

**SECTION 000110
TABLE OF CONTENTS**

PROCUREMENT AND CONTRACTING REQUIREMENTS

1.01 DIVISION 00 -- PROCUREMENT AND CONTRACTING REQUIREMENTS

- A. 000110 - Table of Contents

SPECIFICATIONS

2.01 DIVISION 01 -- GENERAL REQUIREMENTS

- A. 011000 – Summary of Work
- B. 012000 - Price and Payment Procedures
- C. 012300 - Alternates
- D. 012500 - Substitution Procedures
- E. 012600 – Contract Modification Procedures
- F. 013000 - Administrative Requirements
- G. 013100 – Project Management and Coordination
- H. 014000 - Quality Requirements
- I. 014010 – Clean Construction Procedures
- J. 014010.01 – Infection Control Risk Assessment Construction Permit
- K. 014100 - Regulatory Requirements
- L. 014200 – Reference Standards and Definitions
- M. 015000 – Temporary Facilities and Controls
- N. 016000 – Product Requirements
- O. 017000 - Execution and Closeout Requirements
- P. 017419 - Construction Waste Management and Disposal
- Q. 017610 - Temporary Protective Coverings
- R. 017900 - Demonstration and Training
- S. 018100 – Commissioning

END OF SECTION

SECTION 01 11 00 SUMMARY OF WORK

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Work Summary

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work Summary:
Contractors will review existing conditions and prepare a bid for the **Insert Name Here** Project based on the information contained in this Project Manual and the Drawings dated **xx/xx/xxxx** and Specifications dated **xx/xx/xxxx**. Additionally, the contractor shall comply with all administrative requirements of the contract, including the submission of a Contractor's Construction Schedule, safety plan, Schedule of Values, daily reports, Submittals, and other deliverables required under the contract.

3.02 METHOD

- A. Construct the Work under a Guaranteed Maximum Price contract.

3.03 WORK BY OWNER

- A. Not Applicable

3.04 CONTRACTOR'S USE OF PREMISES

- A. **The Southcentral Foundation Campus and the **Insert Name Here of Facility** is a Tobacco Free campus. No smoking is permitted on the campus or in any Areas of Work.**
- B. The Contractor will coordinate with SCF for area of use.
- C. Limit use of premises for the Work and for storage to allow for:
 - 1. Owner occupancy.
 - 2. Public use.

3. Coordinated use of premises under direction of Owner.
 4. Full responsibility for protection and safekeeping of products under this Contract stored at Project Site.
 5. Moving any stored products, under Contractor's control, which interfere with operations of Owner or separate Contractor(s).
- D. Obtain and pay for use of any additional storage or work areas needed for operations.

3.05 OWNER'S OCCUPANCY

- A. The Owner will continue to occupy and operate the **Insert Name Here of Facility**. The Contractor shall coordinate with the Owner to allow normal operations to continue.
- B. Contractor shall schedule and coordinate with the **Insert Name Here of Facility**, any work which could interfere with the Owner operations.
- C. Cooperate with the Owner in construction operations to minimize conflict and to facilitate Owner usage.
- D. After substantial completion, schedule work to maintain Owner's operation. Include in contract sum sufficient funds as may be required for any "after hours" work caused by this requirement. No additional payment to Contractor will be authorized because of Contractor's failure to anticipate required "after hours work".
- E. Contractor shall conduct operations to insure the least inconvenience to staff, visitors, and the public.

3.06 EXCESSIVE NOISE

- A. Minimize noise during Owner's normal working hours. Notify Owner at least 72 hours prior to noisy operations.

3.07 USE OF OWNER'S PROPERTY AND EQUIPMENT

- A. Use of Owner's property or equipment such as tools, ladders, furniture, janitorial equipment and supplies etc., is strictly prohibited.

END OF SECTION

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 01 11 00 - Summary of Work
- C. Section 01 26 00 - Contract Modification Procedures
- D. Section 01 30 00 – Administrative Requirements
- E. Section 01 60 00 - Product Requirements
- F. Section 01 70 00 – Execution and Closeout Requirements
- G. Section 01 70 00 – Closeout Submittals

1.02 SCHEDULE OF VALUES

- A. Coordinate with Contractor's construction schedule and Application for Payment.
- B. Submit typed Schedule of Values using form AIA G703-1992 for Bid-Build projects, AIA G743 for Design-Build projects, or alternate form pre-approved by Owner.
- C. Submit Schedule of Values to the Architect, Owner, and Owner's Representative as soon as possible, but no later than 20 days after Notice to Proceed for Construction has been issued.
- D. Format: When using a pre-approved, non-AIA G702-1992 form for a Schedule of Values, the format shall be as follows: Utilize the Table of Contents of this Project Manual and include other significant work items. At a minimum, rough-in and finish work shall be broken out separately.
 - 1. Identify each line item with number and title of the Specification Section. Identify site mobilization, bonds, and insurance.
 - 2. Tabular form indicating:
 - a. Related Specification Section or Division.
 - b. Description of Work.

- c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
 4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
 5. Provide a separate line item in the Schedule of Values for each part of the Work where an Application for Payment may include materials or equipment, purchased, or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
 6. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.
 7. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Application for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.
- E. Include within each line item, a directly proportional amount of Contractor's overhead and profit.
- F. Provide sub schedule for each separate stage of work specified in Section 01 11 00 - Summary of Work.
- G. Revise schedule to list approved Change Orders, with each Application for Payment.

1.03 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect (or Owner on Design-Build Projects) and paid for by the Owner.
 - 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment-Application Times: Each progress-payment date is indicated in the Agreement. The period of construction Work covered by each Application for Payment is the period indicated in the General Conditions.
- C. Payment Application Form: Use AIA Document G702-1995 and Continuation Sheets G703-1992 or alternative form pre-approved by Owner.
- D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect (or Owner if project is Design-Build) will return incomplete applications without action.
 - 1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
 - 2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit 1 completed, signed, and notarized copy of each Application for Payment to the Architect (or Owner if a Design-Build Project) by a method pre-approved by the Owner, including waivers of lien and similar attachments, when required by contract.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect and Owner.
- F. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
 - 1. List of subcontractors.
 - 2. List of principal suppliers and fabricators.
 - 3. Approved Schedule of Values.
 - 4. Contractor's Construction Schedule (preliminary if not final).
 - 5. Submittal Schedule (preliminary if not final).
 - 6. Certificates of insurance and insurance policies.
- G. Applications for Progress Payments
 - 1. Payment Period: Submit at intervals stipulated in Contract.

2. Electronic media printout including equivalent information will be considered in lieu of standard form specified: submit sample to Architect for approval.
 3. Submit Applications for Payment on an approved form per the Contract and this specification.
 4. For each item, provide a column for listing each of the following:
 - a. Item Number.
 - b. Description of work.
 - c. Scheduled Values.
 - d. Previous Applications.
 - e. Work in Place and Stored Materials under this application.
 - f. Authorized Change Orders.
 - g. Total Completed and Stored to Date of Application.
 - h. Percentage of Completion.
 - i. Balance to Finish.
 - j. Retainage, if applicable (see contract).
 5. Execute certification by signature of authorized officer and notarize payment applications.
 6. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
 7. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
 8. Submit Application for Payment utilizing Owner's project information management software, or in a manner agreed upon by Owner.
 9. Include the following with the application:
 - a. Construction Progress Schedule; revised and current as specified in Section 01 32 00 Construction Progress Documentation.
 10. When Architect or Owner requires substantiating information, submit data justifying dollar amounts in question. Provide data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.
- H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede or coincide with this application include those required for Substantial Completion as outlined in Section 01 70 00 Execution and Closeout Requirements.
- I. Final Payment Application: Administrative actions and submittals that

must precede or coincide with submittal of the final Application for Payment including Section 01 70 00 - Execution and Closeout Requirements and Section 01 78 00 – Closeout Submittals.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

**SECTION 01 23 00
ALTERNATES**

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Description of Alternates.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Document 005213 – Agreement Form
- C. Document 002113 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

1.03 ACCEPTANCE OF ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.04 SCHEDULE OF ALTERNATES

- A. Alternate No. ____ - ____:
 - 1. Base Bid Item: Section _____ and Drawing number ____ including _____.
 - 2. Alternate Item: Section _____ and Drawing number ____ including _____.
- B. Alternate No. ____ - ____:
 - 1. Base Bid Item: Section _____ and Drawing number ____ including _____.
 - 2. Alternate Item: Section _____ and Drawing number ____ including _____.
- C. Alternate No. ____ - ____:
 - 1. Base Bid Item: Section _____ and Drawing number ____ including _____.
 - 2. Alternate Item: Section _____ and Drawing number ____ including _____.
- D. Alternate No. ____ - ____:

1. Base Bid Item: Section _____ and Drawing number ____ including _____.
2. Alternate Item: Section _____ and Drawing number ____ including _____.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 25 00 SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 002113 - Instructions to Bidders: Restrictions on timing of substitution requests.
- C. Section 012300 - Alternates, for product alternatives affecting this section.
- D. Section 013000 - Administrative Requirements: Submittal procedures, coordination.
- E. Section 016000 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

1.03 DEFINITIONS

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
 - 1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
 - a. Unavailability.
 - b. Regulatory changes.
 - 2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
 - a. Substitution requests offering advantages solely to the Contractor will not be considered.
- B. Substitutions: See General Conditions for definition.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS

- A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:

1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
 2. Agrees to provide the same warranty for the substitution as for the specified product.
 3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
 4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
 5. Waives claims for additional costs or time extension that may subsequently become apparent.
 6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
- B. Documentation: Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on Contractor.
- C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
1. No specific form is required. Contractor's Substitution Request documentation must include the following:
 - a. Project Information:
 - 1) Official project name and number, and any additional required identifiers established in Contract Documents.
 - 2) Owner's, Architect's, and Contractor's names.
 - b. Substitution Request Information:
 - 1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
 - 2) Indication of whether the substitution is for cause or convenience.
 - 3) Request date.
 - 4) Reference to particular Contract Document(s) specification section number, title, article/paragraph(s), and/or sheet number, drawing number, drawing title, etc.
 - 5) Description of Substitution.
 - 6) Reason why the specified item cannot be provided.
 - 7) Differences between proposed substitution and specified item.
 - 8) Description of how proposed substitution affects other parts of work.
 - c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
 - 1) Physical characteristics.
 - 2) In-service performance.
 - 3) Expected durability.
 - 4) Visual effect.
 - 5) Sustainable design features.

- 6) Warranties.
- 7) Other salient features and requirements.
- 8) Include, as appropriate or requested, the following types of documentation:
 - (a) Product Data:
 - (b) Samples.
 - (c) Certificates, test, reports or similar qualification data.
 - (d) Drawings, when required to show impact on adjacent construction elements.
- d. Impact of Substitution:
 - 1) Savings (or additional cost) to Owner for accepting substitution.
 - 2) Change to Contract Time due to accepting substitution.

- D. Quantity/ Limitation: Limit each request to a single proposed substitution item.
 - 1. Submit an electronic document, combining the request form with supporting data into single document, to the Architect and Owner.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

- E. Submittal Time Restrictions:
 - 1. Owner will consider requests for substitutions only if submitted at least 10 days prior to the date for receipt of bids.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

- F. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to the time required for review and approval by Architect, in order to stay on approved project schedule.
- G. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect and Owner, in order to stay on approved project schedule.
 - 1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
 - 2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
 - 3. Bear the costs engendered by proposed substitution of:
 - a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
- H. Substitutions will not be considered under one or more of the following circumstances:
 - 1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
 - 2. Without a separate written request.

3.04 RESOLUTION

- I. Architect or Owner may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.
- J. Architect will notify Contractor in writing of decision to accept or reject request.
 - 1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

- K. Accepted substitutions change the Work of the Project. They will be documented and incorporated into Work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

- L. See Section 017800 - Closeout Submittals, for closeout submittals requirements.
- M. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected requests.

END OF SECTION

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Procedures for documenting and processing contract modifications.

1.02 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 00 52 13 – Agreement Form.
- C. Section 01 20 00 – Price and Payment Procedures.
- D. Section 01 60 00 - Product Requirements.
- E. Section 01 70 00 – Execution and Closeout Requirements.

1.03 SUBMITTALS

- A. Submit name of the individual authorized to receive change documents and be responsible for informing others in contractor's employ or subcontractors of changes to the Work.
- B. Proposal Form (for proposed change): AIA Document G709-2018 or another form acceptable to Owner.
- C. Change Order Form: AIA Form G701-2017 - Change Order or other form acceptable to Owner.

1.04 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and materials basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.
- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- C. On request, provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Taxes, insurance and bonds.
 - 3. Overhead and profit.

4. Justification for any change in Contract Time.
 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs and for work done on a time and materials basis, with additional information:
1. Origin and date of claim.
 2. Dates and times work was performed, and by whom.
 3. Time records and wage rates paid.
 4. Invoices and receipts for products, equipment and subcontracts, similarly documented.

