaonline.org](http://www.siaonline.org).
174. SJI - Steel Joist Institute; [www.steeljoist.org](http://www.steeljoist.org).
175. SMA - Screen Manufacturers Association; [www.smainfo.org](http://www.smainfo.org).
176. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; [www.smacna.org](http://www.smacna.org).
177. SMPTE - Society of Motion Picture and Television Engineers; [www.smpte.org](http://www.smpte.org).
178. SPFA - Spray Polyurethane Foam Alliance; [www.sprayfoam.org](http://www.sprayfoam.org).
179. SPIB - Southern Pine Inspection Bureau; [www.spib.org](http://www.spib.org).
180. SPRI - Single Ply Roofing Industry; [www.spri.org](http://www.spri.org).
181. SRCC - Solar Rating & Certification Corporation; [www.solar-rating.org](http://www.solar-rating.org).
182. SSINA - Specialty Steel Industry of North America; [www.ssina.com](http://www.ssina.com).
183. SSPC - SSPC: The Society for Protective Coatings; [www.sspc.org](http://www.sspc.org).
184. STI - Steel Tank Institute; [www.steeltank.com](http://www.steeltank.com).
185. SWI - Steel Window Institute; [www.steelwindows.com](http://www.steelwindows.com).
186. SWPA - Submersible Wastewater Pump Association; [www.swpa.org](http://www.swpa.org).
187. TCA - Tilt-Up Concrete Association; [www.tilt-up.org](http://www.tilt-up.org).
188. TCNA - Tile Council of North America, Inc.; [www.tileusa.com](http://www.tileusa.com).
189. TEMA - Tubular Exchanger Manufacturers Association, Inc.; [www.tema.org](http://www.tema.org).
190. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); [www.tiaonline.org](http://www.tiaonline.org).
191. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
192. TMS - The Masonry Society; [www.masonrysociety.org](http://www.masonrysociety.org).
193. TPI - Truss Plate Institute; [www.tpinst.org](http://www.tpinst.org).
194. TPI - Turfgrass Producers International; [www.turfgrasssod.org](http://www.turfgrasssod.org).
195. TRI - Tile Roofing Institute; [www.tilerroofing.org](http://www.tilerroofing.org).
196. UL - Underwriters Laboratories Inc.; <http://www.ul.com>.
197. UNI - Uni-Bell PVC Pipe Association; [www.uni-bell.org](http://www.uni-bell.org).
198. USAV - USA Volleyball; [www.usavolleyball.org](http://www.usavolleyball.org).
199. USGBC - U.S. Green Building Council; [www.usgbc.org](http://www.usgbc.org).
200. USITT - United States Institute for Theatre Technology, Inc.; [www.usitt.org](http://www.usitt.org).
201. WASTEC - Waste Equipment Technology Association; [www.wastec.org](http://www.wastec.org).
202. WCLIB - West Coast Lumber Inspection Bureau; [www.wclib.org](http://www.wclib.org).
203. WCMA - Window Covering Manufacturers Association; [www.wcmanet.org](http://www.wcmanet.org).
204. WDMA - Window & Door Manufacturers Association; [www.wdma.com](http://www.wdma.com).
205. WI - Woodwork Institute; [www.wicnet.org](http://www.wicnet.org).
206. WSRCA - Western States Roofing Contractors Association; [www.wsrca.com](http://www.wsrca.com).



207. WWPA - Western Wood Products Association; [www.wwpa.org](http://www.wwpa.org).

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. DIN - Deutsches Institut für Normung e.V.; [www.din.de](http://www.din.de).
2. IAPMO - International Association of Plumbing and Mechanical Officials; [www.iapmo.org](http://www.iapmo.org).
3. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
4. ICC-ES - ICC Evaluation Service, LLC; [www.icc-es.org](http://www.icc-es.org).

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; [www.usace.army.mil](http://www.usace.army.mil).
2. CPSC - Consumer Product Safety Commission; [www.cpsc.gov](http://www.cpsc.gov).
3. DOC - Department of Commerce; National Institute of Standards and Technology; [www.nist.gov](http://www.nist.gov).
4. DOD - Department of Defense; [www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).
5. DOE - Department of Energy; [www.energy.gov](http://www.energy.gov).
6. EPA - Environmental Protection Agency; [www.epa.gov](http://www.epa.gov).
7. FAA - Federal Aviation Administration; [www.faa.gov](http://www.faa.gov).
8. FG - Federal Government Publications; [www.gpo.gov/fdsys](http://www.gpo.gov/fdsys).
9. GSA - General Services Administration; [www.gsa.gov](http://www.gsa.gov).
10. HUD - Department of Housing and Urban Development; [www.hud.gov](http://www.hud.gov).
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; [www.eetd.lbl.gov](http://www.eetd.lbl.gov).
12. OSHA - Occupational Safety & Health Administration; [www.osha.gov](http://www.osha.gov).
13. SD - Department of State; [www.state.gov](http://www.state.gov).
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; [www.trb.org](http://www.trb.org).
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; [www.ars.usda.gov](http://www.ars.usda.gov).
16. USDA - Department of Agriculture; Rural Utilities Service; [www.usda.gov](http://www.usda.gov).
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; [www.ojp.usdoj.gov](http://www.ojp.usdoj.gov).
18. USP - U.S. Pharmacopeial Convention; [www.usp.org](http://www.usp.org).
19. USPS - United States Postal Service; [www.usps.com](http://www.usps.com).

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; [www.gpo.gov/fdsys](http://www.gpo.gov/fdsys).
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; [www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).



3. DSCC - Defense Supply Center Columbus; (See FS).
  4. FED-STD - Federal Standard; (See FS).
  5. FS - Federal Specification; Available from DLA Document Services;  
[www.quicksearch.dla.mil](http://www.quicksearch.dla.mil).
    - a. Available from Defense Standardization Program; [www.dsp.dla.mil](http://www.dsp.dla.mil).
    - b. Available from General Services Administration; [www.gsa.gov](http://www.gsa.gov).
    - c. Available from National Institute of Building Sciences/Whole Building Design Guide; [www.wbdg.org/ccb](http://www.wbdg.org/ccb).
  6. MILSPEC - Military Specification and Standards; (See DOD).
  7. USAB - United States Access Board; [www.access-board.gov](http://www.access-board.gov).
  8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).
- F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; [www.bearhfti.ca.gov](http://www.bearhfti.ca.gov).
  2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; [www.calregs.com](http://www.calregs.com).
  3. CDHS; California Department of Health Services; (See CDPH).
  4. CDPH; California Department of Public Health; Indoor Air Quality Program; [www.cal-iaq.org](http://www.cal-iaq.org).
  5. CPUC; California Public Utilities Commission; [www.cpuc.ca.gov](http://www.cpuc.ca.gov).
  6. SCAQMD; South Coast Air Quality Management District; [www.aqmd.gov](http://www.aqmd.gov).
  7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; [www.txforests-service.tamu.edu](http://www.txforests-service.tamu.edu).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1 GENERAL

1.1 SUMMARY

- A. Section Includes: Temporary construction facilities and controls as required for proper performance of the Contract. Locate temporary facilities where directed and maintain in a safe and sanitary condition at all times until completion of the Contract.

1.2 REGULATORY REQUIREMENTS

- A. Comply with governing regulations and utility company regulations and recommendations.
- B. Comply with pollution and environmental protection regulations for use of water and energy, for discharge of wastes and storm drainage from Project Site, and for control of dust, air pollution and noise.
- C. Temporary construction shall conform to requirements of State, County, and local authorities and underwriters which pertain to operation, health, safety, and fire hazard. Furnish and install items necessary for conformance with such requirements, whether or not called for under the separate divisions of these specifications.

1.3 CONSTRUCTION FENCE AND STORAGE:

- A. Contractor will be responsible for all security controls on the project. Provide temporary fencing to secure Contractor's storage areas, trash bins and equipment.

2 PRODUCTS (Not Applicable)

3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. Provide all facilities and controls, of substantial construction, as required to serve intended purpose during full life of construction or for full extent of need during construction, and as approved by the Architect. Maintenance, operation, and control of all new or temporary electrical facilities put into operation before final acceptance of project shall be complete responsibility of Contractor until final acceptance.

