

SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Summary of Work Under This Contract
- B. Regulatory Requirements
- C. Contractor Use of Site and Premises.
- D. Owner Occupancy.

1.2 SUMMARY OF WORK

- A. Work under this contract includes the following task areas, as shown on the drawings, specified in the Project Manual, and defined in the project contract documents, including but not necessarily limited to:

The procurement and installation of all Audio Video Equipment described in specification 11 40 00.

- A. Perform all work in accordance with the requirements of the General Conditions and related Contract Documents.

1.3 REGULATORY REQUIREMENTS AND REFERENCE STANDARDS

A. Regulatory Requirements:

- 1. Architect has contacted governing authorities and reviewed design requirements of local, state and federal agencies for applicability to Project.
- 2. Contractor shall be responsible for contacting governing authorities directly for necessary information and decisions bearing upon performance of Work.

B. Reference Standards:

- 1. For Products specified by association or trade standards, comply with requirements of referenced standards, except when more rigid requirements are specified or are required by applicable codes.
- 2. Applicable date of each standard is that in effect as of date on proposal or date on Contract where no proposal is available, except when a specific date is specified.

C. California Code of Regulations:

1. Perform Work in accordance with the applicable provisions of California Code of Regulations, Title 24, Parts 1-6, and 10 - 12, 2019 editions, as applies.

Particular attention is directed to the following Sections of CCR, Title 24, Part 1, 2019 California Administrative Code, Chapter 4, "Safety of Construction of Public Schools".

- a. Section 4-335 – Structural Tests and Inspections.
- b. Section 4-336 - Verified Reports.
- c. Section 4-338 – Addenda and Construction Changes.
- d. Section 4-339 – Final Certification of Construction.
- e. Section 4-342 - Duties of the Project Inspector.
- f. Section 4-343 - Duties of the Contractor.

1.4 WORK SEQUENCE

- A. Coordinate construction schedule and operations with Owner.
- B. Construct the Work in a manner to provide for public convenience. Do not close off public use of facilities.

1.5 CONTRACTOR USE OF SITE AND PREMISES

- A. Coordinate use of premises and access to site under direction of Owner.
- B. Limit use of premises for Work and construction operations and to allow for work by other contractors.
- C. Contractors use of site and premises shall allow:
 1. Work by Others and Work by Owner.
 2. Use of site and premises by public.
- D. Access to Site: Coordinate with Owner.
- E. Building Exits During Construction: Maintain all exits. Do not obstruct at any time.
- F. Time and Construction Schedule Considerations:
 1. Schedule all construction operations with Owner.
 2. **(Not Applicable unless there is an event scheduled at the College in the Sports Complex Area)** Construction operations generating excessive noise, such as use of pneumatic tools and powder actuated fastener equipment, shall be scheduled with the Owner. Permitted hours of operation for demolition and excessive noise operations are limited to period from 7:00 AM to 9:00 AM or on Weekends.

3. Locate all noise generating equipment, such as cut-off saws, in a remote location away from administrative or classroom areas.
 4. **(Not Applicable unless there is an event scheduled at the College in the Sports Complex Area)** Schedule replenishing construction materials only during period of 7:00 AM to 9:00 AM.
 5. Owner reserves the right to modify such scheduled operations to accommodate school operations or classroom programs. Contractor shall be entitled to contract time extension per contract modification procedures.
 6. Provide Owner with **7 working days notice** prior to commencing such operations.
 7. Construction operations, such as material deliveries, debris removal, and crane operations, shall not occur when students, staff or visitors are present at construction site. Schedule such operations around school schedule, including recess and lunch periods. Where, in the sole opinion of the Architect, the construction site is sufficiently remote or isolated that students, staff or visitors are not exposed to such operations, construction operations may proceed as scheduled by Contractor in conformance with the Project Manual.
 8. After Owner takes beneficial occupancy of portions of project the Contractor, subcontractors and all support staff will not be allowed to enter such school facilities during hours school is in session. Where access is required to complete the work, coordinate access and scheduling with Owner's representative for non-school time.
 9. No interference with classroom or administrative activities will be permitted without approval of Owner, Inspector and School Administrator.
- G. Utility Outages and Shutdown: Utility Outages and Shutdown: All Contractor requests for a power, water, or utilities shut-down must be received in writing at least 10 days in advance prior to the shutdown date. No deviation to the commencement nor duration of the outage or shutdown from the schedule agreed upon is allowed.
- H. Corporation Yard and Storage Areas: Coordinate with Owner. Coordinate location with areas required by work performed under separate contract by others. Owner will establish acceptable path for products, staging areas, and trash disposal.
1. Coordinate location of all equipment parking, material and stockpile storage and construction parking with Owner.
- I. Furniture and Equipment Relocation:
1. Prior to beginning work in any one area, District will relocate all books, supplies, equipment and furniture in all areas of work.
 2. District will return books, supplies, and furniture to the classrooms after completion of work.

1.6 OWNER OCCUPANCY

- A. The Owner will occupy the site and existing facilities during entire period of construction for the conduct of normal school and business operations.

- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.
- C. The Owner will occupy portions of the project as individual rooms become available for outfitting, furniture and fittings installation, and related start-up tasks.
- D. **(Not Applicable on this Project)** Adjacent Floor/Area access: Coordinate scheduling of required access to adjacent rooms and floors incidental to not included in the work of this contract. Provide minimum **15 working days notice** to Owner for required access to such areas.
 - 1. Do not core or drill through walls or floors into adjacent occupied areas.

1.7 FEES, BONDS, AND PERMITS

- A. Contactor shall obtain all required permits required for work under this contract, if applies, including but not necessarily limited to the following:
 - 1. Encroachment permits.
 - 2. Shoring, trenching and grading permits.
- B. Contractor shall contact County and local agencies and arrange for all required improvement bonds, entitlement fees and County/local agency engineering fees, if offsite improvements are required. After submission of documentation to Owner, Owner will pay such costs. Provide Owner with notice of cost obligation as required to avoid delay in project completion.
- C. All costs associated with permits defined in General Conditions, Paragraph 1.7.2 shall be included in Contract amount. Costs associated with bonds, entitlement and inspection fees defined above shall be paid directly to County/Local jurisdictional authority.
- D. For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

1.8 FIELD ENGINEERING

- A. Provide field engineering services; if required by scope of work. Establish lines and levels by use of recognized engineering survey practices.
- B. Locate and protect control and reference points.
- C. See Section 01 71 23, "Field Engineering".

PART 2 - PRODUCTS

- A. Not Used

PART 3 - EXECUTION

A. Not Used

END OF SECTION

SECTION 01 26 13
REQUESTS FOR INTERPRETATION

PART 1 - GENERAL

1.1. DESCRIPTION

- A. This section covers general requirements for Contractor's Requests for Interpretation (RFIs).

1.2. CONTRACTORS REQUESTS FOR INTERPRETATION

- A. Submit a Request for Interpretation to the Architect when:
1. An unforeseen condition or constructability question occurs.
 2. Questions regarding information in the Contract Documents arise.
 3. Information not found in the Contract Documents is required.
- B. When possible, request such clarification in writing at the next scheduled Project meeting. When the RFI is answered at the Project meeting, number the RFI and enter the response into the meeting minutes.
1. When the urgency of the need, or the complexity of the item makes clarification at the next scheduled Project meeting impractical, prepare and submit a formal written RFI to the Architect without delay.
- C. Submit RFIs within a reasonable time frame so as not to interfere with or impede the progress of the work. Keep the number of RFIs to a minimum. When the number and frequency of RFIs submitted becomes unwieldy, the Architect may require the Contractor to abandon the process and submit requests as either submittals, substitutions, or requests for change.
1. When an answer to an RFI has an effect on cost or time, notify the Architect and Owner in accordance with the Contract Documents at the time of submittal. Notification shall occur prior to commencing such work, so that the change order process can be initiated.
 2. At the time of submitting an RFI, alert the Architect to the time available before the response will cause an impact to the Project.
 3. Submit a PDF of the Request for Interpretation, in the format provided in Section 01 26.13.10 and include :
 - a. RFI number. For all revisions note the revisions with an underscore and a notation at the end of the RFI number equal to "R1", "R2", etc. (e.g. RFI 001_R1).
 - b. Include all references, such as drawing numbers, detail references or specification numbers, as appropriate.
 - c. Include importance factor with four available options: Urgent, High, Medium and Low
 - d. Describe subject of RFI in a concise form describing the nature of the problem
 - e. Clear, concise explanation of information or clarification requested.
 - f. Contractor's Suggested Resolution for the described request, if appropriate.
 - g. Attach files, drawing references, sketches, images, any types of electronic

information that pertain to the request.