1.05 CHANGE PROCEDURES

- A. Architects Supplemental Instructions: The Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time, by issuing supplemental instructions on AIA Form G710-2017 - Architect's Supplemental Instructions.
- B. Proposal Request: The Owner may issue a Proposal Request (AIA Document G709 or form acceptable to Owner) which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid.
- C. Change Proposal: The Contractor may propose a change by submitting a request for change to the Owner, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 016000 – Product Requirements.
- D. It is the Owners decision whether a change directive is stipulated sum, unit price, or time and materials.

1.06 CONSTRUCTION CHANGE AUTHORIZATION

- A. Architect or Owner may issue a document, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. The document will describe changes in the Work and will designate the method of determining any change in Contract Sum or Contract Time.
 2. Promptly execute the change in Work.

1.07 STIPULATED SUM CHANGE ORDER

- A. Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by the Owner.

1.08 TIME AND MATERIAL CHANGE ORDER

- A. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- B. Maintain detailed records of work done on time and materials.
- C. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

1.09 EXECUTION OF CHANGE ORDERS

- A. Architect or Owner's Representative may prepare Change Orders for signatures of Owner, Contractor, and Architect as provided in the Conditions of the Contract, Article 7.

1.10 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment Forms to record each authorization Change Order as a separate line item and adjust the Contract Sum.
- B. Promptly revise Construction Progress Schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other items of work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. General administrative requirements.
- B. Accident Prevention Plan.
- C. Preconstruction meeting.
- D. Progress meetings.
- E. Construction progress schedule.
- F. Progress photographs.
- G. Submittals for review, information, and project closeout.
- H. Number of copies of submittals.
- I. Requests for Information (RFI) procedures.
- J. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 005213 – Agreement Form.
- C. Section 016000 - Product Requirements.
- D. Section 017000 - Execution and Closeout Requirements.

1.03 REFERENCE STANDARDS

- A. AIA G716 - Request for Information 2004.
- B. AIA G810 - Transmittal Letter 2001.

1.04 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Utilize SCF's Autodesk Construction Cloud (ACC) project management site for tracking and memorialization of all meeting agendas/minutes, submittals, RFI's ASI's, posting of drawings/specifications, document filing, and for all other project document tracking, as directed by the Owner.

- C. Make the following types of submittals to Architect:
1. Requests for Interpretation (RFI).
 2. Requests for substitution.
 3. Shop drawings, product data, and samples.
 4. Test and inspection reports.
 5. Design data.
 6. Manufacturer's instructions and field reports.
 7. Applications for payment and change order requests.
 8. Progress schedules.
 9. Coordination drawings.
 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 11. Closeout submittals.

1.05 ACCIDENT PREVENTION PLAN

A. Plan Overview

1. The APP (aka Construction Safety & Health Plan) shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and ensure it is site-specific. The Prime Contractor is considered to be the "controlling authority" for all worksite safety and health of each subcontractor(s). Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out.

B. Plan Content

1. Include and address in the APP the following, at a minimum.
 - a. Type of Project/ Project Description
 - b. Scope of Work
 - c. Contact Information
 - d. Identification of person(s) responsible for safety at the project location and lines of authority
 - e. Project Location
 - f. Geographic Risks
 - g. Site drawings and hazard locations: Contractor's site safety plan, including mustering point, location of nearest hospital/ emergency clinic, vehicular and pedestrian traffic flow graphics, site security checkpoints, area of work limits/fencing, etc., at a minimum.
 - h. Procedures to avoid hazards (in the form of Activity Hazard Analysis and Work Plan, as needed, for each unique task where hazards exist).
 - 1) Crane work, confined space entry, scaffolding, walking and working surfaces including fall protection, and other specialized

work shall require a separate and specific Work Plan to address the unique risks and hazards associated with the work.

- i. Security risks and securing of supplies and the worksite.
 - j. Safety check schedule
 - k. Safety orientation for new workers and visitors to the site and accident notification process to Owner.
 - l. Accident notification and investigation process
 - m. PPE Guidelines
 - n. Safety Training
 - o. First Aid Locations
 - p. Hazard communication plan
 - q. All content required by OSHA and AHJs
 - r. Signature sheet signed by an Officer of the company and the Responsible Person onsite
- C. Plan Approval
- 1. Submit APP for Owner's approval a minimum of 3 weeks prior to any work being performed.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Schedule meeting after Notice of Award.
- B. Attendance Required:
- 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. Owner's Representative (if applicable).
- C. Agenda:
- 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 - 5. Submission of initial Submittal schedule.
 - 6. Designation of personnel representing the parties to Contractor, Owner, Architect, and Owner's Representative (if applicable).
 - 7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, change orders, and contract closeout procedures.
 - 8. Scheduling.

- D. Record minutes and distribute copies electronically to Architect, Owner, Owner's Representative (if applicable), participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.
- B. Make arrangements for meetings, prepare agenda with electronic copies for participants (to be distributed 24 hours prior to meeting), preside at meetings.
- C. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Architect.
 - 4. Special consultants.
 - 5. Contractor's superintendent.
 - 6. Major subcontractors.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede, or will impede, planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of RFIs log and status of responses.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to work.
- E. Record minutes and distribute electronic copies within two days after meeting to Architect, Owner, and participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.

1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated construction schedule with each Application for Payment.

3.04 PROGRESS PHOTOGRAPHS

- A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.
- B. Photography Type: Digital; electronic files.
- C. Provide high quality digital photographs of site and construction throughout progress of work, using the ACC photo application.
- D. In addition to periodic, recurring views, take photographs of each of the following events:
 1. Excavations in progress.
 2. Foundations in progress and upon completion.
 3. Structural framing in progress and upon completion.
 4. Enclosure of building, upon completion.

3.05 REQUESTS FOR INFORMATION (RFI)

- A. Definition: A request seeking one of the following:
 1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
 1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
 2. Prepare in a format and with content acceptable to Owner.
 - a. Use AIA G716-2004 - Request for Information.

3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
 2. Unacceptable Uses for RFIs: Do not use RFIs to request the following:
 - a. Approval of submittals (use procedures specified elsewhere in this section).
 - b. Approval of substitutions (see Section - 016000 - Product Requirements)
 - c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
 3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
 2. Owner's, Architect's, and Contractor's names.
 3. Discrete and consecutive RFI number, and descriptive subject/title.
 4. Issue date and requested reply date.
 5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
 6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
 7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example, routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.

1. Indicate current status of every RFI. Update log promptly and on a regular basis.
 2. Note dates of when each request is made, and when a response is received.
 3. Highlight items requiring priority or expedited response.
 4. Highlight items for which a timely response has not been received to date.
- H. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt, excluding SCF recognized holidays. For the purpose of establishing the start of the mandated response period, RFIs received after 2:00PM (Owner's local time) will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
- I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
 2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
 3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
 4. Notify Architect within seven calendar days, excluding SCF recognized holidays, if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.06 SUBMITTAL SCHEDULE

- A. Submit to Architect for review a schedule for submittals in tabular format.
1. Format schedule to allow tracking of status of submittals throughout duration of construction.
 2. Account for time required for preparation, review, manufacturing, fabrication, and delivery when establishing submittal delivery and review deadline dates.
 - a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.07 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product data.
 - 2. Shop drawings.
 - 3. Samples for selection.
 - 4. Samples for verification.
- B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017000 – Execution and Closeout Requirements.

3.08 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner.

3.09 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:
 - 1. Project record documents.
 - 2. Operation and maintenance data.
 - 3. Warranties.
 - 4. Bonds.
 - 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.10 NUMBER OF COPIES OF SUBMITTALS

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
 - 1. After review, produce duplicates.
 - 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.11 SUBMITTAL PROCEDURES

- A. General Requirements:
 - 1. Use a separate transmittal for each item.
 - 2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
 - 3. Transmit using approved form.
 - a. Use Form AIA G810-2001.
 - 4. Identify each item based on applicable specification section. For revised submittals use original number and a sequential numerical suffix.
 - 5. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
 - 6. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
 - 7. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - a. For each submittal for review, allow 14 calendar days, excluding SCF recognized holidays.
 - b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 calendar days.
 - c. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 30 calendar days.
 - 8. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
 - 9. Provide space for Contractor and Architect review stamps.
 - 10. When revised for resubmission, identify all changes made since previous submission.
 - 11. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.

12. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work and have received prior approval for their use.
 13. Submittals not requested will not be recognized or processed.
- B. Product Data Procedures:
1. Submit only information required by individual specification sections.
 2. Collect required information into a single submittal.
 3. Do not submit (Material) Safety Data Sheets for materials or products.
- C. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
 2. Do not reproduce Contract Documents to create shop drawings.
 3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
- D. Samples Procedures:
1. Transmit related items together as a single package.
 2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.12 SUBMITTAL REVIEW

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
- D. Architect's and consultants' actions on items submitted for review:
1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "Approved", or language with same legal meaning.
 - b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
 2. Not Authorizing fabrication, delivery, and installation:
 - a. "Revise and Resubmit".
 - b. "Rejected".
- E. Architect's and consultants' actions on items submitted for information:
1. Items for which no action was taken:
 - a. "Received" - to notify the Contractor that the submittal has been received for record only.
 2. Items for which action was taken:
 - a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 00 52 13 – Agreement Form
- C. Section 01 30 00 – Administrative Requirements
- D. Section 01 70 00 – Execution and Closeout Requirements

1.02 DEFINITIONS

- A. Request for Information (RFI): Request from Owner, Architect, or Contractor seeking information required by a clarification of the Contract Documents.
- B. Architect's Supplemental Instructions (ASI): Information provided by Architect to clarify scope of work in Contract Documents.

1.03 PROJECT SCHEDULE

- A. Provide a project schedule for approval by the Architect and Owner prior to starting work. The Project Schedule shall use the Critical Path Method "CPM" or other Owner approved method. The Schedule shall have adequate detail that provides information on the planned work and tasks and shall be relationship driven using either predecessor or successor relationships. The schedule shall be updated and submitted with every Application for Payment, and uploaded to Autodesk Construction Cloud (ACC).

1.04 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications and with other contractors and entities that depend on each other for proper installation, connection, and operation to ensure efficient and orderly installation of each part of the Work.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.

3. Make adequate provisions to accommodate items scheduled for later installation.
-
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
 - C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Startup and adjustment of systems.
 8. Project closeout activities.
 - D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.05 COORDINATION DRAWINGS

- A. General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
 1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.

- b. Coordinate the addition of trade-specific information to the coordination drawings in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
- c. Indicate functional and spatial relationships of components.
- d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
- e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
- f. Indicate required installation sequences.
- g. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

1.06 KEY PERSONNEL

- A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
 - 1. Post copies of list in project meeting room, in temporary field office, on Project Website, and by each temporary telephone. Keep list current at all times.

1.07 PROJECT MEETINGS

- A. General: Contractor will schedule and conduct meetings and conferences at Project site, unless otherwise indicated. Meeting agendas and notes shall utilize Autodesk Construction Cloud (ACC) software.
 - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 - 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and

Architect, within two days of the meeting.

- B. Preconstruction Conference: Contractor will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 20 days after execution of the Agreement.
1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs and ASIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Sustainable design requirements.
 - m. Preparation of record documents.
 - n. Use of the premises [and existing building if applicable].
 - o. Work restrictions.
 - p. Working hours.
 - q. Owner's occupancy requirements.
 - r. Responsibility for temporary facilities and controls.
 - s. Procedures for moisture and mold control.
 - t. Procedures for disruptions and shutdowns.
 - u. Construction waste management and recycling.
 - v. Parking availability.
 - w. Office, work, and storage areas.
 - x. Equipment deliveries and priorities.
 - y. First aid.
 - z. Security.
 - aa. Progress cleaning.
- C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs and ASIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written recommendations.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress and Coordination Meetings: Contractor will conduct progress meetings at appropriate intervals.

1. Coordinate dates of meetings with preparation of payment

- requests.
2. Attendees: Each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals and RFI's
 - 4) Off-site fabrication and deliveries.
 - 5) Site access and utilization.
 - 6) Temporary facilities and controls.
 - 7) Progress cleaning.
 - 8) Quality and work standards.
 - 9) Status of correction of deficient items.
 - 10) Field observations.
 - 11) Status of proposal requests.
 - 12) Pending changes.
 - 13) Status of Change Orders.
 - 14) Pending claims and disputes.
 - 15) Documentation of information for payment requests.
 4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

E. Project coordination meetings are to be held weekly. Project coordination

meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 40 00 QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Submittals.
- B. Quality assurance.
- C. References and standards.
- D. Testing and inspection agencies and services.
- E. Control of installation.
- F. Mock-ups.
- G. Tolerances.
- H. Manufacturers' field services.
- I. Defect Assessment.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 013000 - Administrative Requirements: Submittal procedures.
- C. Section 014200 - Reference Standards and Definitions.
- D. Section 016000 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

- A. Note: If a newer version of any reference standard exists, the newer version shall be incorporated and followed in lieu of the older version referenced herein.
- B. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2023).
- C. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.
- D. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2022a.
- E. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

- F. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.
- G. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.
- H. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components 2016.
- I. IAS AC89 - Accreditation Criteria for Testing Laboratories 2021.