3.2 TEMPORARY SANITARY FACILITIES

- A. Provide temporary sanitary conveniences for the use of employees and persons engaged on the Work, including subcontractors and their employees, as required by law,

ordinances, or regulations of public authorities having jurisdiction. Use of permanent toilet facilities in the Work under construction will not be permitted.

- B. Maintain sanitary facilities in a clean and sanitary condition during the entire course of the Work. The facilities shall be removed, complete with contents upon completion of the project.

### 3.3 TEMPORARY ELECTRIC FACILITIES

- A. Provide and maintain during the progress of the Work all electrical lighting and power requirements to facilitate the Work of all trades and services connected with the Work. Provide adequate lighting levels to permit workmen to properly perform their construction activities and for detection of flaws in finishes. Provide extensions, lamps and outlets for requirements for single phase service.
- B. The District shall pay for the cost of electricity.
- C. Provide adequate artificial lighting for all areas of work when natural light is not adequate for work, and provide foot-candles of lighting as specified within the Specifications. In no case shall lighting be below thirty (30) foot-candles.
- D. Remove temporary wiring and equipment when no longer needed and dispose of equipment and wiring.

### 3.4 TEMPORARY WATER

- A. Make arrangements with School District for use of all water required for construction purposes. The District shall pay for the cost of water used. Furnish and install piping or hose to carry water for every point where needed on the project. Use only potable water.

### 3.5 CONSTRUCTION EQUIPMENT

- A. Erect, equip, and maintain construction equipment in strict accordance with applicable statutes, laws, ordinances, rules and regulations of authority having jurisdiction.
- B. Provide, maintain and remove upon completion of the Work all temporary rigging, scaffolding, hoisting equipment, rubbish chutes, ramps, stairs, runways, platforms, ladders, railings, and other temporary construction as required for all construction activities hereunder.
- C. Protect all existing pavements and plantings from damage due to trash bins, equipment and other temporary. Any damaged pavement or plantings shall be replaced at the Contractor's expense.

### 3.6 STORAGE

- A. Confine operations of the Contractor, including storage of salvage and, recycled materials, to areas approved. Contractor shall be liable for damage caused by him during such

use of property of the District or other parties. Contractor shall save the District, its officers and agents, and the Architect and his employees free and harmless from liability of any nature or kind arising from any use, trespass, or damage occasioned by his operations on premises of third persons.

- B. Locate storage and motor vehicle parking area as directed by the District's Representative.

3.7 TEMPORARY JOB OFFICE: Not Required.

3.8 TEMPORARY TELEPHONE SERVICE

- A. Use by Contractor of cellular phone is acceptable.

3.9 PORTABLE FIRE EXTINGUISHERS: Not Required.

3.10 SHORING, ANCHORING AND BRACING

- A. Provide temporary shoring, anchoring and bracing required by the nature of the work in order to make all parts absolutely rigid and stable. The Contractor shall be responsible for any damage resulting from failure to provide either through lack of proper judgement or from any other cause.

B. REMOVAL AT COMPLETION

- A. Upon completion of the Work, or prior thereto, when so directed by the Architect, remove all temporary facilities, structures and installation from the District's property. Coordinate the return of temporary fencing. Similarly, return exterior areas utilized for temporary facilities to substantially their original state, or when indicated on the Drawings, complete the areas as indicated or noted. Properly disinfect sanitary facilities and remove evidence from the site.

End of Section

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## SECTION 017400 - CLEANING

### 1 GENERAL

Conditions of the Contract and Division 1, as indicated, apply to this Section.

#### 1.1 SUMMARY

- A. Section Includes: Cleanup during construction and final cleaning of the shelter and site before acceptance by the District as specified herein and in other sections when specified.

### 2 PRODUCTS

#### 2.1 MATERIALS

- A. Use cleaning materials which will not create hazards to health or property and which will not damage materials. Use cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned. Use cleaning materials only on surfaces recommended by the cleaning material manufacturer.

### 3 EXECUTION

#### 3.1 CLEANUP DURING CONSTRUCTION

- A. It is required that the entire site be kept in a neat and orderly condition, and the District's Inspector or the Architect may, at any time during construction, order a general cleanup of the site as a part of the Work.
- B. Sort and collect recyclable materials and store such materials at designated locations. Remove to recycling center promptly. Do not accumulate materials such that they create environmental or fire hazard. Dispose of waste, trash, and debris in a safe, acceptable manner, in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Bury no such waste material and debris on the site. Burning of trash and debris on the site will not be permitted.
- C. Location of legal disposal area for trash and debris and length of haul is the Contractor's responsibility.

#### 3.2 FINAL CLEANING

- A. Before final inspection by the Architect and after all construction activity is essentially complete, thoroughly clean all surfaces, utilizing professional building cleaners. Items to be cleaned include, but are not limited to; windows, doors, trim, exposed nonferrous metal surfaces, light fixtures and plates, and all finish surfaces throughout the construction.

Vacuum clean and remove all spots, smears, dust, debris, hand prints and defacements of every sort, including those of vandals. Follow the recommendations of the manufacturer of the materials and items to be cleaned for all cleaning.

### 3.3 FINAL SITE CLEANING

- A. Before final inspection, thoroughly clean the entire site and put it into a neat, acceptable condition. Remove from the entire site all construction waste and unused materials, dunnage, loose rock and stones, excess earth, roots, weeds, and all debris of any description resulting from the Work. Hose down and scrub where necessary all new concrete and asphalt pavement and walks dirtied as a result of the work. Thoroughly remove all paint droppings from concrete walks and other pavements.

End of Section

## SECTION 017700 – CLOSEOUT PROCEDURES

### 1 GENERAL

Conditions of the Contract and Division 1, as indicated, apply to this Section.

#### 1.1 SUMMARY:

- A. Section Includes: Activities and procedures for closing out the Contract and assisting in District's final inspection.
- B. Related Documents:
  - 1. Section 015000: Construction facilities and temporary controls
  - 2. Section 0174000: Cleaning

#### 1.2 REQUIREMENTS PREPARATORY TO FINAL INSPECTION: The required submittals shall be made before final payment.

- A. Remove temporary facilities from the site.
- B. Thoroughly clean the new construction and site, as directed by District's Inspector and Architect.
- C. Properly mount all operating instructions for equipment and post as specified in their respective sections.
- D. Job Record specifications and prints shall be completed, signed, and submitted to the Architect as specified herein.
- E. Submit to the Architect, the material and equipment maintenance instructions, as specified in the body of the Specifications.
- F. Submit to the Architect, all guarantees and warranties as specified in the General Conditions.
- G. When requested, submit certificates indicating payment of all debts and Claims arising from the Work.
- H. Deliver all tools which are a permanent part of equipment installed in the Work to the District's Inspector of Record.



- I. Deliver all keys, construction and permanent, properly identified, to the District's Inspector of Record.
- J. Deliver spare parts and extra materials as specified within each individual technical Section Division 1 through 16. Destination as directed by District's Inspector of Record.
- K. General Contractor is to first prepare a detailed and documented "Punch List" of all aspects of the project and distribute to all sub-contractors for response and completion of work called for in the Punch List. A computerized program is recommended for computer sort of each sub-contractors work. Architect and sub-consultants shall review General Contractor's punch list and make modifications. General Contractor shall distribute such information to sub-contractors.

1.3 FINAL INSPECTION:

- A. After General Contractor has prepared "Punch List" and Sub-Contractor have completed Punch List work as called for all requirements preparatory to the final inspection have been completed as herein specified, notify the Architect and District's Inspector to perform the final inspection as required by Clause entitled "Final Inspection and Acceptance" of the General Conditions.

1.4 RECORD SPECIFICATIONS AND PRINTS:

- A. Maintain a set of Record Specifications and Prints as required by Clause entitled "Job Record Specifications and Prints" of the General Conditions. Deliver to District or Architect as directed.