- A. RFI's received in Architect's office after 9:00 AM Friday will be logged in as received by Architect on Monday, 8:00 AM. This applies to all forms of communication.
- B. The Architect will respond to legitimate and bonafide Requests for Information (RFIs) initiated by Contractor.
- C. The Architect's action will be taken with such reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review.
- D. Allow a minimum of 5 working days for review and response time; the response time will be increased if inadequate information is provided, when the RFI is submitted out-of-sequence, or if in the opinion of the Architect, more time is needed to answer the RFI.

1.3. QUALITY ASSURANCE

- A. Carefully study the Contract Documents to assure that the requested information is not available therein. RFIs requesting information available in the Contract Documents may not be answered by the Architect.
- B. In all cases where an RFI is issued to request clarification of coordination issues, for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar
- C. items, the Contractor shall fully lay-out a suggested solution using drawings or sketches drawing to scale and submit same with the RFI. An RFI which fails to include a suggested solution will not be answered.
- D. Do not use RFI for the following purposes:
 - 1. To request approval of submittals.
 - 2. To request approval of substitutions.
 - 3. To request changes to the Contract Documents to confirm action taken by the Contractor for requested changes/substitutions to the Contract Documents.
- E. If the Contractor believes that a clarification by the Architect may result in a change in Contract price, the contractor shall not proceed with the work indicated by the RFI until a change order or other acceptable tracking device is prepared and approved by the Owner.
 - 1. If the Contractor believes that a clarification by the Architect results in additional cost, the Contractor shall identify in the RFI the basis of the Contractor's bid as it relates to the RFI.
 - 2. Answered RFIs shall not be construed as an approval to perform extra work.

PART 2 - PRODUCTS

- A. Not Used

PART 3 - EXECUTION

- A. Not Used

END OF SECTION

CONTRACTOR'S REQUEST FOR INFORMATION

RFI # _____

From: _____

Proj. _____ Date: _____

To: _____

Project: WCC PA, Audio Video Equipment _____

Disciplines Impacted: Architectural Structural Mechanical
 Civil Landscape Electrical _____

Importance Factor **Urgent** **High** **Medium** **Low**

Reference: Drawing(s) _____ Spec Section(s) _____ Other _____

Please clarify or provide the following information (Attach additional pages, if required):

Possible Cost Impact Increase Decrease No Change Unknown

Possible Time Impact Increase Decrease No Change Unknown

This information is required as soon as possible,
but no later than _____

**PRIORITY ATTENTION
REQUIRED**

Copies to: _____

Contractor's Representative _____

Architect's Response (Attach additional pages, if required):

Date: _____

Copies to: _____

ARCHITECT Representative _____

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures
- B. Substitutions
- C. Submittals and Substitution Requests Requiring Agency Review
- D. Electronic Submittal Procedures.
- E. Product Data Submittals.
- F. Manufacturer's Instructions and Certificates
- G. Shop Drawing Submittals
- H. Physical Sample Submittals
- I. Construction Schedules
- J. Contractor Responsibilities
- K. Architect Responsibilities
- L. Deferred Approvals
- M. Electronic Documents for Contractor's Use

1.2 DESCRIPTION

- A. Types of Submittals: Submittal procedures specified in this section include construction progress schedules, shop drawings, product data, samples, manufacturers' certificates, manufacturer's installation instructions, and agency deferred approvals.
- B. Intent: Architect's review of shop drawings is intended to be a preview of what the Contractor intends to provide, and will function as an effort to foresee unacceptable materials or assemblies and to avoid the possibility of their rejection at the Project Site. Architect will review submittals only for conformance with the design concept of the Project and with the information given in the Contract Documents.

- C. The Architect's review of shop drawings will be general and shall not be construed:
1. As permitting departure from the Contract requirements except as otherwise provided for under Section 01 25 00, "Substitution Procedures".
 1. As relieving Contractor of responsibility for omissions or errors, including details, dimensions, materials, etc.
 2. That review of a separate item indicates acceptance of an assembly in which the item functions. Architect will only review acceptance of an assembly in which the item functions. Architect will only review submittals required by Contract Documents for conformance with design concept of the Project and with the information given in the Contract Documents.

1.3 SUBMITTAL PROCEDURES

- A. Submit completed documentation in accordance with scheduling criteria where defined in contract documents.
- B. The documents will be reviewed by Architect for consistency with specified criteria. If necessary, Architect will return submittal to Contractor for corrections. Any corrections, if any, shall be made by Contractor and returned to Architect within 7 days.
- C. No contract time extensions will be granted for document modification caused by non-conformance with specified criteria.
- D. Transmit required submittals to Architect per criteria in the General Conditions and as specified.
- E. Transmit each sample submittal with AIA Form G810 or other Architect-accepted form.

Form website link:

<https://www.aiacontracts.org/contract-documents/20041-transmittal-letter>

- F. All submittals shall be made electronically through the system agreed to by JKAE, the Owner and the Contractor. Only Samples for verification should be submitted physically – See Item 1.6 in this Section for "Electronic Submittal Procedures".
- G. Transmit submittals within time periods established by the General Conditions and as required to maintain orderly and sequential progress of the work.
- H. Maintain complete and current submittal log, indicating status of all submittals and re-submittals. Provide summary of submittal status at each periodic construction meeting.
- I. Failure to make timely submittals will not be reason for extension of Contract Time.
- J. Unless specifically requested, do not send submittals unless required by the project specifications. Submittals transmitted to Architect not required by specification will be returned without review.
- K. Sequentially number the submittals and transmittal forms as shown in each section requiring submittals with the project manual section number from which the submittal is being requested (e.g., 01 33 00A). Any required revisions and resubmittals shall be noted with an underscore and

“R1”, “R2”, etc. (e.g. 01 33 00_R1).

- L. Provide submittals with the same number as indicated in the project specifications.
- M. **Do not combine specification sections within submittals.**
- N. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section name and number, as appropriate.
- O. Apply Contractor's stamp and signature or initial (electronically or physically) certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents. See General Conditions, Section 00 72 00, Paragraph 4.7.1.2.
- P. Unless otherwise authorized by the Architect, all of the submittals required by a specification section shall be submitted together at the same time. Electronic submittals of product data, shop drawings, etc. may be submitted ahead of physical color samples with approval of the Architect. Submittals that do not include all required submittals for a given specification section will be returned without review.
- Q. Schedule submittals to expedite the Project. Late submittals shall not be considered a valid reason for product substitution. Deliver Samples to architect at business address. Coordinate submission of related items.
- R. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work. If variations occur, submit a substitution request.
- S. Provide space for Contractor and Architect review stamps.
- T. Samples: Provide samples as specified in each Section.
- U. Manufacturer's Data: Provide descriptive data on all accessory items and operation.
- V. Installation Data: Submit descriptive data on installation procedures.
- W. Revise and resubmit submittals as required, identify all changes made since previous submittal.
 - 1. Provide re-submittals within seven days of receipt of returned submittal.
- X. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- Y. Architect's review of submittals shall not relieve the Contractor for compliance with the Contract Documents, or for responsibility for deviations from Contract Documents.
 - 1. In review of submittals, Architect will not provide dimensions or elevations for field conditions, or for conditions available from a detailed review of documents.
- Z. Revise and resubmit submittals as required, identify all changes made since previous submittal.

- AA. Distribute copies of reviewed submittals to concerned parties at no additional cost to Owner for duplication, blueprinting, mailing or other costs. Instruct parties to promptly report any inability to comply with provisions.
- BB. Architect will notify Contractor of availability of documents for pickup at Architect's office, and log such date as the date returned to Contractor. Architect is not obligated to transmit or deliver submittals to Contractor.