1.04 DEFINITIONS

- A. Contractor's Quality Control Plan: Contractor's management plan for executing the Contract for Construction.

1.05 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Test Reports: After each test/inspection, promptly submit one electronic copy of report to Architect, Owner, and Owner's Representative.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Compliance with Contract Documents.
 - k. When requested by Architect, provide interpretation of results.
- C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, as specified for Product Data.
 - 1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- D. Manufacturer's Instructions: When specified in individual specification sections, submit electronic instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner/ Owner's Representative.

1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.06 QUALITY ASSURANCE

- A. Contractor's Quality Control (CQC) Plan:
 1. Thirty days prior to start of work, submit a comprehensive plan describing how contract deliverables will be produced. Tailor CQC plan to specific requirements of the project. Include the following information:
 - a. Management Structure: Identify personnel responsible for quality. Include a chart showing lines of authority.
 - b. Management Approach: Define, describe, and include in the plan specific methodologies used in executing the work.
 - 1) Management and control of documents and records relating to quality.
 - 2) Communications.
 - 3) Coordination procedures.
 - 4) Resource management.
 - 5) Process control.
 - 6) Inspection and testing procedures and scheduling.
 - 7) Control of noncomplying work.
 - 8) Tracking deficiencies from identification, through acceptable corrective action, and verification.
 - 9) Control of testing and measuring equipment.
 - 10) Project materials certification.
 - 11) Managerial continuity and flexibility.
 - c. Owner will not make a separate payment for providing and maintaining a Quality Control Plan. Include associated costs in Bid price.
 - d. Acceptance of the plan is required prior to start of construction activities not including mobilization work. Owner's acceptance of the plan will be conditional and predicated on continuing satisfactory adherence to the plan. Owner reserves the right to require Contractor to make changes to the plan and operations, including removal of personnel, as necessary, to obtain specified quality of work results.
- B. Quality-Control Personnel Qualifications. Engage a qualified person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project. QC personnel may be subject to SCF approval.

1.07 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

- B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site 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 before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.08 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Owner will employ and pay for services of an independent testing agency to perform other specified testing.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 CONTROL OF INSTALLATION

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

3.02 MOCK-UPS

- A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.
- B. Accepted mock-ups establish the standard of quality the Architect will use to inspect against and to determine the acceptability of Work yet to be completed.
- C. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.
- D. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- E. Architect will use accepted mock-ups as a comparison standard for the remaining Work.
- F. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect. Confirm with Architect and Owner prior to removal of mock-up.

3.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 TESTING AND INSPECTION

- A. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
 - 5. Perform additional tests and inspections required by Architect.
 - 6. Submit reports of all tests/inspections specified.
- B. Limits on Testing/Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency may not approve or accept any portion of the Work.
 3. Agency may not assume any duties of Contractor.
 4. Agency has no authority to stop the Work.
- C. Contractor Responsibilities:
1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 2. Cooperate with laboratory personnel and provide access to the Work and to manufacturers' facilities.
 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.
- E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.05 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment, as applicable, and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.06 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

SECTION 01 40 10 CLEAN CONSTRUCTION PROCEDURES

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Clean Construction procedures, policies, and best practices and requirements.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.

1.03 PURPOSE

- A. To outline the process for selecting and implementing proper controls to reduce risk and to minimize impact of construction or renovation activities throughout Southcentral Foundation (SCF) facilities.

1.04 SCOPE

- A. This applies to all direct hire employees, Civil Service and Commissioned Corps Officers working under contractual agreements with Southcentral Foundation (SCF) and volunteers. Individuals and business entities that have entered into contractual agreements with Southcentral Foundation (SCF) are not exempt, unless otherwise stated in their contracts.

1.05 DEFINITIONS

- A. Customer-owner: Individuals who seek and receive services at SCF's programs and departments. The following terms may be used by SCF programs and departments in referring to customers:
 - 1. Patients
 - 2. Residents
 - 3. Students
 - 4. Members
 - 5. Beneficiaries
 - 6. Guests
 - 7. Event Participants
 - 8. Clients
- B. Infection Control Risk Assessment (ICRA) – A risk assessment tool that incorporates the facility's customer-owner population and type of construction work to reduce the risk of infection through phases of facility planning, design, construction, renovation, and maintenance.

1.06 PROCEDURE

- A. The Clean Construction Procedure with the accompanying Infection Control Risk Assessment (ICRA) Construction Permit will apply to all projects, including small construction and maintenance work.
- B. The ICRA will be implemented in the planning phase of each project and will be assessed by the Manager of Facilities or designee, in consultation with the Project Manager, Safety Manager and Quality Assurance (QA) Nurse Manager or designee.
- C. The Manager of Facilities or designee will provide updated documentation of the risk assessment throughout planning, design, and construction.
- D. Performance Standards
 - 1. ICRA will be initiated and maintained by the Manager of Facilities or designee, in consultation with the QA Nurse Manager or designee, and Safety Manager at all appropriate construction sites and areas with Infection Control (IC) deficiencies.
 - 2. Selected ICRA will be monitored by the Manager of Facilities in consultation with the QA Nurse Manager or designee, Safety Manager and Security Officers on weekends and holidays.
 - 3. The Manager of Facilities or designee, will provide briefings to the affected employees, including construction workers, to inform the staff of the particular ICRA for areas where they work.
- E. Manager of Facilities Responsibilities:
 - 1. The Manager of Facilities in consultation with the QA Nurse Manager or designee and the Safety Manager will select and implement appropriate infection control measures/actions for existing hazards that violate infection control standards and/or guidelines.
 - 2. The Manager of Facilities or designee will ensure the ICRA measures/actions are maintained and enforced.
 - a. The Manager of Facilities or designee will consult with the QA Nurse Manager or designee and the Safety Manager for all Type C and Type D projects as defined in this procedure.
 - 3. The Manager of Facilities or designee will ensure that ICRA measures/actions are incorporated into all contractor negotiations and contracts.
 - 4. The Manager of Facilities or designee will ensure that contractors and maintenance employees adhere to the implemented ICRA measures/actions.
 - 5. Contractors are responsible for training their employees and enforcing ICRA measures/actions with their employees.
 - 6. Employees are responsible for adhering to established ICRA measures/actions and for reporting any violations of this procedure to the Manager of Facilities or designee.

F. Project Assessment

1. Each project will be assessed for risk during the planning phase by Facilities.
 - a. The project will be assigned a risk group to include employees from Corporate QA, Facilities, and the affected program and will be matched with a project type that will determine a class of precautions to be implemented.
2. The class of precautions will be determined by using the Type of Work Matrix described in this procedure.
3. Type of Projects (Work)
 - a. Type A (Minor) - Inspection and non-invasive projects including, but not limited to:
 - a) Removal of ceiling tiles for visual inspection
 - b) Painting with no sanding
 - c) Wall covering
 - d) Electrical trim work
 - e) Minor plumbing and
 - f) Other activities that do not generate dust
 - b. Type B (Maintenance) – Short duration / minimal dust projects which include, but are not limited to:
 - a) Setting brackets
 - b) Hanging items
 - c) Cutting of walls or ceilings where dust migration can be controlled to the immediate work area and the duration is less than one (1) work shift
 - d) Cutting of walls or ceilings where dust migration can be controlled, and the duration is less than one (1) work shift
 - c. Type C (Moderate) – Short duration / minor dust projects, including, but is not limited to:
 - a) Sanding
 - b) Removal of floor coverings, ceiling tiles, and casework
 - c) New wall construction
 - d) Minor duct work or electrical work above the ceiling
 - e) Major cabling activities
 - d. Type D (Major) – Projects that generate dust or require demolition of fixed building components which include, but are not limited to:
 - a) Activities which require consecutive work shifts
 - b) Require heavy demolition and/or removal of a complete cabling system
 - c) New construction
4. Type of Area
 - a. Low Risk:

- a) Plant area and other areas not intended for customer-owner use
 - b) Warehouse
 - c) Office areas
- b. Medium Risk:
 - a) Physical Therapy
 - b) Radiology
 - c) Outpatient Clinics (not including office areas)
 - d) Dental Clinics
 - e) Pharmacy
 - f) Employee Family Center
 - g) Living quarters at residential treatment programs
 - h) Food service or kitchen areas
- c. High Risk:
 - a) Endoscopy
 - b) Laboratory
- d. Highest Risk
 - a) Dental Sterile Processing

5. Risk Group Classifications

Risk Group Classification	Type A	Type B	Type C	Type D
Low Risk	I	I/II	II	III/IV
Medium Risk	I	I/II	III	IV
High Risk	I	I/II	III/IV	IV
Highest Risk	I/II	III/IV	III/IV	IV

Note: Infection Control approval will be required when the construction activity and risk level indicate that **Class III** or **Class IV** control procedures are necessary.

6. Infection control measure based on class:

	During Construction Project	Upon Completion of Project
Class I	1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace any ceiling tile displaced for visual inspection.	1. Clean work area upon completion of work.

Class II	1. Provide active means to prevent air-borne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with tape. 4. Block off and seal air vents. 5. Remove or isolate heating, ventilation, and air conditioning (HVAC) system in areas where work is being performed.	2. Wipe work surfaces with disinfectant. 3. Contain construction waste before transport in tightly covered containers. 4. Wet mop and/or vacuum with High-Efficiency Particulate Air (HEPA) filtered vacuum before leaving work area. 5. Remove isolation of HVAC system in areas where work is being performed.
Class III	1. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within the work site utilizing HEPA equipped air filtration units. 4. Contain construction waste before transport in tightly covered containers. 5. Cover transport receptacles or carts. Tape covering unless solid lid.	1. Do not remove barriers from work area until completed project is inspected by the Manager of Facilities, Safety Manger and QA Nurse Manager or designee, and is thoroughly cleaned by housekeeping. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with disinfectant. 5. Remove isolation of HVAC system in areas where work is being performed.

Class IV	1. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Seal holes, pipes, conduits, and punctures appropriately. 5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site. 6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. 7. Do not remove barriers from the work area until completed project is inspected by owner's Safety Department and Infection Control Department and thoroughly cleaned by owner's Environmental Services Department.	1. Do not remove barriers from work area until completed project is inspected by the Manager of Facilities, Safety Manager and QA Nurse Manager or designee, and is thoroughly cleaned by Environmental Services Department. 2. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. 3. Contain construction waste before transport in tightly covered containers. 4. Cover transport receptacles or carts. Tape covering unless solid lid. 5. Vacuum work area with HEPA filtered vacuums. 6. Wet mop area with disinfectant. 7. Remove isolation of HVAC system in areas where work is being performed.
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7. Environmental monitoring:
 - a. The Manager of Facilities will conduct field inspections at any time during the life of the project with the assistance of the QA Nurse Manager or designee and Safety Manager.
 - b. The Manager of Facilities will monitor air quality throughout project as needed.
8. Implementation of Infection Control Measures
 - a) Temporary construction barriers and closures will be dust-tight.
 - b) Removal of debris will be in tightly covered containers.
 - c) Adhesive walk-off mats will be placed at all entrances to work site, as needed.
 - d) Any dust tracked outside of the barrier will be removed immediately.

- e) Any ceiling access panels opened for investigation beyond sealed areas will be replaced immediately when unattended.
 - f) Block off all ventilation and return ducts within the construction area.
 - g) Method of capping ducts will be dust tight and airflow to those devices will be shut off (either with the direct digital control (DDC) and/or damper).
 - h) Removal of construction barriers and ceiling protection will be done carefully.
 - i) Vacuum and clean all surfaces free of dust after the removal.
 - j) Housekeeping will be notified to do a follow up cleaning of the area.
 - k) When access panels are opened in occupied areas requiring protection, for work above ceilings, use a polyethylene enclosure around ladder, sealing off opening.
 - l) The device will be fitted/sealed tightly to the ceiling and floor per manufacturers' instructions.
9. Enforcement of Infection Control Measures
- a. The Manager of Facilities, QA Nurse Manager or designee, or Safety Manager may stop the work if this procedure is violated.
 - a) Work will not resume until all violations of this procedure are corrected and verified in writing.
 - b. The Manager of Facilities will record the following:
 - a) Document each violation with photographs and written reports
 - b) Extract contractor or department information from the work log
 - c) Maintain a record of all infection control violations
 - c. Violations of this procedure may affect status as a responsible contractor for bidding future work.

1.07 REFERENCES

- A. Attachment A – Specification Section 01 40 10.01 – Infection Control Risk Assessment Construction Permit.
- B. Facility Guidelines Institute, Guidelines for Design and Construction of Healthcare Facilities (2022).