1.5 OPERATION AND MAINTENANCE DATA SUBMITTAL:

- A. Submit to the District for approval, five (5) copies of complete operation and maintenance data as specified herein and in other sections of these specifications. Submit data a minimum of 30 days before completion of the Contract. The Contract will not be considered complete until this data has been reviewed by the District.
- B. Assemble all data required herein, except that to be mounted in frames, in three-ring loose-leaf binders, complete with index, index dividers, and permanently attached exterior label on cover.
- C. Data Required:
  - 1. Manufacturer's Manuals: Submit complete installation, operation, maintenance and service manuals, and printed instructions and parts lists for all materials and equipment where such printed matter is regularly available from the manufacturer. This includes, but is not limited to such service manuals as may

be sold by the manufacturer covering the operation and maintenance of his items, and complete replacement parts lists sufficiently detailed for parts replacement ordering to manufacturer. Bound publications need not be assembled in binders. Manuals shall be in durable plastic binders approximately 8-1/2" x 11" in size and identifying on, or readable through, the front cover stating general nature of manual. Manual shall be typewritten with index at front. Manual shall furnish all emergency data regarding product or equipment, complete instructions regarding operations and maintenance, complete nomenclature of all replaceable parts, part numbers, and name and address of nearest vendor or part.

2. Project files as maintained for the District.

1.6 MANUFACTURERS' WARRANTIES:

- A. Deliver all manufacturers' warranties required by the Contract Documents, with District named as the beneficiary. In addition, for all equipment, or components thereof, bearing a manufacturers' warranty that extends for a longer time period than the Contractor's warranty, secure and deliver the manufacturers' warranties in the same manner.
- B. Form of Warranty: Submit written warranties, except manufacturers' standard printed warranties, on the Contractor's, subcontractor's, material suppliers', or manufacturer's own letterhead, addressed to the District. Submit all warranties in duplicate, and in the form shown on the following page, modified as approved to suit the conditions pertaining to the warranty.
- C. Submission of Warranties: Collect and assemble all written warranties into a bound booklet form, and deliver them to the Architect for final review and approval.

1.7 GUARANTEES:

- A. Description: Guarantees from Subcontractors shall not limit Contractor's warranties and guarantees to District. Whenever possible, the Contractor shall cause warranties of Subcontractors to be made directly with the District. If such warranties are made to Contractor, Contractor shall assign such warranties to the District prior to final payment.
- B. Form of Guarantee: Submit a written guarantee, typed on Contractor's letter head and in the form contained at the end of this Section, when required by a Specification Section.
- C. Submittal Requirements:

1. Assemble guarantees, bonds, and services and maintenance contracts executed by each Subcontractor.
2. Number of original signed copies required: Two (2) each.
3. Table of Contents: Neatly typed and in orderly sequence. Provide complete information for each item as follows:
  - a. Product or Work item.
  - b. Firm name, address, telephone number, and name of principal.
  - c. Scope.
  - d. Date of beginning of guarantees, bond, or service and maintenance contract.
  - e. Duration of guarantee, bond, or service and maintenance contract.
  - f. Provide information for the District.
    - (1) Correct procedure in case of failure.
    - (2) Circumstances which might affect the validity of guarantee or bond.
  - g. Contractor's name, address, telephone number; and name of responsible principal.

D. Form of Submittals:

1. Prepare in duplicate packets.
2. Format: Size 8-1/2" x 11" sheets punched for 3-ring binder. Fold larger sheets to fit into binders.
3. Cover: Identify each packet with type or printed title "Guarantees and Bonds". List:
  - a. Title of Project
  - b. Name of Contractor
4. Binders: Commercial quality, 3-ring with durable and easily cleaned plastic covers.
5. Digital Copy: Submit a PDF with digital bookmarks of all submittals in one PDF file, or split into multiple volumes if file size is large.

E. Time of Submittals:

1. Prior to Final Completion.

2. For Work activities, other than those Work activities accepted, provide updated submittal prior to final Completion, listing the date of Final Completion as the start of the Guarantee to Repair Period.

F. Submittals Required:

1. Submit guarantees, bonds, and service and maintenance contracts specified in the individual technical Sections.

2 PRODUCTS (Not Applicable)

3 EXECUTION

3.1 GUARANTEES:

- A. Contractor shall guarantee all workmanship and materials for two (2) years, or as listed in individual Specification Sections, whichever is longer. The guarantee period shall be based on the date of completion of the work, as called out herein. After acceptance of the building, if during the guarantee period any defects or faulty materials are found, he shall immediately upon notification by the Architect, and/or District at his own expense, replace and repair them, together with any damage to finish, fixtures, equipment or furnishings due to defective work.

3.2 DELIVERY OF FINAL DATA: Final payment will not be authorized until the Contractor deliver the following:

- A. Furnishes the Architect breakdown of final costs of job as adjusted by changes.
- B. Furnishes the District service manuals, operating instructions and guarantees as specified in Part 1 of this Section.
- C. Furnishes District with completed job record drawings and specifications of all trades provided in the Contract Documents. During the progress of the work, keep an accurate record, on a set of prints specifically designated for that purpose, of all deviations from the original plans and the location of all mechanical, plumbing and electrical work as actually installed. The furnishing of these record drawings to the Architect shall be dated and signed by the Contractor and appropriate subcontractor. Record drawings shall include all change orders and addenda.
  1. In closing out the project, the Contractor, through the District's Inspector, shall insure that the Architect is furnished with the completed "Job Record Prints" and Specifications.
  2. "Record" information concerning the locations and invert elevations of underground utility lines, junction boxes, bends, clean-outs, stub-outs, tie-ins,

valves, etc., is of prime importance and shall be accurately located and clearly marked on record drawings.

3. Changes listed in the addenda, change orders shall be furnished to the Architect on the job record prints and the Specifications marked with red ink.
4. Changes made on "Job Record Prints" and Specifications shall be marked with a large asterisk (\*) and a reference note stating which item in which addendum or change order (including date) initiated in the change. This note shall be shown adjacent to the change and shall be flagged accordingly. For example:
  - See Change Order # 2, Item #4 6-30-20
  - See Addendum #2, Item #4, 6-30-20
5. Changes in the Specification shall be marked with a large asterisk (\*) and a reference note stating which item in which addendum or change order (including date) initiated in the change. This note shall be shown in the right margin viz: Add. #2, Item #4, 6-30-20
6. At each item in the addenda and change orders a reference note shall be made as to which sheet and/or which detail in the "Job Record Prints" and Specifications are affected and/or which section, page, and item in the specifications are affected, viz: "SHEET S-2, DETAIL B" or "SECTION #07600-1, ITEM 1.3 (c).

3.3 CORRECTION OF DEFECTIVE WORK: The Architect will issue instructions about necessary corrections of defective work appearing either during construction or after acceptance but prior to expiration of guarantee. Execution of such corrective measures shall be subject to Architect's approval.

- A. A sum amounting to 1.5 times the value of the incomplete or unsatisfactory work shall be withheld and shall become payable only after such work has been satisfactorily completed.
- B. The Architect's charges in connection with such corrective measures, including redesign, supervision and/or inspection, shall be backcharged by the District on behalf of the Architect. Provisions of this paragraph supplement the General Conditions, superseding other requirements in the Contract.

3.4 APPROVALS: Approval of the work in part or as a whole by the Architect shall not relieve the Contractor of responsibility for faulty materials or workmanship. Such approvals may be withdrawn at any time that subsequent examination reveals that apparently satisfactory work is, in fact, defective or otherwise fails to conform to all requirements of the Drawings and Specifications. Such work from which approval has

been withdrawn shall be replaced and re-executed in accordance with the Contract at no expense to the District.

- A. After Contractor has completed work on his punchlist, a pre-final inspection will be made by the Architect upon written notification from the Contractor that all work under this Contract is complete. A list will be made of work determined to be unacceptable. Such work shall be corrected promptly and will be reinspected for final acceptance upon written notification by the Contractor. At the discretion of the Architect, final inspection and acceptance of certain items of work may be deferred if conditions beyond the control of the Contractor prevent conclusive determination that the conditions of the Contract have been fulfilled.

3.5 SUBSTANTIAL COMPLETION: The Architect will issue a Certificate of Substantial Completion when he is satisfied after each major sub-phase that is substantially complete. However, a punch list will be issued by the Architect, after pre-final inspection, together with the certificate of substantial completion, listing items to be satisfactorily and fully completed or corrected. The guarantee period for such punch list items shall not begin until the incomplete or unsatisfactory work has been concluded to the satisfaction of the Architect and thus certified.