1.4 SUBSTITUTIONS

- A. Substitution requests will be considered in accordance with the General Conditions and must be submitted according to Section 01 25 00, "Substitution Procedures" on the provided substitution request form in Section 01 25 00.10.
- B. Substitutions submitted without following this procedure will be rejected.
- C. Substitutions will not be considered when indicated or implied on shop drawings or other forms of submittal without separate written request for substitution.

1.5 SUBMITTALS AND SUBSTITUTION REQUESTS REQUIRING AGENCY REVIEW

- A. Variations to Structural Safety, Fire and Life Safety and Access Compliance requirements require DSA review and approval.
- B. Architect will submit documents to DSA for review and comment in the form of a Construction Change Document (CCD). Architect will return documents to Contractor following DSA review and approval.
- C. Where required, Contractor shall make all changes or corrections required by DSA. Contractor shall pay all fees and provide all coordination and management necessary to obtain approval, including all meetings, correspondence and communications. Once corrections are made, Contractor shall return to Architect for resubmittal.
- D. After receiving DSA final approval, Architect will furnish Contractor a complete set of DSA approved documents in PDF format for Contractor's use in construction and for inspection by the Inspector of Record (IOR).

1.6 ELECTRONIC SUBMITTAL PROCEDURES

- A. All submittals shall be submitted electronically.
- B. Submittals shall be uploaded to the system agreed to by the Architect, the Owner and the Contractor in full size PDF format. Do not reduce Shop Drawings from original sheet size.
- C. One PDF copy of electronic submittals will be returned to the Contractor. Contractor may distribute submittals to the concerned parties electronically or physically. Any printing costs for physical distribution of submittals shall be borne by the Contractor. The Architect will not print copies for distribution.
- D. Follow all General Submittal Procedures as described above.

1.7 PRODUCT DATA SUBMITTALS

- A. Where specified in individual sections, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number for each product and supporting product data.
 - 1. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- B. Submit all product data electronically, in PDF format.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project. Mark out items that are not applicable to the project.
- D. After review, distribute in accordance with Submittal Procedures and provide copies for Project Record Documents as described in Section 01 77 00, "Closeout Requirements".
- E. Show dimensions and clearances required.

1.8 MANUFACTURER'S INSTRUCTIONS AND CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturers' certificates and printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.
- C. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- D. Certificates may be recent or previous test results on material or Product, but must address current regulatory requirements and be acceptable to Architect.

1.9 SHOP DRAWING SUBMITTALS

- A. Submit all shop drawings electronically, in PDF format.
- B. Provide the following information on each sheet:
 - 1. Project name and location.
 - 2. Contractor name and address.
 - 3. Subcontractor, manufacturer, or fabricator name and address.
 - 4. Date and scale of drawings
 - 5. Space for Contractor's and Architect's review and approval stamp.
- C. After review and distribution in accordance with Submittal Procedures, retain one copy of all

reviewed shop drawings at the job and label them "PROJECT RECORD DOCUMENTS" as described in Section 01 77 00, "Execution and Close-out Requirements".

1.10 PHYSICAL SAMPLE SUBMITTALS

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Provide units identical with final condition of proposed materials or products for the work. Coordinate sample submittals for interfacing work.
- B. Submit samples of finishes from the full range of manufacturers' standard colors textures, and patterns for Architect's selection.
- C. Submit the number of samples of selected finish color texture, and pattern as specified in individual specification Sections from the full range of manufacturers' standard colors, textures and patterns. Provide custom selections, as indicated in the Drawings and Specifications,
- D. Include identification on each sample, with full Project information.
- E. Submit the number or samples specified in individual specification Sections.
- F. If not specifically noted in individual specification Sections, submit a minimum of two (2) copies of each submittal including samples and resubmittals, as the Architect will retain one.
- G. Samples and Color Charts shall be physical submittals with accurate representation of color and other physical characteristics.
 - 1. Initial Submittal: Using manufacturers standard sample delivery system, in the number indicated within this Section submit samples of colors and finishes from the full range of manufacturers' standard colors (and custom colors if specified), textures, and patterns for Architect initial selection.
 - 2. The Architect will notify Contractor of initial selection by Architect's Supplemental Instructions (ASI), or other mutually agreed to format.
 - 3. Following receipt of initial selection, submit the number of samples of selected finish color, texture, and pattern as specified in individual specification Sections, with a minimum of five samples provided.
- H. Follow all General Submittal Procedures as described above.

1.11 CONSTRUCTION SCHEDULES

- A. Submit Construction Schedule in accordance with the General Conditions and as specified in Section 01 32 16, "Construction Progress Schedule".
- B. Contractor shall engage at his own expense all necessary personnel skilled in preparation of time and cost application of network techniques for construction projects.
- C. Initial Schedule preparation:
 - 1. Submit Initial Schedule within 14 days of date of Notice to Proceed.

2. Architect and Owner will meet with the Contractor to review and comment on the Contractor's Initial Schedule within five (5) days of its receipt.
3. The Contractor shall finalize and re-submit the schedule within five (5) days of the review meeting. Upon acceptance by the Owner, the accepted Initial Schedule will become the project Baseline Contract Schedule. The Baseline Schedule shall not be revised without written approval of the Owner.
4. Contractor's failure to incorporate all elements of work required for the performance of the contract or any inaccuracy in the Baseline Contract Schedule shall not excuse the Contractor from performing all work required for a completed project within the specified contract time period, notwithstanding the Owner's acceptance of the Baseline Contract Schedule.

D. Monthly and Periodic Interval Updates

1. The Contractor shall submit to the Owner each month, with one copy to the Architect, an updated Schedule of the work. The schedule shall be submitted no later than five (5) workdays from the status date.
2. The Updated Schedule shall include:
 - a. The Contractor's estimated percentage complete (progress) for each activity in progress.
 - b. Actual start/finish dates for activities.
 - c. Identification of errors, if any, from the previous updated schedule.
3. Submit updated schedule with each pay request, reflecting all adjustments in construction schedule and sequence.
4. Contractor shall submit a narrative report as part of his monthly review and update, in form agreed upon by Contractor and Architect. Narrative report shall include description of problem areas; current and anticipated delaying factors and their estimated impact on performance of other activities and completion dates; and an explanation of corrective action taken or proposed.
5. Provide three-week look-ahead schedule at each construction progress meeting.

E. Pay Requests will not be processed without submission of updated schedule.

F. **Schedule Format and Content:** Provide overall schedule in horizontal bar chart, critical path form, in PDF format, or other Architect approved format, for each building and site work, with separate line for each major work activity, and scheduled on a weekly basis. Integrate all portions of project to identify critical path. Where specified, prepare schedule based on Phases as shown on drawings and specified.

1. The data included on the bar chart shall consist of the activity number, activity description, early start and finish date, original duration, remaining duration, percent complete, resource units per day, and total float.

2. The schedule activities shall be coded to include activity responsibility and the area of work. Area codes shall distinguish construction activities related to individual buildings or areas within buildings (e.g. gymnasium classrooms, lobby, locker rooms), site work, increments, and phasing.
 - a. Coordinate durations with work by Rough Grading Package Contractor.
3. No activity in the schedule shall have a duration longer than twenty (20) workdays, with the exception of fabrication and procurement activities, unless otherwise approved by the Owner. Activity durations shall be the total number of actual days required to perform the work including consideration of weather impacts.
4. Group related and coordinated activities. Identify early/late start and finish dates, major milestones, float dates, and duration of each activity.
5. Identify all utility and service interruptions and connections, including disconnection of existing buildings.
6. Detailed network activities shall include, in addition, submittal and approval of shop drawings, procurement of critical materials and equipment, fabrication of special material and equipment and their installation and testing. All activities of the Owner that affect progress, and contract required dates for completion of all or parts of the work shall be shown.
7. If physical copies of schedules are provided, sheet size of diagrams shall be at least 30 by 42 inches. Each updated copy shall show a date of the last revision.
8. Initial submittal and complete revisions shall be submitted in PDF format and the same quantity as provided previously.

G. Float Time

1. Float or slack time is defined as the amount of time between the earliest start date and the latest start date or the amount of time between the earliest finish date and the latest finish date of a scheduled activity.
2. Float or slack time is not for the exclusive use or benefit of either the Contractor or the Owner. The Contractor acknowledges and agrees that actual delays affecting path of activities containing float, will not have any effect upon the Contract completion date, provided that the actual delay does not exceed the float time associated with those activities.