END OF SECTION

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (ILSM) Infection Prevention and Control (ICRA) Interim Utility System Measures (IUSM)

*This form is an evaluation tool and **NOT** intended to replace required project, compliance, or safety documentation.*

Instructions: Please complete the entire form and submit to the Project Manager, SCF Facilities, and SCF Safety for review and approval. ILSM, ICRA, and IUSM approvals may require multiple steps and can take more than a week to approve, so plan accordingly. To expedite, consider attaching supporting documentation. Risk assessment should identify specific mitigation methods for each phase of the project. Utilize the clarification section to identify the applicability of additional forms (i.e. Demo higher ICRA need than finishing work)

Once approved and signed; display and hang a copy at the work site to be available upon request.

Section 1: General Project Information <i>– required section –</i>		Anticipated project date range:		Today's Date:	
Submitted By (name & company)		Start Date:		Estimated End Date:	
Project Manager (name & contact #):		Impacted Department(s) (list all that apply):			
Contractor Contact (name & contact #):		Impacted Department(s) Contact #:			
Appointed Site Safety Officer (name & contact #)		Adjacent Department(s) (list all that apply):			
Life Safety Occupancy (business, hospital, etc.):	Business	Anticipated Accreditation or Regulatory Surveys:			

Important Contacts:	SCF Security: 907.729.5700	SCF Safety: 907.575.8006	Infection Control: 907.570.6475
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Construction Project Type Assessment – Circle Class					
Risk Each project is assessed by assigning a risk group and project type to determine infection prevention precautions required during project. Clean Construction Procedure #805-03 Infection Control Permit and Class Procedures provided below, PM signature required.	Activity				
		Type A	Type B	Type C	Type D
	LOW RISK	Class I	Class II	Class II	Class III/IV
	MEDIUM RISK	Class I	Class II	Class III	Class IV
	HIGH RISK	Class I	Class II	Class III/IV	Class IV
	HIGHEST RISK	Class II	Class III/IV	Class III/IV	Class IV

Type A	Type B	Type C	Type D
Inspection and noninvasive activities such as: - Removal of ceiling tiles for visual inspection only, limited to one tile per 50 square feet - Painting (without sanding) - Wall covering replacement - Electrical trim work - Minor plumbing - Activities without dust	Small-scale, short-duration activities that create minimal dust: - Includes, but is not limited to: - Setting brackets - Hanging items - Cutting of walls or ceiling where dust migration can be controlled to the immediate work area and the duration is less than one shift	Work that generates moderate to high level of dust or requires demolition, or removal of any fixed building components or assemblies: - Removal of floor/wall coverings, ceiling tiles, or casework - Cutting walls or ceilings where dust migration can be controlled and the duration is less than one work shift - Minor duct work or electrical work above ceilings - Major or invasive cabling activities - New wall construction	Major demolition and construction projects: - Removal of floor/wall coverings, ceiling tiles, and casework - Cutting of walls or ceilings where dust migration can be controlled and the duration is less than one shift - Minor duct work or electrical work above ceilings - Major or invasive cabling activities - New wall construction
Low Risk Areas	Medium Risk Areas	High Risk Areas	Highest Risk Areas
- Plant areas - Supply areas - Office areas not near patient care - Areas not intended for patient use	- Outpatient clinics (<i>not specified in high or highest risk category</i>) - Cardiology - Dental - Echocardiography - Physical Therapy - Radiology/MRI - Respiratory Therapy - Outpatient Pharmacy	- Emergency Room/Fast Track - Laboratory - Maternal Child (Labor & Delivery) - Newborn Nursery - Outpatient Surgery (Day Surgery) - Inpatient Pharmacy (non-compounding) - Corridors in high risk areas	- Operating rooms; including C-Section - Central Supply/Sterile Processing Department - Intensive Care Units - Endoscopy - Negative Pressure Isolation Rooms - Oncology - Areas immune-compromised patients.

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (ILSM) Infection Prevention and Control (ICRA) Interim Utility System Measures (IUSM)

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Infection Prevention & Control Requirements		Identified Risk or Hazard			Req'd	Additional info.
Evaluation Required – accredited campus	YES	NO	N/A	Completed Infection Control Risk Assessment (ICRA) – IC signature required for Class III & IV projects	ICRA/ Class	Coordinate w/ Infection Control (IC)
	YES	NO	N/A	Airborne infection isolation room(s) impacted	ICRA	Coordinate with IC and department
	YES	NO	N/A	Temporary dust-tight construction barriers	ICRA	Coordinate with IC and department
	YES	NO	N/A	Construction waste transport and disposal	ICRA	Walk-off mats, covered carts, etc.
	YES	NO	N/A	Domestic water system be impacted	ICRA	Reference ANMC procedure #801-07
	YES	NO	N/A	Potential worker exposure to infectious diseases	ICRA	Coordinate with IC and department
	YES	NO	N/A	Immune-compromised patients in area or nearby	ICRA	Coordinate with IC and department

Life Safety Requirements	Identified Risk or Hazard			Req'd	Additional info.	
Evaluation Required – accredited campus	Select YES if any of the risks or hazards apply and proceed with requirements.					
	YES	NO	N/A	Completed assessment for Interim Life Safety Measures (ILSM) – ILSM form, signatures required	ILSM	Complete ILSM assessment with required signatures.
	YES	NO	N/A	Fire alarm or sprinkler system impaired (e.g. out of service, disabled smoke detector(s) or sprinkler(s))	ILSM	Evaluate for Fire Watch and complete form as needed
	YES	NO	N/A	Alternate egress required - block or obstruct exits (exit signs, >6" corridor projections, evacuation plans)	ILSM	Review Life Safety Plans, post fire safety response plan for contractor and employees; document education
	YES	NO	N/A	Temporary smoke-tight construction partitions (e.g. occupied spaces)	ILSM	
	YES	NO	N/A	Fire or smoke barrier penetration (e.g. missing ceiling tiles, doors, walls)	ILSM	Evaluate for Fire Watch and complete form as needed
	YES	NO	N/A	Above ceiling work (i.e. penetrations, cabling, debris, broken tiles)	ILSM	Evaluate for ILSM
	YES	NO	N/A	Storage of supplies and waste required (e.g. flammable or combustible materials, debris, dust, waste)	ILSM	Evaluate for ILSM
	YES	NO	N/A	Hot work including fire or spark producing (e.g. welding, grinding metal, soldering)	ILSM	Complete hot work permit, post copy at site where work is taking place
	YES	NO	N/A	Evaluate for Fire Watch needs for project	ILSM	Evaluate for ILSM
			Structural fire proofing		Evaluate for ILSM	

Utility Systems Requirements	Identified Risk or Hazard				Req'd	Additional info.
Evaluation Required – accredited campus	Select YES if any of the risks or hazards apply and proceed with requirements.					
	YES	NO	N/A	Electricity interruptions	IUSM	Evaluate for interim utility measures (IUSM) & required coordination.
	YES	NO	N/A	Water interruptions	IUSM	Evaluate for IUSM and develop water damage prevention plan.
	YES	NO	N/A	Heating Ventilation Air Conditioning interruptions	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Medical gas	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Pneumatic Tube	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Suction	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Networking, data systems, or telecommunications	IUSM	Evaluate for IUSM & coordination
	YES	NO	N/A	Cabling – requiring pass through walls or ceilings	IUSM/ ILSM	Evaluate for IUSM & ILSM
	YES	NO	N/A	Other systems – nurse call, overhead paging,	IUSM	Evaluate for IUSM & coordination
			Potential worker exposure to infectious diseases	IUSM/ ICRA	Evaluate for IUSM & ICRA	

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (ILSM) Infection Prevention and Control (ICRA) Interim Utility System Measures (IUSM)

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Safety Requirements	Identified Risk or Hazard			Req'd	Additional info.
Evaluation Required – ALL PROJECTS	Select YES if any of the risks or hazards apply and proceed with requirements.				
	YES	NO	N/A	Communication Plan (notification to construction team, impacted areas, and staff)	Post required signage and notify impacted staff
	YES	NO	N/A	Noise or vibration in area or nearby (special considerations required for NICU/Peds and inpatient areas)	Coordinate with impacted Department(s)
	YES	NO	N/A	Hazardous Materials & Waste (considerations for hazards and PPE - odors, fumes, VOC, corrosives)	Review Safety Data Sheet (SDS) & OSHA requirements, keep SDS on site
	YES	NO	N/A	Biohazardous Waste (considerations for disposal and proper PPE per OSHA 1910.1030)	Evaluate for compliance with OSHA 1910.1030 and ANMC Procedures
	YES	NO	N/A	Construction Site Safety (e.g. falling objects, tripping hazards, fall protection, PPE)	Appoint Site Safety Officer
	YES	NO	N/A	Motorized equipment (e.g. forklift, scissors lift, crane)	Evaluate for specific requirements including competency/training
	YES	NO	N/A	Relocate occupants (e.g. patients, staff, classes, meetings, etc.)	Coordinate with impacted Department(s)
	YES	NO	N/A	Confined Space entry required	Evaluate for confined space requirements per OSHA
	YES	NO	N/A	Scaffolding or working on elevated surfaces	Evaluate for fall protection requirements per OSHA

Security Requirements	Identified Risk or Hazard			Req'd	Additional info.
Evaluation Required – accredited campus	Select YES if any of the risks or hazards apply and proceed with requirements.				
	YES	NO	N/A	Access Control (e.g. ID badge access, physical keys, disable security systems)	
	YES	NO	N/A	High Security Considerations (e.g. perimeter, medications, medical records, IT, HR files, etc.)	PM to coordinate with departments, Security, and Control Room
	YES	NO	N/A	Medication Safety and Security (i.e. unsecure doors/walls/ceilings, moving Pyxis, waste)	PM coordinate with Pharmacy/Dept.
	YES	NO	N/A	Other security measures (explain):	PM to coordinate with departments, Security, and Control Room
	YES	NO	N/A		

Additional Information or Requirements:	
PCRA Signatures Reviewed and signed by at least the Health Facilities, ANMC Safety, and Infection Control. At a minimum a copy of the signed form should be provided to the Department Director, Security, and affected areas and available at the worksite.	
Facilities/ Projects print name and signature: _____	Infection Control print name and signature: _____
Date: _____	Date: _____
_____	Signature of SCF Safety (as applicable): _____
_____	Date: _____

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (ILSM) Infection Prevention and Control (ICRA) Interim Utility System Measures (IUSM)

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Infection Control Constructions Permit – Project Requirements by Class as designated on the PCRA		
	During Project	Upon Completion of Project
Class I	- Execute work by methods to minimize raising dust from construction operations - Immediately replace a ceiling tile displaced for visual inspection	Clean work area upon completion of task
Class II	- Provide active means to prevent airborne dust from dispersing into the atmosphere - Water mist work surfaces to control dust while cutting - Seal unused doors with duct tape - Block off and seal air vents - Place dust mat at entrance and exit of work area - Remove or isolate HVAC system in areas where work is being performed	- Wipe work surfaces with cleaner/disinfectant - Contain construction waste before transport in tightly covered containers - Wet mop and/or vacuum with high-efficiency particulate air (HEPA) filtered vacuum before leaving work area - Upon completion, restore HVAC system where work was performed
Class III	- Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system - Complete all critical barriers, e.g., sheetrock, plywood, plastic to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. - Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units - Contain construction waste before transport in tightly covered containers - Cover transport receptacles or carts. Tape covering unless lid is solid.	- Do not remove barriers from work area until completed project is inspected by the Infection Control or Safety Officer or representative and they are thoroughly cleaned by EVS staff. - Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. - Vacuum work area with HEPA-filtered vacuums. - Wet mop area with cleaner/disinfectant. - Upon completion, restore HVAC system where work was performed.
Class IV	- Isolate HVAC system in area where work is being done to prevent contamination of duct system. - Complete all critical barriers, e.g. sheetrock, plywood, plastic to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. - Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units - Seal holes, pipes, conduits, and punctures. - Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or have them wear cloth or paper coveralls that are removed each time they leave work site. - All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area.	- Do not remove barriers from work area until completed project is inspected by the Infection Control or Safety Officer or representative and they are thoroughly cleaned by EVS staff. - Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. - Contain construction waste before transport in tightly covered containers. - Cover transport receptacles or carts. Tape covering unless solid. - Vacuum work area with HEPA-filtered vacuums. - Wet mop area with cleaner/disinfectant. - Upon completion, restore HVAC system where work was performed.

Additional Information or Requirements (additional measures being taken to mitigate infection control measures):

Infection Control print name and signature:	Facilities/ Projects print name and signature:
Date:	Date:

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (ILSM) Infection Prevention and Control (ICRA) Interim Utility System Measures (IUSM)

*This form is an evaluation tool and **NOT** intended to replace required project, compliance, or safety documentation.*

Instructions: PM to ensure the below answers are provided for each ILSM. For any “YES” answers, indicate the duration of the measure and review the, the “Implemented ILSM” column details the minimum required ILSM. Unless otherwise noted, the PM is responsible to implement all required ILSMs. Blank rows are provided to allow additional ILSMs as required for the safety of patients and staff and the preservation of the facility. **Include drawings to show the affected area and where specific ILSMs will be implemented.** PM to obtain proper review and approvals prior to beginning work.