- A. The failure to include any items on such list shall not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents.
- B. Should such unsatisfactory work not be adjusted within a reasonable time period, a sum equal to the cost to correct such inadequacies by others, as necessary, shall be withheld from the final payment.

3.6 MAINTENANCE AND OPERATION TRAINING:

- A. The Contractor shall hold training classes at times and dates, set by the District, to fully inform the end user on the proper care, repair, operation, and maintenance on all aspects of the new construction.

End of Section

(To be typed on Letterhead of Contractor responsible for Work to be guaranteed.)

GUARANTEE FOR

(Work)

We hereby guarantee that the \_\_\_\_\_ Work

performed for the construction of

\_\_\_\_\_ has been performed in accordance with the Drawings and Specifications and that the Work as installed will fulfill the requirements of the Guarantee included in the Specifications. We agree to repair or replace any or all of our Work, together with any adjacent Work which may be displaced by so doing, that may prove to be defective in its workmanship or materials within a period of \_\_\_\_\_ (\_\_\_\_\_) year(s) from date of acceptance of the above named project by the San Dieguito Union High School District, without any expense whatsoever to the said District, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of our failure to comply with the above mentioned conditions within thirty days after being notified in writing by the District, we collectively or separately do hereby authorize the District to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefrom upon demand.

Date: \_\_\_\_\_ Signed: \_\_\_\_\_  
(Supplier) (Subcontractor)

Date: \_\_\_\_\_ Signed: \_\_\_\_\_  
(Contractor)

Local Representative to be contacted for services:

Name: \_\_\_\_\_ Phone No.

Address:

(Sample Form)

## SECTION 024119 - SELECTIVE DEMOLITION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Demolition and removal of selected portions of building or structure.
  - 2. Salvage of existing items to be reused or recycled.

- B. Related Requirements:

- 1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
  - 2. Section 013516 "Alteration Project Procedures" for general protection and work procedures for alteration projects.

#### 1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

#### 1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.



- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

- 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

#### 1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.

- 1. Inspect and discuss condition of construction to be selectively demolished.
  - 2. Review structural load limitations of existing structure.
  - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
  - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
  - 5. Review areas where existing construction is to remain and requires protection.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection , for dust control and , for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
  - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
  - 2. Coordination of Owner's continuing occupancy of portions of site.
- C. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.
- D. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.
  - 1. Roofing warranty.

#### 1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Are not known to be present in portions of building to be selectively demolished.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

#### 1.8 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

### PART 2 - PRODUCTS

#### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.

1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.

### 3.3 PROTECTION

- A. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
6. Maintain adequate ventilation when using cutting torches.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

10. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by.
5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

### 3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

### 3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

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## SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Framing with dimension lumber.
  - 2. Wood blocking, cants, and nailers.

#### 1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater size but less than 5 inches nominal (114 mm actual) size in least dimension.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
  - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
  - 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
  - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:

1. Preservative-treated wood.
2. Power-driven fasteners.
3. Post-installed anchors.
4. Metal framing anchors.

## 1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

## PART 2 - PRODUCTS

### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  1. Factory mark each piece of lumber with grade stamp of grading agency.
  2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
  3. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less, 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.

### 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
  1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
  1. For exposed lumber indicated to receive a stained or natural finish, omit marking and provide certificates of treatment compliance issued by inspection agency.
- D. Application: Treat items indicated on Drawings, and the following:
  1. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.
  2. Wood floor plates that are installed over concrete slabs-on-grade.

## 2.3 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions Construction, Stud, or No. 3 grade of the following species:
  1. Spruce-pine-fir; NLGA.
  2. Hem-fir; WCLIB or WWPA.
  3. Northern species; NLGA.
  4. Western woods; WCLIB or WWPA.
- B. Other Framing: No. 2 grade of the following species:
  1. Hem-fir (north); NLGA.
  2. Douglas fir-larch; WCLIB or WWPA.

## 2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  1. Blocking.
  2. Nailers.
  3. Cants.
  4. Furring.
  5. Grounds.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of the following species:
  1. Hem-fir (north); NLGA.
  2. Spruce-pine-fir; NLGA.
  3. Western woods; WCLIB or WWPA.



4. Northern species; NLGA.
- C. Concealed Boards: 15 percent maximum moisture content of the following species and grades:
  1. Hem-fir or hem-fir (north), Construction or No. 2 Common grade; NLGA, WCLIB, or WWP.
  2. Northern species, No. 2 Common grade; NLGA.
  3. Western woods, Construction or No. 2 Common grade; WCLIB or WWP.
- D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- F. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

## 2.5 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: Plywood, DOC PS 1, Exterior, C-C Plugged in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

## 2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
  1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 ICC-ES AC58 ICC-ES AC193 or ICC-ES AC308 as appropriate for the substrate.
  1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.
- D. Do not splice structural members between supports unless otherwise indicated.
- E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
  - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches (406 mm) o.c.
- F. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- G. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
  - 1. Use inorganic boron for items that are continuously protected from liquid water.
  - 2. Use copper naphthenate for items not continuously protected from liquid water.
- H. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- I. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - 1. Table 2304.10.1, "Fastening Schedule," in the California Building Code Volume 2.
  - 2. ICC-ES evaluation report for fastener.
- J. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

### 3.2 WOOD BLOCKING AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

### 3.3 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
- B. Furring to Receive Gypsum Board: Install 1-by-2-inch nominal- (19-by-38-mm actual-) size furring vertically at 16 inches (406 mm) o.c.

### 3.4 PROTECTION

- A. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

## SECTION 061300 - HEAVY TIMBER CONSTRUCTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Framing using timbers.

#### 1.3 DEFINITIONS

- A. Timbers: Lumber of 5 inches nominal (114 mm actual) or greater in least dimension.
- B. Inspection agencies, and the abbreviations used to reference them, include the following:
  - 1. NLGA: National Lumber Grades Authority.
  - 2. WCLIB: West Coast Lumber Inspection Bureau.
  - 3. WWPA: Western Wood Products Association.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For **timber connectors**.
  - 1. For timber connectors. Include installation instructions.
- B. Shop Drawings: For heavy timber framing. Show layout, dimensions of each member, and details of connections.
- C. Samples: Not less than **9 inches (229 mm)** wide by 24 inches (600 mm) long, showing the range of variation to be expected in appearance, including surface texture, of wood products.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates:
  - 1. For timbers specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by ALSC's Board of Review.
- B. Certificates of Inspection: Issued by lumber-grading agency for exposed timber not marked with grade stamp.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Schedule delivery of materials to avoid extended on-site storage and to avoid delaying the Work.
- B. Store materials under cover and protected from weather and contact with damp or wet surfaces. Provide for air circulation within and around stacks and under temporary coverings.

PART 2 - PRODUCTS

2.1 TIMBER

- A. Comply with DOC PS 20 and with grading rules of lumber-grading agencies certified by ALSC's Board of Review as applicable.
  - 1. Factory mark each item of timber with grade stamp of grading agency.
  - 2. For exposed timber indicated to receive a stained or natural finish, apply grade stamps to surfaces that are not exposed to view, or omit grade stamps and provide certificates of grade compliance issued by grading agency.
- B. Timber Species and Grade: Douglas fir-larch or Douglas fir-larch (North); **No. 1** or better, NLGA, WCLIB, or WWPA.
- C. Moisture Content: Provide timber with 19 percent maximum moisture content at time of dressing.
- D. Dressing: Provide **rough hewn to match existing** unless otherwise indicated.

2.2 PRESERVATIVE TREATMENT

- A. Pressure treat materials with waterborne preservative according to AWP A U1; **Use Category UC3b for exterior construction not in contact with the ground.**
- B. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium such as copper azole.
  - 1. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not contain colorants, bleed through, or otherwise adversely affect finishes.
- C. Use process that does not include water repellents or other substances that might interfere with application of indicated finishes.
- D. After treatment, redry materials to 19 percent maximum moisture content.
- E. Mark treated materials with treatment quality mark of an inspection agency approved by ALSC's Board of Review.