- H. For scheduling purposes, the Owner and campus will be officially closed on the following holidays during each school year:

HOLIDAYS - CAMPUS CLOSED

2023: 6/19, 7/4, 9/4, 11/10, 11/23-11/24, 12/22-12/29

2024: 1/1, 1/15, 2/16, 2/19, 4/1, 4/4, 4/5, 5/27, 6/19, 7/4

1. It shall be the responsibility of the Contractor to confirm the month, day, and year for the above holidays with the Owner facilities management. Contractor shall coordinate and schedule his work accordingly. The project site will be available to the Contractor during the holidays but there is no guarantee that other Owner and campus facilities or services will be made available to the Contractor during the holiday schedule.

I. Construction Schedule Revisions

1. Updating the construction schedule to reflect actual progress shall not be considered to be a revision of the Schedule.
2. If during the process of schedule updating it becomes apparent that the Construction Schedule no longer represents the actual prosecution and progress of the work by more than **10 calendar days**, the Owner may require the Contractor to submit a revised schedule at no additional cost to the Owner. The Owner shall have the right to withhold progress payments from the Contractor at its discretion, if the Contractor fails to submit a timely, detailed and workable schedule showing recovery necessary to achieve scheduled completion.

J. Final Schedule: At the completion of the contract and prior to the release of any bonds or final payment by the Owner, the Contractor shall submit to the Owner, with copy to the Architect for approval, a final schedule, showing the actual job history.

K. Time Extension Requests: The monthly updated construction schedules submitted by the Contractor shall not show a completion date later than the Contract Time, subject to any time extensions approved by the Owner.

1. Contractor shall submit Time Extension Requests within 10 days of an event Contractor believes qualifies for a contract time extension, including contract modifications provided by Architect or Owner.
2. The Time Extension Request shall include a notification letter with a detailed narrative justifying the time extension requested.
3. Accompanying letter, provide schedule analysis entitled "Time Extension Request Schedule" incorporating narrative analysis into the latest (qualifying) update schedule.
4. Time Extension Request shall forecast the adjusted project completion date and impact to any intermediate milestones.
5. When Contractor does not submit a Time Extension Request within ten (10) working days, it is mutually agreed that the particular event, including ASI's, RFI response, or CCD/Change Order (including Proposed Change Order) or delay/disruption does not impact the construction schedule and hence no time extension is due to the Contractor.
6. The Owner shall not be under any obligation to consider any time extension request unless the requirements of the contract documents are complied with. The Owner shall not be responsible or liable to the Contractor for any constructive acceleration due to failure of the Owner to grant time extensions under the terms of this contract, should Contractor fail to comply with the time extension submission and justification requirements stated herein.

1.12 CONTRACTOR RESPONSIBILITIES

- A. Review shop drawings, product data and samples prior to submission. Reject and correct submittals that contain errors prior to submitting to Architect.
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance with specifications.
 - 5. Conformance with applicable codes.
- C. Submittals giving inadequate indication of contractor review and approval will be returned without review, for resubmission.
- D. Coordinate each submittal with requirements of the Work and of the Contract Documents.
- E. Notify the Architect in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents. See Item 1.3 in this Section for Substitution Request requirements.
- F. Begin no fabrication or construction activity that requires submittals until return of submittals with Architect's stamp and initials or signature indicating finish review.
- G. After Architect's final review, distribute copies.
- H. Provide submittals within the following time periods and as required for the orderly progress of the work. Where no time period is established, provide submittals no later than the midpoint between notice of award and scheduled start date of the work related to the submittal. Where submittals are not submitted within specified limits, the Architect may delay certification of Payment Request until submittals are received.
 - 1. Concrete, including Mix Designs: No later than 14 days after Notice to Proceed.
 - 2. Asphalt Paving, including Mix Designs: No later than 14 days after Notice to Proceed.
 - 3. Aggregate Base: No later than 14 days after Notice to Proceed.
 - 4. Mortar and Grout, including Mix Designs: No later than 14 days after Notice to Proceed.
 - 5. Concrete Masonry Units and related items: No later than 14 days after Notice to Proceed.
 - 6. Structural Steel: No later than 14 days after Notice to Proceed and as specified in Division 05.
 - 7. Metal Decking: No later than 14 days after Notice to Proceed and as specified in Division 05.
 - 8. Architectural Casework: No later than 60 days after Notice to Proceed.

9. Firestopping: No later than 60 days after Notice to Proceed.
 10. Roofing and Sheet Metal: No later than 60 days after Notice to Proceed.
 11. Doors, Door and Window Frames: No later than 60 days after Notice to Proceed.
 12. Door Hardware: No later than 60 days after Notice to Proceed. In addition, provide Owner required keying information no later than 30 days before scheduled occupancy date. Coordinate all keying requirements with Owner.
 13. All HVAC, Fire Protection, Plumbing and Electrical Fixtures, Products and Equipment: No later than 60 days after Notice to Proceed.
- I. The Architect's action will be taken within a reasonable time period, while allowing sufficient time, in the Architect's professional judgment, to permit adequate review.
- J. Transmit each submittal separately with Architect accepted form.
1. Combine required material for a single specification Section into a single submittal. Incomplete or partial submittals will be returned without action for re-submittal in proper form.
 2. Do not combine data from more than one specification section or drawing component into a single submittal. Such submittals received will be returned without action for re-submittal in proper form.
 3. Submittals not reviewed by General Contractor will be returned without action for proper review and re-submittal.
 4. Unless otherwise specified, submit product data in quantity required by Contractor for construction, plus three copies for Architect's use. Architect will review a maximum of six (6) copies of submittal.
- K. Sequentially number the transmittal forms. Re-submittals to have original number with an alphabetic or numeric suffix.
- L. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- M. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- N. Schedule submittals to expedite the Project, and deliver to Architect at business address. Coordinate submission of related items.
- O. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.

- 1. Clearly identify, with bold clouding, or other graphic notation, all deviations from Contract Documents. Provide boxed note at clouded deviation specifically requesting approval of proposed change. Provide documentation of proposed change, including additional graphics and data as required by Architect.

1.13 ARCHITECT RESPONSIBILITIES

- A. Architect will review each submittal, mark with "Action" and where possible, return within a reasonable period of time from date of receipt. Where submittal must be held for coordination, Contractor will be so advised without delay. Action markings shall be interpreted as shown in the Architect’s submittal review stamp shown below (or similar review stamp):

<input type="checkbox"/>	REVIEWED – NO EXCEPTIONS TAKEN	<input type="checkbox"/>	MAKE CORRECTIONS NOTED
<input type="checkbox"/>	REJECTED	<input type="checkbox"/>	REVISE AND RESUBMIT
<input type="checkbox"/>	SUBMIT SPECIFIED ITEM	<input type="checkbox"/>	RETURNED WITHOUT REVIEW

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings/submittal during this review do not relieve the Contractor from compliance with all of the requirements of the plans and specifications. Review of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the job site; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of, and with, the Work of all trades; and for performing all work in a safe and satisfactory manner.

DATE: _____ BY: _____

- B. Architect shall comply with previous provisions in this Section, as described herein
- C. See Section 01 25 00, “Substitution Procedures”, for Architect responsibilities for substitution requests.

1.14 DEFERRED APPROVALS

- A. Where shown on drawings and as specified in individual sections, submit documentation as required to obtain DSA approval of all deferred approval work.
- B. Submit deferred approval documentation under the provisions of Section 01 33 00 and as specified in the respective Sections.
 - 1. DSA Comply with the requirements of Section 4-317(g), Chapter 4, Part 1, Title 24, CCR.
 - 2. Submit documentation prepared under the direct supervision of a California licensed Engineer in the applicable discipline. All structural deferred approvals shall be prepared by California licensed Structural Engineer.
 - a. Provide Deferred Approval Number and DSA Project Number on the cover of each submittal.
 - b. Provide document format with sufficient space for Architect and DSA/OSHPD agency review stamps.
 - 3. All deferred approvals shall be stamped and sealed by the responsible engineer, licensed as specified. In accordance with DSA Section 4-317(g), Part 1, Title 24, CCR. Architect will review and mark with notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance with the design of the project.
 - 4. Clearly identify all deviations and proposed alternates to materials and systems shown on drawings and specified in this Project Manual.
 - 5. Drawings: Produce drawings on substantial bond paper using media of archive quality. Indicate dimensional locations of the various parts of the construction, sizes and type of members, connections, attachments, and openings.
 - 6. Specifications: Provide specifications in an approved format illustrating materials and systems proposed for use in design.
 - 7. Structural Calculations: Produce calculations in booklet form, 8-1/2 x 11 inch size, minimum of 3 wet signed and sealed copies.
 - 8. Provide sufficient information with respect to design criteria, analysis methodology and material capacity to adequately evaluate documentation for compliance with applicable sections of Title 24, CCR.
 - 9. Where required by DSA 4-336, provide verified reports for work done under deferred approvals.