Measure	ILSM Evaluation			Duration of ILSM dates/phase(s)	Implemented ILSM
1.	Will a fire alarm system be out of service for more than 4 hours in a 24-hour period?	YES	NO		Director of Facilities, or designee, will notify the fire department and other emergency response services. PM to initiate Fire Watch and document according to fire watch procedure and forms. To the extent possible the detectors will be disabled and covered during work hours but enabled during non-work hours as fully functional.
2.	Will the fire sprinkler system be out of service for more than 10 hours in a 24-hour period?	YES	NO		Director of Facilities, or designee, will notify the fire department and other emergency response services. PM to initiate Fire Watch and document according to fire watch procedure and forms.
3.	Will exit accesses, exits, or exit discharges be blocked?	YES	NO		Post signs identifying alternate exits for impacted personnel. Impacted personnel will follow procedures for ILSM evacuation and emergency response. Remaining means of egress shall be maintained at all times and inspected at least daily using the PCRA Inspection Checklist which will be kept in the project folder and at the work site.
4.	Will an exit access, exit, or exit discharge be obstructed?	YES	NO		Remaining means of egress shall be maintained at all times and inspected at least daily using the PCRA Inspection Checklist which will be kept in the onsite project folder. Considerations should include patient and support equipment movement
5.	Will fire alarm and detection systems be impaired in an unoccupied room?	YES	NO		Temporary fire alarm/detection systems shall be provided in the affected space and must be approved by the Director of Facilities or designee. Temporary systems will be tested and inspected monthly. Affected/nearby staff will be trained to recognize and respond to an alarm from the temporary fire system. Documentation kept with the onsite project folder.)
6.	Will hot work be required?	YES	NO		The Director of Facilities or designee will provide an additional portable fire extinguisher that will be kept in the construction area. Construction personnel will be provided training on the fire extinguishing equipment. Complete hot work permit. Initiate fire watch. Document according to fire watch procedure.
7.	Will the work area contain or be used to store excessive flammable material?	YES	NO		The Director of Facilities or designee will provide an additional portable fire extinguisher that will be kept in the area. Affected personnel will be provided training on the fire extinguishing equipment.
8.	Will the existing smoke compartment boundary, corridor construction, or other fire barriers be impaired/ degraded and the duration of the project be less than or equal to 5 calendar days?	YES	NO		Business Occupancy:
		YES	NO		Ambulatory Occupancy:
		YES	NO		Other Occupancy:

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (ILSM) Infection Prevention and Control (ICRA) Interim Utility System Measures (IUSM)

*This form is an evaluation tool and **NOT** intended to replace required project, compliance, or safety documentation.*

Instructions: PM to ensure the below answers are provided for each ILSM. For any "YES" answers, indicate the duration of the measure and review the, the "Implemented ILSM" column details the minimum required ILSM. Unless otherwise noted, the PM is responsible to implement all required ILSMs. Blank rows are provided to allow additional ILSMs as required for the safety of patients and staff and the preservation of the facility. **Include drawings to show the affected area and where specific ILSMs will be implemented.** PM to obtain proper review and approvals prior to beginning work.

Measure	ILSM Evaluation			Duration of ILSM dates/phase(s)	Implemented ILSM
9.	Will the existing smoke compartment boundary, corridor construction, or other fire barriers be impaired/degraded and the duration of the project be greater than 5 calendar days?	YES	NO		
10.	Will the existing ceiling or wall smoke barriers be impaired/degraded?	YES	NO		
11.	Will construction activity include excavations, hazardous storage areas, or site conditions that have potential to significantly impact life safety of patients or staff?	YES	NO		
12.	Will activity significantly increase the flammable and combustible fire loading in non-hazardous spaces?	YES	NO		
13.	Additional ILSM Considerations (as needed):	YES	NO		
14.	Additional ILSM Considerations (as needed):	YES	NO		

Additional Information or Requirements:

Safety print name and signature:

Facilities/ Projects Representative print name and signature:

Date:

Date:

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (ILSM) Infection Prevention and Control (ICRA) Interim Utility System Measures (IUSM)

*This form is an evaluation tool and **NOT** intended to replace required project, compliance, or safety documentation.*

Instructions: Understanding that fire watch planning and implementation will require multiple steps, SCF Project Managers (PM) will coordinate at least 48 hours in advance when possible. A copy of the signed form(s) will be kept in the project file and made available upon request.

Signed and completed fire watch checklist must be routed to Safety (scfsafety@scf.cc) and the Facilities Project Manager.

Section 1: Fire Watch Requirements - Completed by SCF Project Manager – all fields required

Type of work (check all that apply):	☐ Hot Work ☐ Fire Alarm System Impairment ☐ Sprinkler System Impairment ☐ Smoke or Fire Barrier Impairment ☐ OTHER (explain):		
Building/ floor/ department/ room:			
Describe specific location and expected fire watch coverage:	-		
Project Manager Name with phone #, and email:	Name:	Phone #:	Email:
Expected Dates for planning and scheduling (estimated start and end date):	Date From:	Date To:	Frequency/ interval (30 min, 60 min, 120 min):

Section 2: Fire Watch Project Information

1.	Project Manager will provide ILSM and fire watch checklist as handoff to SCF Security.	Direct all questions to Project Manager
2.	SCF Security will: - Review ILSM, fire watch requirements, and documents. - Complete fire watch duties according to the frequency required and until notified work is complete. - Document fire watch checks on the attached log and submit to SCF Safety. - Know location of nearest fire extinguisher and alarm pull station in the fire watch area. - Activate Code Red emergency procedures immediately if smoke or fire is suspected or confirmed.	Direct all questions to Supervisor, Project Manager, and/or Facilities Manager.

Printed Name and Signature of Project Manager (or designee): _____

Date: _____

Forward signed copy to: SCF Safety (scfsafety@scf.cc)

Floorplan and additional information as needed:

ATTACHMENT A: PRECONSTRUCTION RISK ASSESSMENT CHECKLIST

Interim Life Safety Measures (ILSM) Infection Prevention and Control (ICRA) Interim Utility System Measures (IUSM)

*This form is an evaluation tool and **NOT** intended to replace required project, compliance, or safety documentation.*

Instructions: PM to ensure the below answers are provided for each utility system. For any “YES” answers, indicate the duration of the measure and review the “Implemented IUSM” column details for the minimum requirements. Unless otherwise noted, the PM is responsible to implement all required IUSMs. Blank rows are provided to allow additional IUSMs as required for the safety of patients and staff and the preservation of the facility. PM to obtain proper review and approvals prior to beginning work.

Interim Utility System Measures (IUSM)

All permits, risk assessments, mitigating measures and procedures shall be in place before work begins.

Measure	IUSM Evaluation		Duration of IUSM dates/phase(s)	Implemented IUSM
1. Domestic Water	YES	NO		Complete ICRA & ILSM . Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
2. Electrical	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
3. Emergency Power	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
4. Fire Detection	YES	NO		Complete ILSM and evaluate for Fire Watch Contact information for person performing work:
5. Fire Suppression	YES	NO		Complete ILSM and evaluate for Fire Watch Contact <u>information</u> for person performing work:
6. HVAC	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
7. Medical Gas	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
8. Pneumatic Tube	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
9. Suction	YES	NO		Follow Lock Out Tag Out procedures. Review and prepare emergency response plan specific to the work taking place. Coordinate with impacted department(s). Contact information for person performing work:
10 Other (explain):	YES	NO		Explain: Contact information for person performing work:
Completed by:				Date:

Forward IUSM copy to: Safety (scfsafety@scf.cc)

SECTION 01 41 00 REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

- A. Regulatory requirements applicable to this project are the following:
- B. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines current edition.
- C. ADA Standards - 2010 ADA Standards for Accessible Design 2010.
- D. 29 CFR 1910 - Occupational Safety and Health Standards Current Edition.
- E. NFPA 101 - Life Safety Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments, Supplements, and codes referenced herein.
- F. NFPA 99 – Health Care Code
- G. FGI Guidelines – 2022 Facility Guidelines Institute for Design and Construction.
- H. IFC – International Fire Code – Current guidelines adopted by the State of Alaska.
- I. ICC (IBC) - International Building Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 005213 – Agreement Form.
- C. Section 014000 - Quality Requirements.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 42 00
REFERENCE STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 005213 – Agreement Form.
- C. Construction Drawings, Technical Specifications, Architect's Supplemental Instructions, Requests for Information, and Addenda.

1.02 SECTION INCLUDES

- A. Use of references in Drawings and Specifications, including requirements for copies of reference standards at Project site.
- B. Definitions and terms used in Specifications and Drawings, including abbreviations, acronyms, names, and terms which may be used in Specifications.

1.03 DEFINITIONS

- A. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- B. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- C. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown" "noted," "scheduled," and "specified" have the same meaning as "indicated."
- D. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- E. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- F. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar

operations.

- G. "Provide": Furnish and install, complete and ready for the intended use.
- H. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.04 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated. Comply with standard dates referenced in the International Building Code (IBC).
- C. Copies of Standards: Each entity engaged in construction on Project shall be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.
- D. 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 specification section.

1.05 USE OF REFERENCES

- A. References: The Drawings and Specifications contain references to various standards, standard specifications, codes, practices and requirements for products, execution, tests and inspections. These reference standards are published and issued by the agencies, associations, organizations and societies listed in this Section or identified in individual product specification Sections.
 - 1. Wherever term "Agency" occurs in Standard Specifications, it shall be understood to mean the term used for Southcentral Foundation for purposes of the Contract.

2. Wherever term "Engineer" occurs in Standard Specifications, it shall be understood to mean Architect or other responsible design professional for purposes of the Contract.
 3. Where reference is made to Standard Details, such reference shall be to the Standard Details accompanying the Standard Specifications.
- B. Relationship to Drawings and Specifications: Such references are incorporated into and made a part of the Drawings and Specifications to the extent applicable.
- C. Referenced Grades Classes and Types: Where an alternative or optional grade, class or type of product or execution is included in a reference but is not identified on the Drawings or in the Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.
- D. Copies of Reference Standards:
1. Reference standards are not furnished with the Drawings and Specifications because it is presumed that the Contractor, subcontractors, manufacturers, suppliers, trades, and crafts are familiar with these generally recognized standards of the construction industry.
 2. Copies of reference standards may be obtained from publishing sources.
- E. Jobsite Copies:
1. Contractor shall obtain and maintain at the Project site copies of reference standards identified on the Drawings and in the Specifications in order to properly execute the Work.
 2. At a minimum, the following shall be readily available, as applicable to the Work:
 - a. State Building Codes: As referenced in Section 01 41 00 - Regulatory Requirements.
 - b. Safety Codes: Occupational Safety and Health Act (OSHA) regulations and local and state Safety requirements and regulations.
 - c. General Standards:
 - 1) Underwriters Laboratories, Inc. (UL) Building Products Listing.
 - 2) Factory Mutual Research Organization (FM) Approval Guide.
 - 3) American Society for Testing and Materials (ASTM) Standards in Building Codes.
 - 4) American National Standards Institute (ANSI) standards.
 - d. Fire and Life Safety Standards: All referenced standards pertaining to fire rated construction and exiting.
 - e. Common Materials Standards: American Concrete Institute (ACI), American Institute of Steel Construction (AISC), American Welding Society

(AWS), Gypsum Association (GA), National Fire Protection Association (NFPA), and Tile Council of America (TCA) standards to the extent referenced within the Contract Specifications.

- f. Product Listings: Approval documentation, indicating approval of authorities having jurisdiction for use of product within the applicable jurisdiction.

F. Edition Date of References:

1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition enforced by the Authorities Having Jurisdiction as of the date of the Agreement, Contract Drawings and Contract Specifications.
2. All amendments, changes, errata, and supplements as of the effective date shall be included.

G. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that the Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.06 DEFINITIONS OF TERMS

- A. Basic Contract Definitions: Words and terms governing the Work are defined in the Contract General and Supplementary Conditions, as referenced in the Agreement.
- B. Words and Terms Used on Drawings and in Specifications: Additional words and terms may be used in the Drawings and Specifications and are defined as follows:
 1. "Applicable:" As appropriate for the particular condition, circumstance or situation.
 2. "Approve(d):" Approval action shall be limited to the duties and responsibilities of the party giving approval, as stated in the Conditions of the Contract. Approvals shall be valid only if obtained in writing and shall not apply to matters regarding the means, methods, techniques, sequences and procedures of construction. Approval shall not relieve the Contractor from responsibility to fulfill Contract requirements.
 3. "And/or:" If used, shall mean that either or both of the items so joined are required.
 4. "Directed:" Limited to duties and responsibilities of the Southcentral Foundation's Representative or Architect as stated in the Contract General Conditions, meaning "as instructed by SCF's Representative or Architect, in

writing, regarding matters other than the means, methods, techniques, sequences and procedures of construction. Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by SCF's Representative or Architect", "requested by the SCF's Representative or Architect", and similar phrases. No implied meaning shall be interpreted to extend the responsibility of the SCF's Representative, Architect or other responsible design professional into the Contractor's supervision of construction.