2.3 Application: **Treat all heavy timber framing unless otherwise indicated.** TIMBER CONNECTORS

- A. Provide bolts, 3/4 inch (19 mm) unless otherwise indicated, complying with ASTM A307, Grade A (ASTM F568M, Property Class 4.6); provide nuts complying with ASTM A563 (ASTM A563M); and, where indicated, provide flat washers.
- B. Hot-dip galvanize steel assemblies and fasteners after fabrication to comply with ASTM A123/A123M or ASTM A153/A153M.

2.4 MISCELLANEOUS MATERIALS

- A. End Sealer: Manufacturer's standard, transparent, colorless wood sealer that is effective in retarding the transmission of moisture at cross-grain cuts and is compatible with indicated finish.

2.5 FABRICATION

- A. Provide rough hewn surface to match existing timbers to be replaced.
- B. Predrill for fasteners and assembly of units.
- C. Coat crosscuts with end sealer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Erect heavy timber framing true and plumb. Provide temporary bracing to maintain lines and levels until permanent supporting members are in place.
  - 1. Install horizontal and sloping members with crown edge up, and provide not less than 4 inches (102 mm) of bearing on supports. Provide continuous members unless otherwise indicated; tie together over supports with metal strap ties if not continuous.
  - 2. Handle and temporarily support heavy timber framing to prevent surface damage, compression, and other effects that might interfere with indicated finish.
- B. Fitting: Fit members by cutting and restoring exposed surfaces to match specified surfacing.
  - 1. Predrill for fasteners using timber connectors as templates.
  - 2. Finish exposed surfaces to remove planing or surfacing marks, and to provide a finish equivalent to that produced by machine sanding with No. 120 grit sandpaper.
  - 3. Coat crosscuts with end sealer.
  - 4. Where preservative-treated members must be cut during erection, apply a field-treatment preservative to comply with AWPA M4.
    - a. Use oxine copper with minimum 0.675% copper as oxine copper.

- b. Use inorganic boron (SBX) treatment for members not in contact with the ground and continuously protected from liquid water.
- C. Install timber connectors as indicated.
  - 1. Unless otherwise indicated, install bolts with same orientation within each connection and in similar connections.

### 3.2 ADJUSTING

- A. Repair damaged surfaces and finishes after completing erection. Replace damaged heavy timber framing if repairs are not approved by Architect.

END OF SECTION 061300

## SECTION 074646 - FIBER-CEMENT BOARDS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes fiber-cement boards for half-timbering.
- B. Related Requirements:
  - 1. Section 099113 "Exterior Painting" for painted finish.

#### 1.3 COORDINATION

- A. Coordinate siding installation with flashings and other adjoining construction to ensure proper sequencing.

#### 1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at **Project site**.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Initial Selection: For fiber-cement boards including related accessories.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with labels intact until time of use.
- B. Store materials on elevated platforms, under cover, and in a dry location.



## 1.8 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Structural failures including cracking and deforming.
    - b. Deterioration of materials beyond normal weathering.
  - 2. Warranty Period: 15 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain products, including related accessories, from single source from single manufacturer.

### 2.2 FIBER-CEMENT SIDING

- A. General: ASTM C1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E136; with a flame-spread index of 25 or less when tested according to ASTM E84.
  - 1. Basis of Design: James Hardie, Hardietrim Boards – 5/4 Smooth
- B. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C1186 by a qualified testing agency acceptable to authorities having jurisdiction.
- C. Nominal Thickness: Not less than **1 inch**.
- D. Factory Priming: Manufacturer's standard acrylic primer.

### 2.3 ACCESSORIES

- A. Flashing: Provide **stainless-steel** flashing complying with Section 076200 "Sheet Metal Flashing and Trim" at where indicated.
- B. Fasteners:
  - 1. For fastening to wood, use **ribbed bugle-head screws** of sufficient length to penetrate a minimum of **1 inch (25 mm)** into substrate.
  - 2. For fastening fiber cement, use **hot-dip galvanized** fasteners.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of fiber-cement boards and related accessories.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

#### 3.3 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
  - 1. Do not install damaged components.
  - 2. Install fasteners no more than **24 inches (600 mm)** on center.
- B. Install joint sealants to produce a weathertight installation.

#### 3.4 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074646

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## SECTION 077100 - ROOF SPECIALTIES

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

Roof-edge drainage systems.

B. Preinstallation Conference: Conduct conference at Project site Participate in Roof-edge drainage systems Pre-Installation Conference..

#### 1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

#### 1.3 WARRANTY

A. Special Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:

- a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
- b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
- c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 5 years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 PERFORMANCE REQUIREMENTS

A. SPRI Wind Design Standard: Manufacture and install roof-edge specialties tested according to SPRI ES-1 and capable of resisting the following design pressures:

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

## 2.2 ROOF-EDGE DRAINAGE SYSTEMS

- A. Gutters: Manufactured in uniform section lengths not exceeding 12 feet (3.6 m) with matching corner units, ends, outlet tubes, and other accessories. Furnish flat-stock gutter straps, custom gutter brackets as indicated, expansion joints, and expansion-joint covers fabricated from same metal as gutters.
  - 1. Zinc-Coated Steel: Nominal 0.034-inch (0.86-mm thickness).
  - 2. Gutter Profile: Half-round single bead according to SMACNA's "Architectural Sheet Metal Manual."
  - 3. Corners: Factory mitered and sealed watertight. Gutter Supports: Gutter brackets with finish matching the gutters. Refer to drawings for dimensions.
  - 4. Gutter Accessories: Flat ends.
- B. Downspouts: Plain round complete with smooth-curve elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.
  - 1. Zinc-Coated Steel: Nominal 0.034-inch (0.86-mm) thickness.
- C. Zinc-Coated Steel Finish: Three-coat fluoropolymer.
  - 1. Color: As selected by Architect from manufacturer's full range to match campus standard.

## 2.3 MATERIALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating designation.

## 2.4 MISCELLANEOUS MATERIALS

- A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:
  - 1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
  - 2. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A 153 or ASTM F 2329.

## 2.5 FINISHES

- A. Coil-Coated Galvanized-Steel Sheet Finishes:
  - 1. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with ASTM A 755 and coating and resin manufacturers' written instructions.
    - a. Three-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.
  - 1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
  - 2. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
  - 3. Torch cutting of roof specialties is not permitted.
  - 4. Do not use graphite pencils to mark metal surfaces.
  - 5. No rotary saws.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
  - 1. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.
- C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.
  - 1. Space movement joints at a maximum of 12 feet (3.6 m) with no joints within 18 inches (450 mm) of corners or intersections unless otherwise indicated on Drawings.
  - 2. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.
- D. Fastener Sizes: Use fasteners of sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.

### 3.2 ROOF-EDGE DRAINAGE-SYSTEM INSTALLATION

- A. General: Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.
- B. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 24 inches (610 mm) apart. Attach ends with rivets and seal with sealant to make watertight. Slope to downspouts.
  - 1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet (15.2 m)] apart. Install expansion-joint caps.

- C. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 60 inches (1500 mm) o.c.

- 1. Provide elbows at base of downspouts at grade to direct water away from building.

### 3.3 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films as roof specialties are installed.

END OF SECTION 077100

## SECTION 090190.52 - MAINTENANCE REPAINTING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes maintenance repainting as follows:
  - 1. Patching substrates.
  - 2. Repainting.
    - a. Concrete
    - b. Metal, galvanized and ungalvanized
    - c. Wood, dimensional and panel
    - d. Portland cement plaster (stucco)

#### 1.2 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

#### 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of paint system and each pattern, color, and gloss.
  - 1. Label each Sample for location and application.



- C. Product List: Printout of current "MPI Approved Products List" for each MPI-product category specified in paint systems, with the proposed product highlighted.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Color Matching Certificate: For computer-matched colors.