1.15 ELECTRONIC DOCUMENTS FOR CONTRACTOR'S USE.

- 1. At Architect's sole discretion, and upon request, Architect will provide a file containing selected electronic file backgrounds for Contractor's use in shop drawing preparation.

2. Contractor shall sign Architect provided release form regarding such electronic file information.
3. Electronic files will be provided in AutoCAD format, in the Architects current version, as background views only, without dimensions, doors, notes and similar information. No seals, title blocks or approval stamps will be included on backgrounds.
4. Unless otherwise established, and at Architects sole discretion, only plan and section views of architectural, structural, mechanical, and electrical documents will be provided. Under no circumstances will the complete project AutoCAD file be provided.
5. The Architect will provide a single Flash Drive based file containing backgrounds for all discipline for the contractors use. Contractor shall be responsible for distribution of background files to subcontractors and vendors.
6. The Architect will prepare a cost for preparation of electronic file package. If the Contractor agrees to such cost, the cost will be processed as a deductive change order to the contract.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 42 29
REFERENCE STANDARDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Reference Standards
 - 1. Definitions
 - 2. Quality Assurance
 - 3. Standards and Regulations
 - 4. Schedule of References
 - 5. Project Manual and Specifications
 - 6. Jobsite Publications

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": The term "approved," when used in conjunction with Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Architect, requested by Architect, and similar phrases.
- D. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five [5] previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- E. "Furnish": The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

- F. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
- G. "Install": The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.
- I. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- J. "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.
- K. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

1.3 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents unless specifically noted.
- C. Obtain copies of standards when required by Contract Documents directly from publication source.
- D. Maintain copy at jobsite during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
- G. Schedule of references is general in nature; disregard any reference standard listed that is not applicable to this project.

1.4 STANDARDS AND REGULATIONS

- A. **Applicability of Standards:** Unless the Contract Documents or applicable regulatory requirements 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.
1. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
 2. Referenced standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.
 3. Non-referenced standards are not directly applicable to the Work, except as a general requirement of whether the Work complies with recognized construction industry standards.
 4. Non-referenced standards: Except as otherwise limited by the Contract Documents, standards not referenced but recognized in the industry as applicable will be evaluated for performance of the Work. The Architect will decide whether a code or standard is applicable, or which of several are applicable.
- B. **Publication Dates:** Conform to reference standard by date of issue current on date of project approval by DSA, or date specified in Product Sections.
- C. **Conflicting Requirements:** Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
1. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. **Copies of Standards:** Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Obtain copies directly from the publication source when required by Contract Documents.
 2. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Architect reserves the right to require the Contractor to submit additional copies as necessary for use by others in the enforcement of requirements.
- E. **Abbreviations and Acronyms for Industry Organizations:** Where abbreviations and acronyms are used in Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the United States". Contact Architect regarding any questions regarding such abbreviations and acronyms.

F. Abbreviations and Acronyms for 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.

1. ADA Americans with Disabilities Act (ADA)
2. ABA Architectural Barriers Act (ABA)
3. CFR Code of Federal Regulations
4. CRD Handbook for Concrete and Cement
5. DOD Department of Defense Military Specifications and Standards
6. DSA Division of the State Architect
7. FED-STD Federal Standard (See FS)
8. FS Federal Specification
9. FTMS Federal Test Method Standard (See FS)
10. ICC-ES ICC Evaluation Service, Inc.
11. MIL (See MILSPEC)
12. MIL-STD (See MILSPEC)
13. MILSPEC Military Specification and Standards
14. NES National Evaluation Service (See ICC-ES)
15. UFAS Uniform Federal Accessibility Standards

G. Schedule of Governing Codes:

1. California Code of Regulations (C.C.R.)
 - a. C.C.R. - Title 24, Part 1 – 2019 Building Standards Administrative Code.
 - b. 2019 CBC: 2018 IBC as Amended by 2019 California Amendments – C.C.R., Title 24, Parts 1 & 2
 - c. 2016 CEC: 2017 NEC as Amended by California 2019 Amendments - Part 3, Title 24, CCR
 - d. 2019 CMC: 2018 UMC as Amended by California 2016 Amendments - Part 4, Title 24, CCR
 - e. 2019 CPC: 2018 UPC as Amended by California 2016 Amendments - Part 5, Title 24, CCR
 - f. C.C.R. - Title 24, Part 6 - 2019 California Energy Standards
 - g. 2019 CFC: 2018 IFC as Amended by California 2016 Amendments, Part 9 - Title 24,

CCR.

- h. C.C.R. – Title 24, Part 11, 2016 California Green Building Standards Code
 - i. C.C.R. - Title 24, Part 12, 2016 California Referenced Standards Code
 - j. C.C.R. – Title 19
 - k. C.C.R. – Title 22, Social Security, latest register.
2. NFPA 101 - Life Safety Code.
 3. NFPA 72 – National Fire Alarm Code (California Amended) 2016 Edition.
 4. American Disability Act (ADA) or American Disability Act 2010 Standards
 5. Standard Specifications for Public Works Constructions.

1.5 SCHEDULE OF REFERENCES

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities listed in the 2016 California Building Code Title 24, Part 2, Chapter 35.

1.6 PROJECT MANUAL AND SPECIFICATIONS

A. Format and structure

1. Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 49-Division format and 2018 Masterformat numbering system.
2. The sections are placed in the Project Manual in numeric sequence; however, this sequence is not complete and the Table of Contents of the specifications must be consulted to determine the total listing of sections.
3. The section title is not intended to limit the meaning or content of the section, nor to be fully descriptive of the requirements specified within the Section.
4. The organization of the specifications shall not control the division of the work among subcontractors or establish the extent of work to be performed by any trade.

B. Definitions

1. Related Work Described Elsewhere: The caption "Related Sections" or "Related Work Described Elsewhere" identifies some Sections of the Specifications which may involve work involving coordination or general relationships to the work of the Section at hand. The omission of a Section from "Related Sections: or ""Related Work Described Elsewhere" does not limit the Contractors obligation to perform all portions of the Work with all appropriate and reasonable coordination.

2. Section Includes: The caption "Section Includes" or "Description" or "Summary" paragraph is intended to be a broad, general statement of the work covered by an individual section. The listing of principal items of work shall not be construed as an exhaustive or complete list.

C. Language

1. Specification Language and Intent: The words "the", "shall", "will", and all may be omitted in specification Sections. Where such words as "perform", "install", "erect", "test", or words of similar import are used, it shall be understood such words include the meaning of the phrase, "The Contractor Shall". The requirements indicated and specified apply to all work of the same kind, class, and type, even though the word "all" is not stated.
2. Specifications use certain conventions regarding style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are:
 - a. Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words that are implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable to maintain the context of the Contract Document indicated.
 - b. Imperative and streamlined language is generally used in the Specifications. Requirements expressed in the imperative mode are to be performed by the Contractor. Subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
 - c. The words "shall be" are implied wherever a colon (:) is used within a sentence or phrase.

1.7 JOB-SITE PUBLICATIONS

- A. Contractor shall keep a copy of Title 24, Parts 1 through 5, at the jobsite at all times.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 45 00
QUALITY CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality Assurance and Control of Installation
- B. Independent Testing and Laboratory Services
- C. Inspection Services
- D. Contractor Responsibility For Structural Tests and Special Inspections
- E. Field Samples and Field Mockups
- F. Manufacturer's Field Services and Reports

1.2 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. The Division of the State Architect (DSA), will provide review per Section 4-334, Part 1, Title 24, CCR. Contractor shall verify with Owner that DSA has been notified prior to start of construction in compliance with section 4-331.
- F. The Owner will retain a general inspector to inspect all work performed by Contractor in compliance with Section 4-333 and 4-342 DSA, Section 7-144 and 7-145 OSHPD, Part 1, Title 24, CCR.
 - 1. The Owner will retain special inspectors for those portions of the work as shown on the drawings and specified in the respective sections in compliance with Part 2, Title 24, CCR.
- G. Perform work by persons qualified to produce workmanship of specified quality.