5. "Equal" or "Equivalent:" As determined by Architect or other responsible design professional as being equivalent, considering such attributes as durability, finish, function, suitability, quality, utility, performance, and aesthetic features.
6. "Furnish:" Means "supply and deliver, to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."
7. "Indicated:" The term indicated refers to graphic representations, notes, or schedules on the Drawings, or other Paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as "shown", "noted", "scheduled", and "specified" are used to help the reader locate the reference. There is no limitation on location.
8. "Install:" Describes operations at the Project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
9. "Installer:"
 - a. "Installer" refers to the Contractor or an entity engaged by the Contractor, such as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 - b. "Experienced Installer:" The term "experienced," when used with "installer" means having a minimum of 5 previous Projects similar in size to this Project, knowing the precautions necessary to perform the Work, and being familiar with requirements of authorities having jurisdiction over the Work.
10. "Jobsite:" Same as site, Area of Work, or other similar term referencing the physical property where the work is to be carried out upon.
11. "Necessary:" With due considerations of the conditions of the Project and as determined in the professional judgment of the Architect or other responsible design professional as being necessary for performance of the Work in conformance with the requirements of the Contract Documents, but excluding matters regarding the means, methods, techniques, sequences, and procedures of construction.

12. "Noted:" Same as "Indicated."
13. "Per:" Same as "in accordance with," "according to" or "in compliance with."
14. "Products:" Material, system or equipment.
15. "Project Site:" Same as "Site." See definition of "Jobsite" above.
16. "Proper:" As determined by the Architect or other responsible design professional as being proper for the Work, excluding matters regarding the means, methods, techniques, sequences, and procedures of construction, which are solely the Contractor's responsibility to determine.
17. "Provide:" Means "furnish and install, complete and ready for the intended use."
18. "Regulation:" Includes laws, ordinances, statutes and lawful orders issued by authorities having jurisdiction, as well as and rules, conventions and agreements within the construction industry that control performance of the Work.
19. "Required:" Necessary for performance of the Work in conformance with the requirements of the Contract Documents, excluding matters regarding the means, methods, techniques, sequences and procedures of construction, such as:
 - a. Regulatory requirements of authorities having jurisdiction.
 - b. Requirements of referenced standards.
 - c. Requirements generally recognized as accepted construction practices of the locale.
 - d. Notes, schedules and graphic representations on the Drawings.
 - e. Requirements specified or referenced in the Specifications.
 - f. Duties and responsibilities stated in the Bidding and Contract Requirements.
20. "Scheduled:" Same as "Indicated."
21. "Selected:" As selected by SCF's Representative, Architect or other responsible design professional from the full selection of the manufacturer's products, unless specifically limited in the Contract Documents to a particular quality, color, texture or price range.
22. "Shown:" Same as "Indicated."
23. "Site:" Same as "Site of the Work" or "Project Site;" the area or areas or spaces occupied by the Project and including adjacent areas and other related areas occupied or used by the Contractor for construction activities, either exclusively

or with others performing other construction on the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land upon which the Project is to be built.

24. "Supply:" See "Furnish."

25. "Testing Laboratory" or "Testing Laboratories:" An independent entity engaged to perform specific inspections or tests, at the Project Site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests. Refer to Section 014000 – Quality Requirements.

26. "Testing and Inspection Agency:" Same as "Testing Laboratory."

1.07 ABBREVIATIONS, ACRONYMS, NAMES AND TERMS, GENERAL

- A. Abbreviations, Acronyms, Names and Terms: Where acronyms, abbreviations, names, and terms are used in the Drawings, Specifications, or other Contract Documents, they shall mean the recognized name of the trade association, standards generating organization, authority having jurisdiction or other entity applicable.
- B. Abbreviations, General: The following are commonly used abbreviations which may be found on the Drawings or in the Specifications. Refer to the Drawings for additional abbreviations or acronyms. This is a partial list. If there is any discrepancy or confusion, notify the University in writing by RFI:

AC or ac context)	Alternating current (or air conditioning, depending on
AMP or amp	Ampere
C	Celcius
CFM or cfm	Cubic feet per minute
CM or cm	Centimeter
CY or cy	Cubic Yard
DC or dc	Direct Current
DEG or deg	Degrees
F	Fahrenheit
FPM or fpm	Feet per minute
FPS or fps	Feet per second
FT or ft	Foot or feet
Gal or gal	Gallons
GPM or gmp	Gallons per minute
IN or in	Inches
Kip or kip	Thousand Pounds
KSI or ksi	Thousand pounds per square inch
KSF or ksf	Thousand pounds per square foot
KV or kv	Kilovolt

KVA or kva	Kilovolt amperes
KWH or kwh	Kilowatt hour
LBF or lbf	Pounds force
LF or lf	Lineal foot
M or m	Meter
MPH or mph	Miles per hour
MM or mm	Millimeter
PCF or pcf	Pounds per cubic foot
PSF or psf	Pounds per square foot
PSI or psi	Pounds per square inch
PSY or psy	Pounds per square yard
SF or sf	Square foot
Sy or sy	Square yard
V or v	Volts

- C. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."
- D. Undefined Abbreviations, Acronyms, Names and Terms: Words and terms not otherwise specifically defined in this Section, in the Instructions to Bidders, in the Contract General Conditions, on the Drawings or elsewhere in the Specifications, shall be as customarily defined by trade or industry practice, by reference standard and by specialty dictionaries such as the following:
1. Dictionary of Architecture and Construction, Fourth Edition (Cyril M. Harris, McGraw-Hill Book Company, 2005).
 2. Encyclopedia of Associations, published by Gale Research Co., commonly available in public libraries.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 01 Specifications apply to this section.
- B. Document 00 52 13 – Agreement Form.

1.02 SUBMITTALS

- A. Submit schedule of proposed connection and termination dates 15 days before implementation.
- B. Submit site plan showing temporary facilities, utility connections, and construction personnel parking areas.

1.03 QUALITY ASSURANCE

- A. Arrange and pay for Authorities Having Jurisdiction to approve each temporary utility before use. Obtain necessary certifications and permits.

1.04 PROJECT CONDITIONS

- A. Assume responsibility for operation, maintenance, and protection.

PART 2 - PRODUCTS

2.01 FIRE EXTINGUISHERS

- A. Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

2.02 TEMPORARY ELECTRICITY

- A. If required, Contractor shall provide and shall pay for power service required from utility source.
- B. Provide power outlets for construction operations, with branch wiring and distribution boxes. Provide flexible power cords as required.
- C. Provide main service disconnect and overcurrent protection at convenient location.

2.03 TEMPORARY LIGHTING

- A. Provide and maintain lighting for constructions operations.
- B. Permanent building lighting may be utilized during construction only with written pre-approval from Owner.

2.04 TEMPORARY HEAT

- A. Provide and pay for heat devices and heat as required to maintain specified conditions for construction operations. Use equipment that will not have harmful effect on completed installation.
 - 1. Use permanent heating system, or provide vented, self-contained, liquid-gas, propane-gas, or fuel-oil heaters with individual space thermostatic control.
 - 2. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 3. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 - 4. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated, and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.
- B. Maintain minimum ambient temperature of 50 degrees F. in areas where construction is in progress, unless indicated otherwise in Specifications.

2.05 HUMIDITY CONTROL

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

2.06 TELEPHONE SERVICE

- A. Provide, maintain, and pay for mobile telephone service to field supervisor(s) at time of project mobilization through project completion.

2.07 COMPUTER AND COPY SERVICE

- A. Provide, maintain, and pay for computer service to field office at time of project mobilization.
- B. Provide, maintain, and pay for 8-1/2 x 11-inch copy machine in field

office.

2.08 TEMPORARY WATER SERVICE

- A. Existing water service may be used. Owner will pay cost of water used. Exercise measures to conserve water.
- B. If Owner provided water is not available or adequate, provide, maintain, and pay for suitable quality water required for construction.
 - 1. Extend branch piping with outlets located so water is available by hoses with threaded connections.
 - 2. Sterilize temporary water piping prior to use.

2.09 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain self-contained facilities and enclosures including toilets, wash facilities and drinking water, for use of construction persons.

2.10 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect adjacent properties from damage from construction operations. Coordinate all requirements for infection control with the Owner.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

2.11 FIELD OFFICES AND SHEDS

- A. Office: Suitable for Contractor field management and tool storage, weather-tight, with lighting, electrical outlets, heating equipment and equipped with sturdy furniture, drawing rack, and drawing display table.
- B. Provide space for project meetings, with table and chairs necessary to accommodate all attendees.
- C. Locate offices and sheds a minimum distance of 20 feet from existing structures unless Owner approves in writing.
- D. Provide fire resistant rated walls where closer than 30 feet to other permanent buildings or interior property lines. Not required at public right of way.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

3.02 WEATHER CONTROL

- A. Provide temporary insulated weather-tight closure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual Specifications Sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

3.03 PROTECTION OF INSTALLED WORK

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

3.04 SECURITY

- A. Provide security and facilities to protect Work from unauthorized entry, vandalism, or theft.
- B. Coordinate with Owner's security program.

3.05 PARKING

- A. Coordinate with Owner to arrange for parking areas to accommodate

construction personnel.

- B. When site space is not adequate, provide additional off-site parking.
- C. Designate one parking space onsite for the Owner.

3.06 PROGRESS CLEANING

- A. Maintain work and storage area free of waste materials, debris, and rubbish. Maintain site in a clean and orderly conditions to maintain site passage and exits, and to avoid fire hazard.
- B. Provide waste-collection containers in sizes adequate to handle construction waste.
- C. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the spaces.
- D. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.
- E. Remove waste materials, debris, and rubbish from site periodically at least once weekly and dispose off-site.
- F. Open free-fall chutes not permitted. Terminate closed chutes into appropriate containers with lids.

3.07 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion Inspection.
- B. Remove underground installations to a minimum depth of two feet. Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition.

END OF SECTION

SECTION 01 60 00 PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 00 52 13 – Agreement Form
- C. Section 01 40 00 - Quality Requirements
- D. Section 01 70 00 – Execution and Closeout Requirements

1.02 DEFINITIONS

- A. Products: New material, machinery, components, equipment, fixtures, and systems forming the Work. Products do not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.
- B. Products may also include existing materials or components required for reuse where specified.
 - 1. Provide interchangeable components of the same manufacturer, for similar use products.
- C. Substitutions: Changes in products from those required by the Contract documents, proposed by the Contractor.
 - 1. Substitutions will not be accepted during Bidding.

1.04 PRODUCT SUBMITTALS

- A. Product List: Submit a list, showing proposed products. Include manufacturer's name and proprietary product names for each product.
 - 1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 - 2. Form: Tabulate information for each product under the following column heading:
 - a. Specification Section number and title.
 - b. Generic name used in the Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.
 - e. Supplier's name and address.

- f. Installer's name and address.
 - g. Projected delivery date or time span of delivery period.
 - h. Identification of items that require early submittal approval for scheduled delivery date.
 - 3. Initial Submittal: Within 30 days after notice to proceed, submit initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 - a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
 - 4. Completed List: Within 60 calendar days after notice to proceed to construction, submit product list. Include a written explanation for any omissions of data and for variations from Contract requirements.
 - 5. Architect's Action: Architect will respond in writing to Contractor within 7 calendar days, excluding SCF recognized holidays, of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.
- B. Substitution Requests: Submit one request for each proposed substitution. Include Specification Section number and title and Drawing numbers and titles.
- 1. Documentation: Show compliance with requirements for substitutions.
 - 2. Show history of product in Alaska.
- C. Comparable Product Requests: Submit for each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
- D. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt.

1.05 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will

prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and freezing.

1.07 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract.

PART 2 – PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated

use and effect.

2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
3. Where products are accompanied by the term “as selected,” Architect will make selection.
4. Where products are accompanied by the term “match,” sample to be matched is Architect’s or existing construction.
5. Descriptive, performance, and reference standard requirements in the Specifications establish “salient characteristics” of products.
6. Or Equal: Where products are specified by name and accompanied by the term “or equal” or “or approved,” comply with product specification.