## PART 2 - PRODUCTS

### 2.1 PREPARATORY CLEANING MATERIALS

- A. Water: Potable.
- B. Hot Water: Water heated to a temperature of 140 to 160 deg F (60 to 71 deg C).
- C. Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium pyrophosphate (TSPP), 1/2 cup (125 mL) of laundry detergent that contains no ammonia, 5 quarts (5 L) of 5 percent sodium hypochlorite bleach, and 15 quarts (15 L) of warm water for every 5 gal. (20 L) of solution required.
- D. Mildewcide: Commercial proprietary mildewcide or a job-mixed solution prepared by mixing 1/3 cup (80 mL) of household detergent that contains no ammonia, 1 quart (1 L) of 5 percent sodium hypochlorite bleach, and 3 quarts (3 L) of warm water.
- E. Abrasives for Ferrous Metal Cleaning: Aluminum oxide paper, emery paper, fine steel wool, steel scrapers, and steel-wire brushes of various sizes.
- F. Rust Remover: Manufacturer's standard phosphoric acid-based gel formulation, also called "naval jelly," for removing corrosion from iron and steel.

### 2.2 PAINT REMOVERS

- A. Low-Odor, Solvent-Type Paste Paint Remover: Manufacturer's standard low-odor, water-rinsable, solvent-type paste, gel, or foamed emulsion formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project; and containing no methanol or methylene chloride.

### 2.3 PAINT, GENERAL

- A. Material Compatibility:
  - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

- B. Colors: Match District-standard paint manufacturer and Campus-standard.

## 2.4 PAINT MATERIALS, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Transition Coat: Paint manufacturer's recommended coating for use where a residual existing coating is incompatible with the paint system.

## 2.5 PAINT MATERIALS

- A. Primers and Sealers:
  - 1. Primer Sealer, Latex, Alkalai Resistant, Exterior: **MPI #3.**
- B. Metal Primers:
  - 1. Primer, Metal, Surface Tolerant: **MPI #23.**
  - 2. Primer, Rust-Inhibitive, Water Based: **MPI #107.**
  - 3. Primer, Galvanized, Water Based: **MPI #134.**
- C. Wood Primers:
  - 1. Primer, Latex for Exterior Wood: **MPI #6.**
- D. Water-Based Paints:
  - 1. Latex, Exterior Low Sheen (Gloss Levels 3-4): **MPI #15.**

## 2.6 PATCHING MATERIALS

- A. Wood-Patching Compound: Two-part, epoxy-resin, wood-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of wood repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be designed for filling voids in damaged wood materials that have deteriorated from weathering and decay. Compound shall be capable of filling deep holes and spreading to feather edge.
- B. Metal-Patching Compound: Two-part, polyester-resin, metal-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of metal repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be produced for filling metal that has deteriorated from corrosion. Filler shall be capable of filling deep holes and spreading to feather edge.
- C. Cementitious Patching Compounds: Cementitious patching compounds and repair materials specifically manufactured for filling cementitious substrates and for sanding or tooling prior to

repainting; formulation as recommended in writing by manufacturer for type of cementitious substrate indicated, exposure to weather and traffic, the detail of work, and site conditions.

### PART 3 - EXECUTION

#### 3.1 MAINTENANCE REPAINTING, GENERAL

- A. Execution of the Work: In repainting surfaces, disturb them as minimally as possible and as follows:
  - 1. Remove failed coatings and corrosion and repaint.
  - 2. Verify that substrate surface conditions are suitable for repainting.
  - 3. Allow other trades to repair items in place before repainting.
- B. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use gentle methods, such as scraping and lightly hand sanding, that will not abrade softer substrates, reducing clarity of detail.
- C. Heat Processes: Do not use torches, heat guns, or heat plates.

#### 3.2 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of painting work. Comply with paint manufacturer's written instructions for inspection.
- B. Maximum Moisture Content of Substrates: Do not begin application of coatings unless moisture content of exposed surface is below the maximum value recommended in writing by paint manufacturer and not greater than the following maximum values when measured with an electronic moisture meter appropriate to the substrate material:
  - 1. Concrete or Fiber Cement: 12 percent.
  - 2. Masonry (Clay and CMU): 12 percent.
  - 3. Portland Cement Plaster: 12 percent.
  - 4. Wood: 15 percent.
- C. Alkalinity: Do not begin application of coatings unless surface alkalinity is within range recommended in writing by paint manufacturer. Conduct alkali testing with litmus paper on exposed plaster, cementitious, and masonry surfaces.

#### 3.3 PREPARATORY CLEANING

- A. General: Use the gentlest, appropriate method necessary to clean surfaces in preparation for painting. Clean all surfaces, corners, contours, and interstices.

- B. Detergent Cleaning: Wash surfaces by hand using clean rags, sponges, and bristle brushes. Scrub surface with detergent solution and bristle brush until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet. Rinse with water applied by clean rags or sponges.
- C. Solvent Cleaning: Use solvent cleaning to remove oil, grease, smoke, tar, and asphalt from painted or unpainted surfaces before other preparation work. Wipe surfaces with solvent using clean rags and sponges. If necessary, spot-solvent cleaning may be employed just prior to commencement of paint application, provided enough time is allowed for complete evaporation. Use clean solvent and clean rags for the final wash to ensure that all foreign materials have been removed. Do not use solvents, including primer thinner and turpentine, that leave residue.
- D. Mildew: Clean off existing mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. Rinse with water applied by clean rags or sponges.
- E. Chemical Rust Removal:
  - 1. Remove loose rust scale with specified abrasives for ferrous-metal cleaning.
  - 2. Apply rust remover with brushes or as recommended in writing by manufacturer.
  - 3. Allow rust remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing. Do not allow extended dwell time.
  - 4. Wipe off residue with mineral spirits and either steel wool or soft rags, or clean with method recommended in writing by manufacturer to remove residue.
  - 5. Dry immediately with clean, soft cloths. Follow direction of grain in metal.
  - 6. Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.
- F. Mechanical Rust Removal:
  - 1. Remove rust with specified abrasives for ferrous-metal cleaning. Clean to bright metal.
  - 2. Wipe off residue with mineral spirits and either steel wool or soft rags.
  - 3. Dry immediately with clean, soft cloths. Follow direction of grain in metal.
  - 4. Prime immediately to prevent rust. Do not touch cleaned metal surface until primed.

### 3.4 PAINT REMOVAL

- A. General: Remove paint where existing paint adherence or surface integrity has failed. Where cleaning methods have been attempted and further removal of the paint is required because of incompatible or unsatisfactory surfaces for repainting, remove paint to extent required by conditions.
  - 1. Brushes: Use brushes that are resistant to chemicals being used.
    - a. Metal Substrates: If using wire brushes on metal, use brushes of same metal composition as metal being treated.
    - b. Wood Substrates: Do not use wire brushes.

2. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that spray methods do not damage surfaces.
  - a. Equip units with pressure gages.
  - b. Unless otherwise indicated, hold spray nozzle at least 6 inches (150 mm) from surface and apply material in horizontal, back-and-forth sweeping motion, overlapping previous strokes to produce uniform coverage.
  - c. For chemical spray application, use low-pressure tank or chemical pump suitable for chemical indicated, equipped with nozzle having a cone-shaped spray.
  - d. For water-spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
  - e. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F (60 and 71 deg C) at flow rates indicated.
- B. Paint Removal with Hand Tools: Remove paint manually using hand-held scrapers, wire brushes, sandpaper, and metallic wool as appropriate for the substrate material.
- C. Paint Removal with Low-Odor, Solvent-Type Paste Paint Remover:
  1. Apply thick coating of paint remover to dry, painted surface with natural-fiber cleaning brush, deep-nap roller, or large paintbrush. Apply in one or two coats according to manufacturer's written instructions.
  2. Allow paint remover to remain on surface for period recommended in writing by manufacturer or as determined by preconstruction testing.
  3. Rinse with water applied by low-pressure spray to remove chemicals and paint residue.
  4. Use mechanical methods recommended in writing by manufacturer to remove chemicals and paint residue.
  5. Repeat process if necessary to remove all paint.

### 3.5 SUBSTRATE REPAIR

- A. General: Repair substrate surface defects that are inconsistent with the surface appearance of adjacent materials and finishes.
- B. Wood Substrate:
  1. Repair wood defects including dents and gouges more than 1/8 inch (3 mm) in size and all holes and cracks by filling with wood-patching compound and sanding smooth. Reset or remove protruding fasteners.
  2. Where existing paint is allowed to remain, sand irregular buildup of paint, runs, and sags to achieve a uniformly smooth surface.
- C. Cementitious Material Substrate:
  1. General: Repair defects including dents and chips more than 1/4 inch (6 mm) in size and all holes and cracks by filling with cementitious patching compound and sanding smooth. Remove protruding fasteners.
  2. New and Bare Plaster: Neutralize surface of plaster with mild acid solution as recommended in writing by paint manufacturer. In lieu of acid neutralization, follow

manufacturer's written instruction for primer or transition coat over alkaline plaster surfaces.