1.3 INDEPENDENT TESTING LABORATORY SERVICES

- A. Owner will employ and pay for services of a DSA approved independent testing laboratory to perform inspections, tests, and other services required by applicable codes and various Specification sections.
 - 1. Owner or Architect may also require independent testing of items where doubts exists that product or system conforms to Contract Documents.
 - a. Contractor shall employ and pay for testing laboratory under above circumstances.
- B. Services shall be performed in accordance with requirements of governing authorities and with specified standards.
- C. Reports will be submitted to Owner and Architect in duplicate giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
 - 1. Where required, testing laboratory will submit copy of test results directly to enforcing agency.
- D. Contractor shall cooperate with testing laboratory personnel; furnish tools, samples of materials, design mix, equipment, storage and assistance as requested.
 - 1. Notify Owner, Architect and testing laboratory sufficiently in advance of expected time for operations requiring testing services.
- E. See Section 01 45 29, "Testing Laboratory Services" for specific requirements.

1.4 INSPECTION SERVICES

- A. Owner will employ and pay for services of a DSA certified project inspector, approved by the Division of the State Architect, to provide continuous, full time inspection of the project per CCR Title 24, Part 1, 2019 California Administrative Code (CAC), Section 4-333. The duties of the inspector are defined in CAC Section 4-342.
 - 1. Notify Architect and Inspector 48 hours prior to expected time for operations requiring specific inspection.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
 - 3. See Section 01 45 29, "Testing Laboratory Services" for specific requirements.

1.5 CONTRACTOR RESPONSIBILITY FOR STRUCTURAL TESTS AND SPECIAL INSPECTIONS

- A. Each Contractor responsible for the construction of a main wind-or seismic-force-resisting system, designated seismic system or a wind- or seismic-resisting-component listed in the statement of special inspections shall submit a statement of responsibility to the Architect and the Owner prior to commencement of work on the system or component. The Contractor's statement of responsibility shall contain the following:

1. Acknowledgment of awareness of the special requirements contained in the statement of special inspections;
2. Acknowledgment that control will be exercised to obtain conformance with the construction documents approved by the building official;
3. Procedures for exercising control within the Contractor's organization, the method and frequency of reporting and the distribution of the reports;
4. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.

1.6 FIELD SAMPLES AND FIELD MOCK-UPS

- A. Erect field samples and field mock-ups at locations on site as approved in advance and in accordance with requirements where included in Specifications section.
- B. Acceptable samples represent a quality level for the Work.
- C. Remove field sample or mock-up when specified in individual Sections.
- D. Test mock-ups requiring special equipment may be erected at location having access to necessary equipment; coordinate with Architect.
- E. Field samples and mock-ups not approved and not capable of being acceptably revised shall be removed from site.
- F. Approved field samples and mock-ups may be used as part of Project, only if specifically noted in individual specification Sections.
- G. For all approved sample submittals, such as color selections, material, finish or texture samples maintain those samples in the field office for Owner and Architect reference and comparison to field-installed work.

1.7 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. When specified in individual specification Sections, require material or Product suppliers or manufacturers provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start - up of equipment, test, adjust, and balance of equipment as applicable, and to initiate instructions when necessary.
 1. Observe field conditions, including conditions of surfaces and installation.
 2. Observe quality of workmanship.
 3. Provide recommendations to assure acceptable installation and workmanship.
 4. Where required, start, test, and adjust equipment as applicable.
- B. Representative shall submit written report to Architect or Owner listing observations, recommendations, site decisions or instructions given to applicators or installers that are

supplemental or contrary to manufacturers' written instructions.

- C. Submit reports within 5 days of observation.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Products
- B. Submittals
- C. Quality Assurance
- D. Delivery, Storage and Handling
- E. Protection After Installation
- F. Owner-Provided/Owner-Installed Work (OFOI)
- G. Owner-Provided/Contractor Installed Work (OFCI)

1.2 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures and systems forming Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of Work. Products may also include existing materials or components required for reuse.
- B. Comply with Specifications, referenced standards, and applicable codes and regulations as minimum requirements.
- C. Provide new materials except as specifically allowed by Contract Documents.
- D. Materials to be supplied in quantity within a Specification section shall be by one manufacturer, shall be the same, and shall be interchangeable.
- E. Provide equipment and systems composed of materials from a single manufacturer except where otherwise recommended by equipment or systems manufacturer or where otherwise indicated in Contract Documents.
- F. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.

1.3 SUBMITTALS

- A. Submittals: Provide submittals per Section 01 33 00, "Submittal Procedures".
 - 1. Submittal 01 60 00 A: Product List: Prior to submittal of second Request for Payment, submit to Architect complete list of major products that are proposed for installation, with name of manufacturer, trade name, and model.
 - a. Tabulate products by Specification number and title.
- B. Substitutions: Provide per Section 01 25 00, "Substitution Procedures"

1.4 QUALITY ASSURANCE

- A. Comply with industry standards and applicable codes except when more restrictive tolerances or

requirements indicate more rigid standards or precise workmanship.

- B. Comply with manufacturer's instructions.
- C. Perform work by persons qualified to produce workmanship of specified quality.
- D. Install products straight, true-to-line, and in correct relationship to adjacent materials, with hairline joints, free of rough, sharp and potentially hazardous edges.
- E. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.
 - 1. Seismic Anchors: Conform to code requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Transport products by methods to avoid product damage, deliver in undamaged condition in manufacturer's unopened containers or packaging.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement or damage.
- D. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
- E. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- G. For exterior storage of fabricated products, place on sloped supports above ground and protect as necessary to prevent deterioration or damage to the product.
- H. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- I. Arrange storage to provide access for inspection; periodically inspect to assure products are undamaged and are maintained under required conditions.
- J. Provide equipment and personnel to handle products by methods to prevent soiling and prevent damage.
- K. Promptly inspect shipments to assure products comply with requirements, quantities are correct, and products are undamaged.
- L. Immediately remove from Project products damaged, wet, stained, and products with mold and products with mildew.
- M. Take special care to prevent absorbent products such as gypsum board and acoustical ceiling units from becoming wet.
- N. Store loose granular materials on solid flat surfaces in well drained area. Prevent mixing with foreign matter.
- O. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement or damage.
- P. Arrange storage of products to permit access for inspection. Periodically inspect to ensure products are undamaged and are maintained under specified conditions.

- Q. When approved by the District's Representative, provide off site storage and protection in a bonded warehouse approved by District when site does not permit on site storage or protection at no cost to District.

1.6 PROTECTION AFTER INSTALLATION

- A. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.
- B. Provide protective covers at walls, projections, corners, jambs, sills and soffits in and adjacent to traffic areas.
- C. Cover walls and floors of elevator cabs, and jambs of cab doors, when elevators are used by construction personnel.
- D. Protect finished floors and stairs from dirt, wear and damage:
 - 1. Secure heavy sheet goods or similar protective materials in place, in areas subject to foot traffic.
 - 2. Lay planking or similar rigid materials in place, in areas subject to movement of heavy objects.
 - 3. Lay planking or similar grid materials in place in areas where storage of products will occur.
 - 4. Distribute loads of heavy stockpile materials, such as gypsum wall board, to prevent floor loading conditions in excess of loading capacity.
- E. Protect waterproofed and roofed surfaces:
 - 1. Restrict use of surfaces for traffic of any kind, and for storage of products.
 - 2. When an activity is mandatory, obtain recommendations for protection of surfaces from installer or manufacturer. Install protection and remove on completion of activity. Restrict use of adjacent unprotected areas.
- F. Restrict traffic of any kind across planted lawn and landscape areas.