B. Product Selection Procedures:

1. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements.
2. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or with an unnamed manufacturer, that complies with requirements.
3. Visual Selection Specification: Where Specifications include the phrase “as selected from manufacturer’s colors, patterns, textures” or a similar phrase, select a product that complies with specified requirements.
 - a. Standard Range: Where Specifications include the phrase “standard range of colors, patterns, textures” or similar phrase, Architect will select color pattern, density, or texture from manufacturer’s product line that does not include premium items.
 - b. Full Range: Where Specifications include the phrase “full range of colors, patterns, textures” or similar phrase, Architect will select color, pattern, density, or texture from manufacturer’s product line that includes both standard and premium items.

2.02 PRODUCT SUBSTITUTIONS

- A. See Specification Section 01 25 00 – Substitution Procedures.

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

- A. Owner requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
- E. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered

form. Recycling does not include burning, incinerating, or thermally destroying waste.

- I. Return: To give back reusable items or unused products to vendors for credit.
- J. Reuse: To reuse a construction waste material in some manner on the project site.
- K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
- L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

PART 2 - PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

- A. See Section 013000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.
- B. See Section 015000 for additional requirements related to trash/waste collection and removal facilities and services.
- C. See Section 016000 for waste prevention requirements related to delivery, storage, and handling.
- D. See Section 017000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

END OF SECTION

SECTION 01 76 10 TEMPORARY PROTECTIVE COVERINGS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Temporary protective coverings for installed floors, walls, and other surfaces.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 005213 – Agreement Form.
- C. Section 017000 - Execution and Closeout Requirements: Coordination of requirements for materials specified in this section.

1.03 REFERENCE STANDARDS

- A. ANSI A135.4 - Basic Hardboard 2012 (Reaffirmed 2020).

PART 2 – PRODUCTS

2.01 GENERAL

- A. Provide materials that are easily removed without damage to the surfaces covered and with the following characteristics:
 - 1. Impact resistant.
 - 2. Slip resistant.
 - 3. Flame retardant.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Remove dirt and debris from surfaces to be protected.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Trim or overlap sheet materials to fit area to be covered.
- C. Roll out and cut rolled materials to fit area to be covered.

- D. Tape seams. Avoid taping directly to finished surfaces.
- E. Stretch self-adhering film materials to completely cover surface.
- F. Install door jamb protection to full height of opening.

3.03 REMOVAL

- A. Remove protective coverings prior to Date of Substantial Completion. Reuse or recycle materials if possible.

END OF SECTION

SECTION 01 79 00
DEMONSTRATION AND TRAINING

PART 1 – GENERAL

1.01 SUMMARY

- A. Demonstration of products and systems to be commissioned and where indicated in specific specification sections.
- B. Training of Owner personnel in operation and maintenance is required for:
 - 1. All software-operated systems.
 - 2. HVAC systems and equipment.
 - 3. Plumbing equipment.
 - 4. Electrical systems and equipment.
 - 5. Items specified in individual product Sections.
 - 6. Conveying systems.
- C. Training of Owner personnel in care, cleaning, maintenance, and repair is required for:
 - 1. Items specified in individual product Sections.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
- B. Section 017000 - Closeout Submittals: Operation and maintenance manuals.
- C. Section 018100 - Commissioning: Additional requirements applicable to demonstration and training.
- D. Other Specification Sections: Additional requirements for demonstration and training.

1.03 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures; except:
 - 1. Make all submittals specified in this section, and indicated elsewhere for commissioning purposes, directly to the Commissioning Authority.
 - 2. Submit one copy to the Commissioning Authority, not to be returned.
 - 3. Make commissioning submittals on time schedule specified by Commissioning Authority.
 - 4. Submittals indicated as "Draft" are intended for the use of the Commissioning Authority in preparation of overall Training Plan; submit in editable electronic format, Microsoft Word 2003 preferred.

- B. Draft Training Plans: Owner will designate personnel to be trained; tailor training to needs and skill-level of attendees.
 - 1. Submit to Commissioning Authority for review and inclusion in overall training plan.
 - 2. Submit not less than four weeks prior to start of training.
 - 3. Revise and resubmit until acceptable.
 - 4. Provide an overall schedule showing all training sessions.
 - 5. Include at least the following for each training session:
 - a. Identification, date, time, and duration.
 - b. Description of products and/or systems to be covered.
 - c. Name of firm and person conducting training; include qualifications.
 - d. Intended audience, such as job description.
 - e. Objectives of training and suggested methods of ensuring adequate training.
 - f. Methods to be used, such as classroom lecture, live demonstrations, hands-on, etc.
 - g. Media to be used, such as slides, hand-outs, etc.
 - h. Training equipment required, such as projector, projection screen, etc., to be provided by Contractor.
- C. Training Manuals: Provide 1 hard copy training manual for each attendee; allow for minimum of two attendees per training session. Provide an electronic copy of training manuals 48 hours in advance of training.
 - 1. Include applicable portion of O&M manuals.
 - 2. Include copies of all hand-outs, slides, overheads, video presentations, etc., that are not included in O&M manuals.
 - 3. Provide one extra copy of each training manual to be included with operation and maintenance data (hard copy/physical manual and electronic manual).
- D. Training Reports:
 - 1. Identification of each training session, date, time, and duration.
 - 2. Sign-in sheet showing names and job titles of attendees.
 - 3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.
 - 4. Include Commissioning Authority's formal acceptance of training session.
- E. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
 - 1. Format: MP4
 - 2. Label each video with session identification and date.

1.04 QUALITY ASSURANCE

- A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.

1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 DEMONSTRATION - GENERAL

- A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.
- B. Demonstrations conducted during Functional Testing need not be repeated unless Owner personnel training is specified.
- C. Demonstration may be combined with Owner personnel training if applicable.
- D. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
 1. Perform demonstrations not less than two weeks prior to Substantial Completion.
 2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- E. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
 1. Perform demonstrations not less than two weeks prior to Substantial Completion.

3.02 TRAINING - GENERAL

- A. Commissioning Authority will prepare the Training Plan based on draft plans submitted.
- B. Conduct training on-site unless otherwise indicated.
- C. Owner will provide classroom and seating at no cost to Contractor.
- D. Do not start training until Functional Testing is complete, unless otherwise specified or approved by the Commissioning Authority.
- E. Provide training in minimum two-hour segments.
- F. The Commissioning Authority is responsible for determining that the training was satisfactorily completed and will provide approval forms.
- G. Training schedule will be subject to availability of Owner's personnel to be trained; re-schedule training sessions as required by Owner; once schedule

has been approved by Owner failure to conduct sessions according to schedule will be cause for Owner to charge Contractor for personnel "show-up" time.

- H. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
 - 1. The location of the O&M manuals and procedures for use and preservation; backup copies.
 - 2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
 - 3. Typical uses of the O&M manuals.
- I. Product- and System-Specific Training:
 - 1. Review the applicable O&M manuals.
 - 2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
 - 3. Review instructions for proper operation in all modes, including start-up, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
 - 4. Provide hands-on training on all operational modes possible and preventive maintenance.
 - 5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
 - 6. Discuss common troubleshooting problems and solutions.
 - 7. Discuss any peculiarities of equipment installation or operation.
 - 8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
 - 9. Review recommended tools and spare parts inventory suggestions of manufacturers.
 - 10. Review spare parts and tools required to be furnished by Contractor.
 - 11. Review spare parts suppliers and sources and procurement procedures.
- J. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

END OF SECTION

SECTION 01 91 00 COMMISSIONING

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Commissioning Description.
 - 2. Submittals.
 - 3. Commissioning Services.
 - 4. Commissioning Responsibilities.
 - 5. Commissioning Meetings.
 - 6. Commissioning Reports.
 - 7. Test Equipment.
 - 8. Pre-Functional Verification Check and Startup Procedures.
 - 9. Functional Performance Test Procedures.
 - 10. Function Performance Test Methods.
 - 11. Deficiencies and Test Approvals.
- B. Related Sections:
 - 1. Section 00 52 13 – Agreement Form
 - 2. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 00 & 01 Specifications apply to this section.
 - 3. Section 23 08 00 - Commissioning of HVAC.
 - 4. Section 26 08 00 - Electrical Systems Commissioning.

1.02 REFERENCES

- A. Associated Air Balance Council:
 - 1. AABC - AABC Commissioning Guideline.
- B. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
 - 1. ASHRAE Guideline 1.1 - The HVAC Commissioning Process.
- C. National Environmental Balancing Bureau:
 - 1. NEBB - Procedural Standards for Building Systems Commissioning.

1.03 COMMISSIONING DESCRIPTION

- A. Commissioning: Systematic process of ensuring systems perform interactively according to design intent and Contracting Officer's operational needs. Commissioning process encompasses and coordinates system documentation, equipment startup, control system calibration, testing and balancing, performance testing and verification of actual performance.
- B. Commissioning Intent:

1. Verify equipment and systems are installed in accordance with manufacturer's instructions, industry accepted minimum standards, and Contract Documents.
 2. Verify equipment and systems receive adequate operational checkout by Contractor.
 3. Verify and document proper performance of equipment and systems.
 4. Verify complete operation and maintenance documentation is delivered to Contracting Officer.
- C. Equipment and Systems to be Commissioned:
1. Refer to Section 23 08 00 for Mechanical Equipment and Systems.
 2. Refer to Section 26 08 00 for Electrical Equipment and Systems.
- D. Commissioning does not relieve Contractor of responsibility to provide finished and fully functioning Project.
- E. Commissioning Process Overview and General Order of Commissioning Tasks:
1. Commissioning begins with initial commissioning meeting.
 2. Equipment documentation is submitted to Commissioning Authority during normal submittals along with detailed start-up procedures.
 3. The Contractor, equipment and system installers work together to develop the startup plan and the pre-functional verification checklists that are to be completed by the Contractor and installers, during the pre-functional verification check and startup process.
 4. Equipment and system installers execute and document pre-functional verification checklists and startup. The Contractor documents that the pre-functional checklists and startup were completed according to approved plans.
 5. In general, checkout and performance verification proceeds from simple to complex; from component level to equipment to systems and intersystem levels with pre-functional verification checklists being completed before functional testing.
 6. Commissioning Authority develops the specific equipment and system functional test procedures. The Contractor and equipment and system installers review procedures.
 7. The equipment and system installers execute functional performance testing procedures under direction of and documented by Commissioning Authority.
 8. Items of non-compliance in material, installation or setup are corrected at Contractor's expense and system retested.
 9. Commissioning Authority reviews operation and maintenance documentation for adherence to the contract documents.
 10. Commissioning is completed before Final Completion.

1.04 COMMISSIONING SUBMITTALS

- A. Furnish one copy of the Contractor developed pre-functional verification checklists and startup plan to Commissioning Authority for review and approval within 6 months of contract award. Include the following as minimum:
 - 1. Manufacturer's standard startup procedures copied from installation manuals.
 - 2. Manufacturer's standard field checkout sheets.
 - 3. Supplemental procedures and checklists prepared by equipment and system installers to accommodate Project conditions.
 - 4. Include boxes or lines for recording and documenting checking and inspections of each procedure and summary statement with signature block.
- B. Commissioning Authority will review submittals for conformance to the Contract Documents as related to commissioning process for the primary purpose of aiding development of functional testing procedures.

1.05 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 – Execution and Closeout Requirements: Requirements for submittals.
- B. Furnish one copy of the Contractor developed pre-functional verification checklists and startup plan to Commissioning Authority for review and approval prior to commissioning. Include the following as minimum:
 - 1. Manufacturer's standard startup procedures copied from installation manuals.
 - 2. Manufacturer's standard field checkout sheets.
 - 3. Supplemental procedures and checklists prepared by equipment and system installers to accommodate Project conditions.
 - 4. Include boxes or lines for recording and documenting checking and inspections of each procedure and summary statement with signature block.
- C. Commissioning Authority will review submittals for conformance to the Contract Documents as related to commissioning process for the primary purpose of aiding development of functional testing procedures.

1.06 QUALITY ASSURANCE

- A. Perform Work in accordance with ASHRAE Guideline 1.1.

1.07 COMMISSIONING RESPONSIBILITIES

- A. Responsibilities indicated for Contracting Officer, Architect/Engineer, and Commissioning Authority are provided only to clarify commissioning process.
- B. Architect/Engineer Responsibilities:
 - 1. Perform site observation of each system before system startup.

2. Review the contractor developed commissioning schedule.
 3. Clarify operation and control of commissioned equipment when specifications, control drawings, or equipment documentation are not sufficient for writing detailed functional performance testing procedures.
 4. Coordinate resolution of design issues affecting system performance identified during commissioning.
 5. Review and approve operation and maintenance manuals.
 6. Review the Contractor developed pre-functional checklists for equipment or systems to be commissioned.
 7. Review the Commissioning Authority developed functional test procedures for equipment or systems to be commissioned.
- C. Commissioning Authority Responsibilities:
1. Basic Responsibilities:
 - a. Coordinate, direct, and approve commissioning work.
 - b. Develop and coordinate execution of commissioning plan. Revise commissioning plan to suit Project conditions.
 - c. Coordinate commissioning work with Contractor for inclusion in Project schedule.
 - d. Plan and conduct commissioning meetings.
 - e. Request and review commissioning submittals required to perform commissioning tasks.
 - f. Review the Contractor developed start-up plan.
 - g. Review the Contractor developed pre-functional checklists.
 - h. Develop the functional performance test procedures.
 - i. Review test and balance execution plan.
 - j. Document equipment and systems are installed and perform in accordance with design intent and Contract Documents.
 - k. Notify the Architect/Engineer of deficiencies.
 - l. Coordinate resolution of deficiency corrections with the contractor.
 - m. Review operation and maintenance manuals.
 - n. Compile commissioning record and testing data manual.
 - o. Provide final commissioning report.
 2. Commissioning Authority may not:
 - a. Release, revoke, alter, or enlarge on requirements of Contract Documents.
 - b. Approve or accept any portion of the Work.
 - c. Assume duties of Contractor or Architect/Engineer.
 - d. Stop the Work.
- D. Contracting Officer Responsibilities:
1. Arrange for Contracting Officer's personnel to attend commissioning activities and training sessions according to commissioning plan.
 2. Approve commissioning work completion.
- E. Contractor Responsibilities:

1. Include requirements for commissioning submittal data, operation and maintenance data, commissioning tasks for equipment and systems indicated to be commissioned.
2. Facilitate coordination of commissioning work by Commissioning Authority.
3. Schedule and attend commissioning meetings.
4. Develop a commissioning schedule for completion of the commissioning work, coordinate schedule with commissioning authorities commissioning plan.
5. Develop equipment start-up and initial start-up plan.
6. Develop pre-functional verification checklists for each piece of equipment and system to be commissioned.
7. Review the Commissioning Authority developed functional performance test procedures.
8. Require equipment and system installers to review and provide comments on functional test procedures.
9. Cooperate with Commissioning Authority and provide access to the work.
10. Furnish qualified personnel to assist in completing commissioning.
11. Require manufacturers to review commissioning test procedures for equipment installed by manufacturer.
12. Furnish proprietary test equipment required by manufacturers to complete equipment and system tests.
13. Furnish manufacturer's qualified field representatives as specified in Section 014000 - Quality Requirements and individual specification sections to assist in completing commissioning.
14. Ensure equipment and system installers execute commissioning responsibilities according to Contract Documents and schedule.
15. Prepare operation and maintenance manuals specified in Section 017000 - Execution and Closeout Requirements. Update original sequences of operation reflecting actual installation.

1.08 COMMISSIONING MEETINGS

- A. Section 013100 – Project Management and Coordination.
- B. Commissioning Authority will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Initial Commissioning Meeting:
 1. Contractor will schedule meeting within 90 days after Notice of Award.
 2. Attendance Required: Commissioning Authority, Architect/Engineer, Contractor, subcontractors, test, adjust and balance agency. Require attendance by installers of the following equipment and systems indicated to be commissioned including:
 - a. Mechanical equipment and systems.
 - b. Electrical equipment and systems.
 - c. Temperature controls equipment and systems.
 3. Agenda:

- a. Designation of personnel representing parties for commissioning activities.
 - b. Review commissioning process and responsibilities.
 - c. Review commissioning plan development procedures.
 - d. Review required commissioning submittals.
 - e. Review initial commissioning schedule.
- D. Progress Commissioning Meetings:
 - 1. Progress commissioning meetings will be scheduled as required by the commissioning team.
- E. Contractor will record meeting minutes and distribute copies to participants and those affected by decisions made.

1.09 COMMISSIONING REPORTS

- A. Commissioning Authority Reports:
 - 1. Observation reports of specific commissioning activities.
 - 2. Testing progress and approvals.
 - 3. Deficiency and deficiency resolution reports.
- B. Functional Performance Test Procedures Forms: Develop functional test procedure forms containing the following information:
 - 1. Project information.
 - 2. Participating parties.
 - 3. Unique test identification number, and reference to unique verification checklist and startup documentation identification numbers for piece of equipment.
 - 4. Equipment identification number.
 - 5. System and or equipment name.
 - 6. Copy of specific sequence of operations or other specified parameters being verified.
 - 7. Required pre-test field measurements.
 - 8. Special cautions, alarm limits, and safety concerns.
 - 9. Specific step-by-step procedures to execute test, in clear, sequential, and repeatable format.
 - 10. Acceptance criteria of proper performance with Yes / No check box to allow for marking whether or not proper performance of each part of test was achieved.
 - 11. Section for comments.
 - 12. Signatures and date block for Commissioning Authority.

1.10 SEQUENCING

- A. Section 01 10 00 – Summary of Work: Requirements for sequencing.
- B. Phase 1A and Phase 1B: Sequence work to complete pre-functional testing and test and balance of all new system installed in Phase 1A and Phase 1B prior to Phase 1A and Phase 1B substantial completion. Provide preliminary

O&M's for review prior to commissioning Phase 1A and Phase 1B. O&M's to include test and balance report for Phase 1A and Phase 1B.

- C. Phase 2: Sequence work to complete pre-functional testing and test and balance of all systems prior to substantial completion of Phase 2. Complete tests of any equipment not completed at the end of Phase 1A and Phase 1B. Provide complete test and balance report for the entire facility, including all Phase 2, Phase 1A and Phase 1B systems.
- D. Sequence work to achieve Functional Completion before Final Completion. Complete the following for each piece of equipment and system indicated to be commissioned to achieve Functional Completion:
 - 1. Complete and sign the pre-functional verification checklists.
 - 2. Submit final approved test and balance report.
 - 3. Complete functional performance testing.
 - 4. Correct identified deficiencies or obtain approval by Contracting Officer to exclude deficiencies from Functional Completion.
 - 5. Submit approved operation and maintenance data manuals.

1.11 SCHEDULING

- A. Schedule work to allow adequate time for commissioning activities.
- B. Identify commissioning milestones, activities, and durations on Project schedule.
 - 1. Identify the following on the schedule:
 - a. Pre-functional verification check and startup.
 - b. Functional performance testing.
 - c. Operation and maintenance manual submittal.
 - d. Functional testing.
 - e. Commissioning completion.

PART 2 - PRODUCTS - NOT USED

PART 3 – EXECUTION

3.01 EXAMINATION

- C. Verify equipment and systems are installed in accordance with individual specification sections.
- D. Verify utility and power connections are complete and services operational.

3.02 PRE-FUNCTIONAL VERIFICATION CHECK AND STARTUP PROCEDURES

- E. Verification Check and Startup:
 - 1. Perform pre-functional verification checklists in accordance with the contractor's startup plan.

2. Record completion of each procedure. Indicate results of procedure where required.
 3. Identify items not completed successfully.
 4. Sign and date completed pre-functional verification checklists.
 5. Submit complete pre-functional verification checklist to Commissioning Authority.
 6. Submit completed start-up plan to Commissioning Authority.
- F. Deficiencies and Approvals:
1. Commissioning Authority will review the pre-functional verification checklist and issue deficiency report.
 2. The Contractor shall correct deficiencies and resubmit the updated pre-functional verification checklist including a statement indicating corrections made.
 3. Repeat process until all pre-functional verification checklists are complete.
 4. Costs for incomplete verification check and startup items that later cause deficiencies or delays during functional tests may be charged to party responsible for incomplete item.

3.03 FUNCTIONAL PERFORMANCE TEST PROCEDURES

- G. Complete the following before performing functional tests:
1. Pre-Functional verification check and startup.
 2. Air and hydronic system balancing report.
- H. Notify Commissioning Authority of completion of pre-functional verification check and startup activities.
- I. Commissioning Authority will direct, witness, and document results of functional performance tests.
- J. Conduct functional performance tests as specified in Section 23 08 00 and 26 80 00.
- K. Demonstrate each piece of equipment and system is operating according to documented design intent and Contract Documents.
1. Conduct testing proceeding from components to subsystems, to systems.
 2. Bring equipment and systems to condition capable full dynamic operation.
 3. Verify performance of individual components and systems.
 4. Verify performance of interactions between systems.
 5. Identify and correct areas of deficient performance.
- L. Operate each piece of equipment and system through each specified mode of operation including seasonal, occupied, unoccupied, warm up, cool down, partial load and full load conditions.
1. Verify each sequence in sequences of operation.
 2. Test for proper responses to power failure, freezing, overheating, low oil pressure, no flow, equipment failure, and other abnormal conditions.

3.04 FUNCTIONAL PERFORMANCE TEST METHODS

- M. Perform testing and verification by using manual testing or by monitoring performance and analyzing results using control system trend log capabilities or by stand-alone data loggers as specified for each piece of equipment or system.
 - 1. Commissioning Authority may require alternate or additional method, other than specified method.
 - 2. Commissioning Authority will determine test method when method is not specified.
- N. Simulated Conditions: Simulating conditions, not by overwritten values, is permitted. Timing tests to use real conditions is encouraged wherever practical.
- O. Overwritten Values: Overwriting sensor values to simulate conditions may be used with caution and avoided when possible.
- P. Simulated Signals: Using signal generator to create simulated signals to test and calibrate transducers automatic temperature controls is generally recommended over using sensors as signal generators with simulated conditions or overwritten values.
- Q. Altering Setpoints: Rather than overwriting sensor values, and when simulating conditions is difficult, altering setpoints to test specific sequence is acceptable. Reset setpoint after completing test.
- R. Indirect Indicators: Using indirect indicators for responses or performance is permitted only after visually and directly verifying and documenting indirect readings through control system representing actual conditions and responses over tested parameter range.
- S. Perform each function and test under conditions simulating actual conditions as close as is practically possible.
 - 1. Provide materials, system modifications, and other things necessary to produce flows, pressures, temperatures, and other responses to execute test according to specified conditions.
 - 2. At completion of test, return modified equipment and systems to pretest condition.

3.05 DEFICIENCIES AND TEST APPROVALS

- T. Deficiencies:
 - 1. Commissioning Authority will record and report deficiencies.
 - 2. Minor deficiencies may be corrected during tests at Commissioning Authority's discretion. Deficiency and resolution will be documented.
 - 3. When deficiency is identified, Commissioning Authority will discuss issue with party executing test.
 - a. When party executing test accepts responsibility to correct deficiency:
 - 1) Commissioning Authority documents deficiency and executing party's response.

- 2) Party executing test corrects deficiency, signs statement of correction on deficiency form certifying equipment is ready retesting and submits form to Commissioning Authority.
- 3) Commissioning Authority reschedules test and test is repeated until satisfactory performance is achieved.
- b. When party executing test disputes deficiency or responsibility for deficiency:
 - 1) Commissioning Authority documents deficiency and executing party's response.
 - 2) Commissioning Authority submits deficiency report to Contractor, and party executing test and party believed to be responsible for deficiency.
 - 3) Commissioning Authority negotiates resolution with parties involved and refers continuing disputes to Architect/Engineer for resolution in accordance with Contract Documents.
 - 4) Commissioning Authority documents resolution process.
 - 5) When resolution is decided, appropriate party corrects deficiency, signs statement of correction on deficiency form certifying equipment is ready for retesting and submits form to Commissioning Authority.
 - 6) Commissioning Authority reschedules test and test is repeated until satisfactory performance is achieved.
- U. Retesting Costs:
 1. When verification check and startup or functional performance test deficiency is discovered requiring rescheduling or retesting:
 - a. Contracting Officer will compensate Commissioning Authority for attending and directing additional testing.
 - b. Contracting Officer will deduct additional testing compensation from final payment due to Contractor.
- V. Provide written report to Commissioning Authority before each scheduled commissioning meeting concerning status of each deficiency. Include explanations of disagreements with resolution proposals for each discrepancy.
 1. Commissioning Authority will retain original deficiency forms until end of Project.
- W. Manufacturing Defects: When 10 percent, but not less than 3 identical pieces of equipment or equipment with only small size or capacity differences fail to perform to Contract Document requirements due to manufacturing defect, all identical units may be considered defective by Contracting Officer.
 1. Within one week of notice from Contracting Officer, examine all other identical units and record findings. Submit findings to Contracting Officer within two weeks of original notice.
 2. Within two weeks of original notification, provide signed and dated, written explanation of problem, cause of defect, and proposed solutions meeting Contract Document requirements. Include equipment submittals supporting solution.

3. Contracting Officer will determine whether replacement or repair of all identical units is required.
 4. Install two examples of proposed solution. Contracting Officer will test installations for up to one week, before deciding solution is acceptable.
 5. Upon acceptance, replace or repair all identical items, at Contractor's expense. Extend warranty accordingly when original equipment warranty had begun.
 6. Complete repairs or replacements with reasonable speed beginning within one week from when parts can be obtained.
- X. Test Approval: Commissioning Authority notes each satisfactorily demonstrated function on functional performance test form.
1. Commissioning Authority recommends acceptance of each test to Contracting Officer using standard form.
 2. Contracting Officer gives final approval for each test using same form, providing signed copy to Commissioning Authority and Contractor.

END OF SECTION