3. Concrete, Cement Plaster, and Other Cementitious Products: Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. If surfaces are too alkaline to paint, correct this condition before painting.

D. Metal Substrate:

1. Preparation: Treat repair locations by wire-brushing and solvent cleaning. Use chemical or mechanical rust removal method to clean off rust.
2. Defects in Metal Surfaces: Repair non-load-bearing defects in existing metal surfaces, including dents and gouges more than 1/8 inch (3 mm) deep or 1/2 inch (13 mm) across and all holes and cracks by filling with metal-patching compound and sanding smooth. Remove burrs and protruding fasteners.
3. Priming: Prime iron and steel surfaces immediately after repair to prevent flash rusting. Stripe paint corners, crevices, bolts, welds, and sharp edges. Apply two coats to surfaces that are inaccessible after completion of the Work.

### 3.6 PAINT APPLICATION, GENERAL

- A. Prepare surfaces to be painted according to the Surface-Preparation Schedule and with manufacturer's written instructions for each substrate condition.
- B. Apply a transition coat over incompatible existing coatings.
- C. Metal Substrate: Stripe paint corners, crevices, bolts, welds, and sharp edges before applying full coat. Apply two coats to surfaces that are inaccessible after completion of the Work. Tint stripe coat different than the main coating and apply with brush.
- D. Blending Painted Surfaces: When painting new substrates patched into existing surfaces or touching up missing or damaged finishes, apply coating system specified for the specific substrate. Apply final finish coat over entire surface from edge to edge and corner to corner.

### 3.7 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage paint-remover manufacturer's factory-authorized service representative for consultation and Project-site inspection and to provide on-site assistance when requested by Architect.

### 3.8 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

- C. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.9 SURFACE-PREPARATION SCHEDULE

- A. General: Before painting, prepare surfaces for painting according to applicable requirements specified in this schedule.
  - 1. Examine surfaces to evaluate each surface condition according to paragraphs below.
  - 2. Where existing degree of soiling prevents examination, preclean surface and allow it to dry before making an evaluation.
  - 3. Repair substrate defects according to "Substrate Repair" Article.
- B. Surface Preparation for MPI DSD 0 Degree of Surface Degradation:
  - 1. Surface Condition: Existing paint film in good condition and tightly adhered.
  - 2. Paint Removal: Not required.
  - 3. Preparation for Painting: Wash surface by detergent cleaning; use solvent cleaning where needed. Roughen or degloss cleaned surfaces to ensure paint adhesion according to paint manufacturer's written instructions.
- C. Surface Preparation for MPI DSD 1 Degree of Surface Degradation:
  - 1. Surface Condition: Paint film cracked or broken but adhered.
  - 2. Paint Removal: Scrape by hand-tool cleaning methods to remove loose paint until only tightly adhered paint remains.
  - 3. Preparation for Painting: Wash surface by detergent cleaning; use other cleaning methods for small areas of bare substrate if required. Roughen, degloss, and sand the cleaned surfaces to ensure paint adhesion and a smooth finish according to paint manufacturer's written instructions.
- D. Surface Preparation for MPI DSD 2 Degree of Surface Degradation:
  - 1. Surface Condition: Paint film loose, flaking, or peeling.
  - 2. Paint Removal: Remove loose, flaking, or peeling paint film by hand-tool or chemical paint-removal methods.
  - 3. Preparation for Painting: Wash surface by detergent cleaning; use solvent cleaning where needed. Use other cleaning methods for small areas of bare substrate if required. Sand surfaces to smooth remaining paint film edges. Prepare bare cleaned surface to be painted according to paint manufacturer's written instructions for substrate construction materials.
- E. Surface Preparation for MPI DSD 3 Degree of Surface Degradation:
  - 1. Surface Condition: Paint film severely deteriorated.
  - 2. Paint Removal: Completely remove paint film by hand-tool or chemical paint-removal methods. Remove rust.
  - 3. Preparation for Painting: Prepare bare cleaned surface according to paint manufacturer's written instructions for substrate construction materials.

F. Surface Preparation for MPI DSD 4 Degree of Surface Degradation:

1. Surface Condition: Missing material, small holes and openings, and deteriorated or corroded substrate.
2. Substrate Preparation: Repair, replace, and treat substrate according to "Substrate Repair" Article.
3. Preparation for Painting: Sand substrate surfaces to smooth remaining paint film edges and prepare according to paint manufacturer's written instructions for substrate construction materials. Remove rust.
4. Painting: Paint as required for MPI DSD 2 degree of surface degradation.

3.10 EXTERIOR MAINTENANCE REPAINTING SCHEDULE

A. Cementitious Substrates Vertical:

1. Latex System: **MPI REX 3.2** system:
  - a. Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.
  - b. Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Alkalai Resistant, Water Based, **MPI #3**.
  - c. Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Alkalai Resistant, Water Based, **MPI #3**.
  - d. Intermediate Coat: Latex, exterior, matching topcoat.
  - e. Topcoat: Latex, Exterior, low sheen (Gloss Level 3), **MPI #15**.

B. Ferrous Metal Substrates::

1. Latex System: **MPI REX 5.1** system over a transition coat where required.
  - a. Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.
  - b. Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Rust-Inhibitive, Water Based, **MPI #107**.
  - c. Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Rust-Inhibitive, Water Based, **MPI #107**.
  - d. Intermediate Coat: Alkyd, exterior, matching topcoat.
  - a. Topcoat: Latex, Exterior, low sheen (Gloss Level 3), **MPI #15**.
  - b. Color: Match existing colors.

C. Galvanized Ferrous Metal Substrates::

1. Latex System: **MPI REX 5.3** system over a transition coat where required.
  - a. Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.
  - b. Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Galvanized, Water Based, **MPI #134**.
  - c. Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Galvanized, Water Based, **MPI #134**.
  - d. Intermediate Coat: Latex, exterior, matching topcoat.
  - a. Topcoat: Latex, Exterior, low sheen (Gloss Level 3), **MPI #15**.



- b. Color: Match existing colors.

D. Wood Paneling and Plywood:

- 1. Latex System: **MPI REX 6.4** system.
  - a. Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.
  - b. Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex for Exterior Wood, **MPI #6**.
  - c. Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex for Exterior Wood, **MPI #6**.
  - d. Intermediate Coat: Latex, exterior, matching topcoat.
  - a. Topcoat: Latex, Exterior, low sheen (Gloss Level 3), **MPI #15**.
  - b. Color: Match colors indicated on Drawings.

E. Dimensional Wood:

- 1. Latex System: **MPI REX 6.3A** system.
  - a. Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.
  - b. Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex for Exterior Wood, **MPI #6**.
  - c. Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex for Exterior Wood, **MPI #6**.
  - d. Intermediate Coat: Latex, exterior, matching topcoat.
  - e. Topcoat: Latex, Exterior, low sheen (Gloss Level 3), **MPI #15**.
  - f. Color: Match existing colors.

F. Portland Cement Plaster:

- 1. Latex System: **MPI REX 9.1** system:
  - a. Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.
  - b. Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Alkalai Resistant, Water Based, **MPI #3**.
  - c. Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Alkalai Resistant, Water Based, **MPI #3**.
  - d. Intermediate Coat: Latex, exterior, matching topcoat.
  - a. Topcoat: Latex, Exterior, low sheen (Gloss Level 3), **MPI #15**.
  - b. Color: Match existing colors.

END OF SECTION 090190.52

## SECTION 092400 - PORTLAND CEMENT PLASTERING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Exterior portland cement plasterwork (stucco) on metal lath, unit masonry and monolithic concrete.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show locations and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other work.
- C. Samples for Initial Selection: For each type of factory-prepared finish coat indicated.
- D. Samples for Verification: For each type of factory-prepared colored finish coat indicated; 12 by 12 inches, and prepared on rigid backing.