1.7 OWNER-FURNISHED/OWNER-INSTALLED WORK (OFOI)

- A. Indicate in construction progress schedule Owner-Furnished/Owner-Installed items and schedule time for installation.
- B. Items indicated on Drawings as OFOI will be furnished by Owner (District) and installed by Owner (District).
- C. Work indicated as OFOI shall be performed under separate contract employees by Owner (District) at its discretion.
- D. Where work of this Contract adjoins or conflicts with OFOI, work, Contractor shall cooperate with Owner (District) and its employees in manner that will provide for reasonable and accurate completion of this Contract and work under separate contract.

1.8 OWNER-FURNISHED/CONTRACTOR-INSTALLED WORK (OFCI)

- A. Indicate in construction progress schedule Owner (District)-Furnished/Contractor-Installed items and schedule time for its installation.

- B. Contractor shall verify exact sizes and services required for each item of equipment indicated on Drawings or in project manual as OFCI and shall obtain from Owner (District) rough-in drawings, diagrams, setting templates and other necessary information to ensure proper mating of assemblies.
- C. Contractor shall receive at project site each item of equipment from Owner (District) and from that time on shall assume full responsibility for items and equipment until one year from date of Certified Completion.
- D. Contractor shall give District 15 days prior notice of requirements for delivery to site of all OFCI equipment.
- E. Contractor shall be responsible for receiving OFCI items and equipment and shall uncrate, inspect and notify Owner (District) in writing within 7 days of receiving said items or equipment of acceptance or rejection of items or equipment. Owner (District), after receiving notice, will take appropriate action to have items or equipment made acceptable for Contractor's use. Rejected items shall be carefully stored and protected from damage by Contractor until District takes appropriate action.
- F. Contractor shall be responsible for final placing, installation, connection, start-up, checking, testing and demonstrated satisfactory operation. Owner (District) will provide names of manufacturer's representatives, who shall assist the Contractor in checking, testing and demonstrating equipment.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1. SUMMARY

- A. This section describes execution requirements.
 - 1. Installer qualifications.
 - 2. Examination.
 - 3. Manufacturer's instructions.
 - 4. Installation.
 - 5. Final Cleaning.
 - 6. Protection.

1.2. INSTALLER QUALIFICATIONS

- A. Experienced Installers: Unless noted otherwise by a particular specification Section, installers shall have minimum of five years successful experience installing items similar to those required for Project, except for individuals in training under direct supervision of experienced installer.

1.3. EXAMINATION

- A. Acceptance of Conditions: Beginning installation of a product signifies installer has examined substrates, areas, and conditions for compliance with manufacturer requirements for tolerances and other conditions affecting performance.
- B. Field Measurements: Take field measurements as required to fit Work properly; recheck measurements prior to installing each product.
 - 1. Where portions of Work are to fit to other construction verify dimensions of other construction by field measurements before fabrication; allow for cutting and patching in order to avoid delaying Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

1.4. MANUFACTURERS' INSTRUCTIONS

- A. Manufacturer's Recommendations: When work is specified to comply with manufacturers' recommendations or instructions, distribute copies to persons involved and maintain one set in field office.
 - 1. Conform to requirements specified in Section 01 33 00, "Submittal" Procedures for submittal of recommendations or instructions to Architect; submit to Architect only where specified or where specifically requested.
- B. Perform work in accordance with details of recommendations and instructions and specified requirements.
 - 1. Should a conflict exist between Specifications and recommendations or

instructions consult with Architect.

- C. Where manufacturer's information notes special recommendations in addition to installation instructions, comply with both recommendations and instructions.
- D. Pre-Installation Meetings: Installers and suppliers are to attend pre-installation meetings scheduled by Contractor.
- E. Comply with manufacturers written recommendations and installation instructions unless more restrictive requirements are specified.
- F. Locate Work and components accurately, in correct alignment and elevation.
 - 1. Make vertical work plumb and horizontal work level.
 - 2. Install components to allow space for maintenance and ease of removal for replacement.
- G. Install products at time and under conditions to ensure best possible results; maintain conditions required for product performance until Substantial Completion.
- H. Conduct operations so no part of Work is subject to damaging operations or loading in excess of that expected during normal conditions.
- I. Securely anchor permanent construction in place, accurately located and aligned with other portions of Work.
- J. Allow for building movement including thermal expansion and contraction.
- K. Make joints of uniform width; arrange joints as indicated, for best visual effect where not otherwise indicated; fit exposed connections together to form hairline joints except where otherwise indicated.

1.5. FINAL CLEANING

- A. Cleaning During Construction: Specified in Section 01 50 00, "Temporary Facilities and Controls".
- B. Progress Cleaning: Keep installed areas clean using cleaning materials specifically recommended by manufacturers of product being cleaned; where not otherwise recommended use nontoxic materials that will not damage surfaces.
 - 1. Remove debris from concealed spaces before enclosing space.
 - 2. Supervise construction operations to assure no part of construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.
- C. Final Cleaning: Execute final cleaning at Substantial Completion.
 - 1. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces.
 - a. Vacuuming Equipment: Type with high efficiency particulate arrestor (HEPA) type filters; properly maintained.
 - 2. Clean equipment and fixtures to a sanitary condition, clean filters of mechanical equipment, replace filters where cleaning is impractical.
 - a. Clean ducts.

3. Clean site; sweep paved areas.
4. Remove waste, surplus materials and rubbish from Project and site; recycle to maximum extent feasible.

1.6. PROTECTION

- A. See Section 01 60 00, "Product Requirements" for specific requirements.
 - a. Protect products subject to deterioration with impervious cover. Provide ventilation to avoid condensation and trapping water.
 - b. Take care to use protective covering and blocking materials that do not soil, stain, or damage materials being protected.
 - c. After installation, provide coverings to protect products from damage from traffic and construction operations, remove when no longer needed.
 - d. Protect interior materials from water damage; immediately remove wet materials from site to prevent growth of mold and mildew on site.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 75 00
STARTING AND ADJUSTING

Style Definition: Σχετιον Ηεαδινη

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PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Starting Systems
- B. Testing, Adjusting and Balancing
- C. Demonstration and Instructions (cross-reference provide to section)

1.2 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Inspector and Architect 48 hours prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence or other conditions which may cause damage.
- D. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of responsible manufacturer's representative and/or Contractor personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, and check equipment or system installation prior to start-up and to supervise placing equipment or system operation.
- H. Submit a written report to the Architect that equipment or system has been properly installed and is functioning correctly.
- I. Provide advance notice to Architect and Inspector of Record regarding all coordination for utility and service systems hook-ups.

1.3 TESTING, ADJUSTING, AND BALANCING

- A. Contractor shall employ services of an independent firm to perform testing, adjusting and balancing. Contractor shall pay for services.
- B. The independent firm will perform services specified in Electrical and Mechanical sections.
- C. Reports will be submitted by the independent firm to the Architect indicating observations and results of tests and indicating compliance or non-compliance with specified requirements and

with the requirements of the Contract Documents.

1.4 DEMONSTRATION AND INSTRUCTIONS

- A. Coordinate with all requirements in Section 01 79 00, "Demonstration and Testing".

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

SECTION 01 78 23
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 01 33 00 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit on digital media acceptable to Architect. Enable reviewer comments on draft submittals.

- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect's. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.
- E. Comply with Section 01 77 19 "Closeout Requirements" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", with title of project, and subject matter of binders
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
 - 3. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, type on 24 pound white paper.
 - a. Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
 - b. Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - 1) Significant design criteria.
 - 2) List of equipment, including trade names, model or type numbers.
 - 3) Parts list for each component.
 - 4) Operating instructions.
 - 5) Maintenance instructions for equipment and systems.
 - 6) Cleaning instructions.
 - 7) Maintenance instructions for special finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.
 - c. Project documents and certificates, including the following:
 - 1) Shop drawings.