#### 1.4 QUALITY ASSURANCE

- A. Mockups: Before plastering, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Install mockups for each type of finish indicated.
  - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

## 1.6 PROJECT CONDITIONS

- A. Comply with ASTM C 926 requirements.
- B. Exterior Plasterwork:
  - 1. Apply and cure plaster to prevent plaster drying out during curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind.
  - 2. Apply plaster when ambient temperature is greater than 40 deg F.
  - 3. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has occurred.
- C. Factory-Prepared Finishes: Comply with manufacturer's written recommendations for environmental conditions for applying finishes.

## PART 2 - PRODUCTS

### 2.1 PLASTER MATERIALS

- A. Portland Cement: ASTM C 150, Type II.
  - 1. Color for Finish Coats: White.
- B. Sand Aggregate: ASTM C 897.
- C. Ready-Mixed Finish-Coat Plaster: Mill-mixed portland cement, aggregates, coloring agents, and proprietary ingredients.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. California Stucco Products Corp.; Conventional Portland Cement Stucco.
    - b. Expo Stucco. (Basis of Design)
    - c. LaHabra, a brand of ParexLaHabra, Inc.; Exterior Stucco Color Coat.
    - d. Omega Products International, Inc.; ColorTek Exterior Stucco.
  - 2. Color: As selected by Architect from manufacturer's full range.

### 2.2

- A.

### 2.3 METAL LATH

- A. Expanded-Metal Lath: ASTM C 847 with ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Alabama Metal Industries Corporation; a Gibraltar Industries company.
    - b. CEMCO.
    - c. Clark Western Building Systems.
    - d. Dietrich Metal Framing; a Worthington Industries company.
    - e. MarinoWARE.
    - f. Phillips Manufacturing Co.
  2. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
  3. Diamond-Mesh Lath: Self-furring, 3.4 lb/sq. yd.
  4. 3/8-Inch Rib Lath: 4 lb/sq. yd.
- B. Paper Backing: FS UU-B-790, Type I, Grade B, Style 1a vapor-retardant paper.

## 2.4 ACCESSORIES

- A. General: Comply with ASTM C 1063 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Metal Accessories:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Alabama Metal Industries Corporation; a Gibraltar Industries company.
    - b. CEMCO.
    - c. Clark Western Building Systems.
    - d. Dietrich Metal Framing; a Worthington Industries company.
    - e. MarinoWARE.
    - f. Phillips Manufacturing Co.
  2. Foundation Weep Screed: Fabricated from hot-dip galvanized-steel sheet, ASTM A 653/A 653M, G60 zinc coating.
  3. Cornerite: Fabricated from metal lath with ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.
  4. External-Corner Reinforcement: Fabricated from metal lath with ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.
  5. Cornerbeads: Fabricated from zinc or zinc-coated (galvanized) steel.
    - a. Small nose cornerbead with expanded flanges; use unless otherwise indicated.
    - b. Small nose cornerbead with expanded flanges reinforced by perforated stiffening rib; use on columns and for finishing masonry corners.
  6. Casing Beads: Fabricated from zinc or zinc-coated (galvanized) steel; square-edged style; with expanded flanges.

7. Control Joints: Fabricated from zinc or zinc-coated (galvanized) steel; one-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.
8. Expansion Joints: Fabricated from zinc or zinc-coated (galvanized) steel; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.
9. Two-Piece Expansion Joints: Fabricated from zinc or zinc-coated (galvanized) steel; formed to produce slip-joint and square-edged reveal that is adjustable from 1/4 to 5/8 inch wide; with perforated flanges.

## 2.5 MISCELLANEOUS MATERIALS

- A. Water for Mixing: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch long, free of contaminants, manufactured for use in portland cement plaster.
- C. Bonding Compound: ASTM C 932.
- D. Steel Drill Screws: For metal-to-metal fastening, ASTM C 1002 or ASTM C 954, as required by thickness of metal being fastened; with pan head that is suitable for application; in lengths required to achieve penetration through joined materials of no fewer than three exposed threads.
- E. Fasteners for Attaching Metal Lath to Substrates: Complying with ASTM C 1063.
- F. Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter, unless otherwise indicated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
- B. Prepare solid substrates for plaster that are smooth or that do not have the suction capability required to bond with plaster according to ASTM C 926.

### 3.3 INSTALLING METAL LATH

- A. Expanded-Metal Lath: Install according to ASTM C 1063.
  - 1. On Solid Surfaces, Not Otherwise Furred: Install self-furring, diamond-mesh or woven-wire lath.

### 3.4 INSTALLING ACCESSORIES

- A. Install according to ASTM C 1063 and at locations indicated on Drawings.
- B. Reinforcement for External Corners:
  - 1. Install lath-type, external-corner reinforcement at exterior locations.
  - 2. Install cornerbead at interior and exterior locations.

### 3.5 PLASTER APPLICATION

- A. General: Comply with ASTM C 926.
  - 1. Do not deviate more than plus or minus 1/4 inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.
  - 2. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
  - 3. Provide plaster surfaces that are ready to receive field-applied finishes indicated.
- B. Scratch and Base Coat for Three-Coat Plasterwork:
  - 1. Walls; Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork.
    - a. Portland cement mixes.

### 3.6 PLASTER REPAIRS

- A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

### 3.7 PROTECTION

- A. Remove temporary protection and enclosure of other work. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 092400

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## SECTION 099113 - EXTERIOR PAINTING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on **the following exterior substrates:**
  - 1. Fiber-cement board.
  - 2. Galvanized metal.
  - 3. Wood.
- B. Related Requirements:
  - 1. Section 090190.52 "Maintenance Repainting" for painting of exterior surfaces to remain and for patching of new substrates that do not have a smooth surface.

#### 1.3 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.
- B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.
- D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.
- E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.
- F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.



1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
  2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
1. Submit Samples on rigid backing, 8 inches (200 mm) square.
  2. Apply coats on Samples in steps to show each coat required for system.
  3. Label each coat of each Sample.
  4. Label each Sample for location and application area.
- D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

#### 1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, **from the same product run**, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Paint: Not less than **1 gal. (3.8 L)** of each material and color applied.

#### 1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Architect will select one surface to represent surfaces and conditions for application of each paint system.
  2. Final approval of color selections will be based on mockups.
    - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
  3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
  - 1. Maintain containers in clean condition, free of foreign materials and residue.
  - 2. Remove rags and waste from storage areas daily.

## 1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

## PART 2 - PRODUCTS

### 2.1 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
  - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Comply with SCAQMD and County of Ventura requirements for VOCs.
- D. Colors: Provide District-standard colors to match adjacent existing conditions.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
  - 1. Fiber-Cement Board: 12 percent.

2. Wood: 15 percent, except timbers.
- C. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
  1. Application of coating indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
  1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- E. Wood Substrates:
  1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
  2. Sand surfaces that will be exposed to view, and dust off.
  3. Prime edges, ends, faces, undersides, and backsides of wood.
  4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

### 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
  1. Use applicators and techniques suited for paint and substrate indicated.

2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
  3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
  4. Paint entire exposed surface of window frames and sashes.
  5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
  6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

### 3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
1. Contractor shall touch up and restore painted surfaces damaged by testing.
  2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

### 3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.6 EXTERIOR PAINTING SCHEDULE

#### A. Cement Board Substrates:

##### 1. Latex System **MPI EXT 3.3J**:

- a. Prime Coat: Factory applied. Intermediate Coat: Latex, exterior, matching topcoat.
- b. Topcoat: Latex, exterior, flat (MPI Gloss Level 1), **MPI #10**.

#### B. Galvanized-Metal Substrates:

##### 1. Latex System **MPI EXT 5.3H**:

- a. Prime Coat: Primer, galvanized, water based, **MPI #134**.
- b. Intermediate Coat: Latex, exterior, matching topcoat.
- c. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4), **MPI #15**.

#### C. Wood Substrates:

##### 1. Latex System **MPI EXT 6.3A**:

- a. Prime Coat: Primer, alkyd for exterior wood, **MPI #5**.
- b. Intermediate Coat: Latex, exterior, matching topcoat.
- c. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4), **MPI #15**.

END OF SECTION 099113