- 2) Provide product data.
 - 3) Certificates.
 - 4) Photocopies of warranties.
 - d. Provide a separate volume for each of the following systems, with a table of contents and index tabs for each volume:
 - 1) Electrically operated items.
 - 2) Mechanical equipment and controls.
 - 3) Electrical equipment and controls.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf, post-type binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
 2. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
 3. Provide heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 4. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. Enclose title pages and directories in clear plastic sleeves.
 5. Supplementary Prepared on 8-1/2-by-11-inch white bond paper.
 6. Drawings, If Required: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

- C. Submit one copy of completed Volumes in final form to Architect 15 days prior to final inspection. This copy will be returned after final inspection, with Architect comments.
- D. Revise content of documents as required prior to final submittal.
- E. Submit final volumes, **ONE hard copy set each**, with corresponding electronic format set, in PDF format, revised, within 15 days after final inspection.
- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required, on a Flash Drive in each hard copy binder.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.
 - 6. Name and contact information for Architect.
 - 7. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 - 8. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
 - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
 - 1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 - 2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 - 3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 - 1. Fire.
 - 2. Flood.
 - 3. Gas leak.
 - 4. Water leak.
 - 5. Power failure.
 - 6. Water outage.
 - 7. System, subsystem, or equipment failure.
 - 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.
 - 3. Operating instructions for conditions outside normal operating limits.
 - 4. Required sequences for electric or electronic systems.
 - 5. Special operating instructions and procedures.

1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 - 2. Performance and design criteria if Contractor has delegated design responsibility.
 - 3. Operating standards.
 - 4. Operating procedures.
 - 5. Operating logs.
 - 6. Wiring diagrams.
 - 7. Control diagrams.
 - 8. Piped system diagrams.
 - 9. Precautions against improper use.
 - 10. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:
 - 1. Product name and model number. Use designations for products indicated on Contract Documents.
 - 2. Manufacturer's name.
 - 3. Equipment identification with serial number of each component.
 - 4. Equipment function.
 - 5. Operating characteristics.
 - 6. Limiting conditions.
 - 7. Performance curves.
 - 8. Engineering data and tests.
 - 9. Complete nomenclature and number of replacement parts.
- D. Operating Procedures: Include the following, as applicable:
 - 1. Startup procedures.
 - 2. Equipment or system break-in procedures.

3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
- E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.
- C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.

3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training video recording, if available.
- F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.
- J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
1. Do not use original project record documents as part of maintenance manuals.

1.11 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference

Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

- D. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- E. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 01 73 00 – Execution Requirements
 - 2. Section 01 75 00 - Starting and Adjusting
 - 3. Section 01 77 00 - Closeout Procedures
 - 4. Section 01 78 23 - Operation and Maintenance Data
 - 5. Section 01 78 39 - Project Record Documents

1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.

- b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

1.4 RECORD PROJECT DRAWINGS

- A. Record Drawings: Upon completion of the Work, submit one set of reproducible drawings made from DSA approved stamped originals from the Architect for preparation of Record Set. In addition, provide scanned copy of the final set.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file on a Flash Drive.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."

- d. Name of Architect
- e. Name of Contractor.
5. Neatly and accurately transfer data from record job set prints specified in Section 01 50 00, "Temporary Facilities & Controls".
6. Mark Record Prints to show the actual installation where installation varies from that shown originally.
 - a. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - b. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
7. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
8. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
9. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
10. Graphic quality shall be equal to that of the original document.
11. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
12. Refer instances of uncertainty to Architect for resolution.
13. Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
14. Provide PDF files on a flash drive to Architect.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.
 1. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - a. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - b. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - c. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - d. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
 2. Miscellaneous Record Submittals:

- a. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- D. Final Record Drawing Submittals:
1. Cost of Record Set reproducibles and all preparation shall be paid by Contractor at no additional cost to Owner.
 2. Sign and date Record Job Sets and Record Sets, certifying that the information and data added is accurate and complete.
 3. Record drawings and specifications not complying with specified criteria shall be rejected.
 4. Prior to submission for final payment, review Record Drawing Set and Project Manual(s) with Architect and obtain approval of the scope of transfer. Architect will provide a list of corrections required. If corrections are required, update Record Set with all requested updates and resubmit to Architect. Following approval, submit Record Job Sets and Record Set to Architect with claim for final Application for Payment.
 5. Coordinate preparation of Record Job Sets and Record Drawing Set and Project Manual(s) with work under separate contract. Coordinate preparation of interim Job Record Sets and Record Sets to coincide with completion of work areas. At completion of project, assemble all interim sets into final composite Job Record Set, Record Set and Record Project Manual(s).
 6. Provide PDF files on a flash drive to Architect.
- A. Reports: Submit written report indicating items incorporated into Project Record Documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.
1. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 2. Refer instances of uncertainty to Architect for resolution.
 3. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 01 31 00, "Project Management and Coordination" for requirements related to use of Architect's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
- B. Format: Submit record specifications as **annotated PDF electronic file** scanned PDF electronic file(s) of marked-up paper copy of Specifications.

1.6 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
- C. Format: Submit Record Product Data as **annotated PDF electronic file** scanned PDF electronic file(s) of marked-up paper copy of Specifications.
1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as scanned PDF electronic file(s) of marked-up paper copy of Specifications.
1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's and Owner's reference during normal working hours.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

SECTION 01 79 00

DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SECTION INCLUDES

1. Requirements for seminars and system demonstrations.

1.2 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel within seven (7) calendar days of Substantial Completion, prior to occupancy.
- B. Demonstrate Project equipment by a qualified manufacturers' representative who is knowledgeable about the Project.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other seasons within six months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- E. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance and shutdown of each item of equipment at agreed-upon times at equipment location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

1.3 DESCRIPTION

A. Seminar Agenda and Outline:

1. Prepare a seminar agenda and outline in consultation and cooperation with Architect, Architect's consultants, and Owner. Include following:
 - a. Equipment and systems which will be included in seminars.
 - b. Name of companies and representatives presenting at seminars.
 - c. Outline of each seminar's content.
 - d. Time and date allocated to each system and item of equipment.
2. Submit a preliminary seminar agenda and outline for review and comment by Owner.
3. Revise and resubmit agenda and outline until all seminar requirements have been satisfied and seminar dates and presenters have been finalized.
4. Submit a final seminar agenda and outline no later than eight weeks before date of Acceptance of Work.

B. Seminar Organization:

1. Coordinate qualification of training personnel, seminar contents, and presentations with Owner.

2. Coordinate individual presentations and ensure manufacturer's representatives scheduled to be at training seminars are present.
 3. Qualified Contractor or Sub-contractor personnel familiar with design, operation, maintenance and troubleshooting of equipment and systems shall lead seminars.
 4. Coordinate individual presentations and ensure manufacturer's representatives scheduled to be at training seminars are present.
 5. All presentation leaders shall be familiar with design, operation, maintenance and troubleshooting of equipment and systems.
 6. Where a single person is not familiar with all aspects of equipment or system; arrange for specialists familiar with each aspect.
 7. Coordinate proposed seminar dates with Owner and select mutually agreeable dates.
 8. Videotaping: Arrange for videotaping of training seminars and system demonstrations, including seminar and demonstration questions and answers.
- C. Seminar Content:
1. Contractor or manufacturer's representative will explain design philosophy of primary systems.
 2. Include following information in presentations dealing with specific systems:
 - a. An overview of how system is intended to operate.
 - b. Describe design parameters, constraints and operational requirements.
 - c. Describe system operation strategies.
 - d. Provide information to help in identifying and troubleshooting problems.
 - e. Explanation of how equipment operates.
 - f. Recommended preventative and routine maintenance.
- D. System Demonstration:
1. Demonstrate operation of equipment and systems when specified in individual technical sections. Include following in demonstration.
 - a. Start-up and shut down.
 - b. Operation.
 - c. Scheduled and preventative maintenance.
 - d. Troubleshooting.
 2. Demonstration may be conducted at time of original starting with Owner's prior approval.
 3. Use manufacturer's operation and maintenance data as basis of instruction.
- E. Seminar and Demonstration Questions:
1. Be prepared to answer questions raised by attendees at demonstrations and seminars.
 2. If unable to satisfactorily answer questions immediately, provide written response within three days.
 3. Be prepared to answer questions raised by Owner's personnel at demonstrations and seminars.

1.4 SUBMITTALS **DISTRICT TO VERIFY IF THEY WANT VIDEO RECORDS ON ANY PROJECTS**

- A. Provide closeout submittals per Section 01 77 19, “Closeout Requirements”, Section 01 78 23, “Operation and Maintenance Data” and Section 01 78 39, “Project Record Documents”
 - a. Video-records: Submit two copies; include label on each video disc and on each container identifying Project and Seminar content.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION