



LBJ TROPICAL MEDICAL CENTER

COMBINED ED/MRI/ICU

PRELIMINARY DEMOLITION PACKAGE

Volume 1 of 1

GLHN 23020.00

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**SECTION 01 1000
SUMMARY**

PART 1 GENERAL

1.1 PROJECT

- A. Project Name: LBJ Tropical Medical Center Combined ED/MRI/ICU.
- B. Owner's Name: LBJ Tropical Medical Center.
- C. Architect's Name: GLHN Architects & Engineers, Inc.
- D. The Project consists of the expansion and renovation of existing LBJ Tropical Medical Center and associated site construction as more completely described in the Contract Documents.

1.2 DIVISION 01 SPECIFICATIONS

- A. Division 01 General Requirements expand on the broad provisions of the Conditions of the Contract, and govern the execution of the work of all Sections of the specifications. Division 01 General Requirements specify administrative and procedural requirements relating to execution of the Work, and temporary facilities for use during the construction period.

1.3 SCOPE PACKAGE ONE DESCRIPTION

- A. The work of Scope Package One generally consists of, but is not necessarily limited to, the following scope of work:
 - 1. Partial demolition of existing building.
 - 2. Temporary weather wall construction.
- B. See Drawings and the Contract for additional information regarding the specific scope of this Scope Package.

1.4 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. Arrange use of site and premises to allow:
 - 1. Ongoing Owner occupancy.
 - 2. Work by Others.
 - 3. Work by Owner.
 - 4. Use of site and premises by the public.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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**SECTION 01 2000
PRICE AND PAYMENT PROCEDURES**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Price and payment procedures, including:
 - 1. Construction cost log.
 - 2. Procedures for preparation and submittal of applications for progress payments.
 - 3. Procedures for preparation and submittal of application for final payment.
- B. Contract modification procedures, including:
 - 1. Documentation of modifications in Contract Sum and Contract Time.
 - 2. Modification procedures.
 - 3. Correlation of Contractor submittals based on Contract modifications.

1.2 PRICE PROCEDURES - GENERAL

- A. Contract Cost Log: Establish and maintain a construction cost log, including the status of all Contract Modifications (Change Orders); including those which have been accepted, declined, pending, etc.), the status of requests for information, supplemental instructions, other modification documents, and the status of allowances, including Owner's contingency allowance.

1.3 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet.
- D. Submit Schedule of Values electronically within 15 days after date of Owner-Contractor Agreement.
- E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization.
- F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.4 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Use Form AIA G702 and Form AIA G703.
- C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
 - 1. Forms filled out by hand will not be accepted.
- D. For each item, provide a column for listing each of the following:
 - 1. Item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place and Stored Materials under this Application.

6. Executed Change Orders.
 7. Total Completed and Stored to Date of Application.
 8. Percentage of Completion.
 9. Balance to Finish.
 10. Retainage.
- E. Execute certification by signature of authorized officer.
- F. 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.
- G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.
- H. Submit electronic copies of each Application for Payment.
- I. Include the following with the application:
1. Transmittal letter as specified for submittals in Section 01 3000.
 2. Construction progress schedule, revised and current as specified in Section 01 3000.
 3. Conditional release of liens from each Subcontractor and vendor for the current month's payment application, and unconditional release of liens from each Subcontractor and vendor for the previous month's payment application.
 4. Project record documents as specified in Section 01 7800, for review by Owner which will be returned to the Contractor.
 5. Affidavits attesting to off-site stored products.
- J. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.5 MODIFICATION PROCEDURES

- A. Contractor is responsible for informing and coordinating others, in Contractor's employ and affected subcontractors, of modifications to the Contract Documents.
- B. Supplemental Instructions: For minor modifications not involving an adjustment to the Contract Sum or Contract Time; Architect will issue instructions directly to Contractor.
1. Architect's issuance of supplemental instructions may constitute a modification of the Contract Documents involving an adjustment to the Contract Sum or Contract Time. If Architect's supplemental instructions require such a modification of the Contract Documents, notify Owner immediately and prepare a request for change order or other modification according to applicable modification procedures specified in this Section. Owner's approval is required before any action is taken.
- C. Construction Change Directive: For other required modifications, Architect will issue a document signed by Architect and Owner instructing Contractor to proceed with the modification, for subsequent inclusion in a Change Order.
1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
 2. Promptly execute the change.
- D. Proposal Request: For modifications for which advance pricing is desired, Architect will issue a document which includes a detailed description of a proposed modification with supplementary or revised drawings and specifications, a modification in Contract Time for executing the modification with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 10 days.

- E. Contractor may propose a change by submitting a request for change order or modification to Architect, 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 and a statement describing the effect on Work by separate or other contractors.
 - 1. Document any requested substitutions in accordance with Section 01 2500 - Substitution Procedures.
- F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
 - 1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
 - 2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Owner and Architect.
 - 3. For pre-determined unit prices and quantities, the amount will be based on the fixed unit prices.
 - 4. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.
- G. Substantiation of Costs: Provide full information required for evaluation.
 - 1. Provide the following data:
 - a. Quantities of products, labor, and equipment.
 - b. Taxes, insurance, and bonds.
 - c. Overhead and profit.
 - d. Justification for any change in Contract Time in accordance with the Agreement.
 - e. Credit for deletions from Contract, similarly documented.
 - 2. Support each claim for additional costs with additional information:
 - a. Origin and date of claim.
 - b. Dates and times work was performed, and by whom.
 - c. Time records and wage rates paid.
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
 - 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- H. Execution of Change Orders: Contractor will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- K. Promptly enter changes in Project Record Documents.

1.6 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
 - 1. All closeout procedures specified in Section 01 7000.
 - 2. Receipt of final Certificate of Occupancy from jurisdictional authority.
 - 3. Acceptance of Work by Owner and Architect.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 2500
SUBSTITUTION PROCEDURES**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Procedural requirements for proposed substitutions.

1.2 RELATED REQUIREMENTS

- A. Section 01 6000 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling, and substitution limitations.

1.3 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.
 - c. Other limitations specified in Section 01 6000.
 - 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.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 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.
- B. A Substitution Request for specified installer constitutes a representation that the submitter:
 - 1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.
- C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
 - 1. Note explicitly any non-compliant characteristics.

2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
3. Architect will notify Contractor in writing of decision to accept or reject request.

D. Substitution Request 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) Issue date.
 - 4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
 - 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 to Owner for accepting substitution.
 - 2) Change to Contract Time due to accepting substitution.

E. Limit each request to a single proposed substitution item.

1. Submit an electronic document, combining the request form with supporting data into single document.

3.2 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:

1. Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

3.3 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

- A. Architect may consider requests for substitution only within 60 days after date established in Notice to Proceed, unless otherwise determined by Architect to be acceptable under extenuating circumstances.
 - 1. Substitutions will also be considered when a Product, through no fault of Contractor, becomes unavailable or unsuitable due to regulatory change.
- B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
- C. 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, 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. Other construction by Owner.
 - b. Other unanticipated project considerations.
- D. 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. When acceptance will require revisions to Contract Documents.

3.4 RESOLUTION

- A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.
- B. 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.

3.5 ACCEPTANCE

- A. Accepted substitutions modify the Contract, and thereby change the Work of the Project. They will be documented and incorporated into Work of the project by Change Order, or similar instrument provided for in the Conditions of the Contract.

3.6 CLOSEOUT ACTIVITIES

- A. See Section 01 7800 - Closeout Submittals, for closeout submittals.
- B. Include completed and approved Substitution Request Forms as part of the Project record.

END OF SECTION

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SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General administrative requirements.
- B. Administrative meetings, including:
 - 1. Preconstruction meeting.
 - 2. Site mobilization meeting.
 - 3. Progress meetings.
 - 4. Pre-phase meetings.
- C. Administrative procedures, including:
 - 1. Construction progress schedule.
 - 2. Contractor's progress reports.
 - 3. Number of copies of submittals.
 - 4. Requests for Information (RFI) procedures.
 - 5. Submittal procedures.

1.2 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 01 7000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Architect:
 - 1. Requests for Information (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.
 - 12. Other specified submittals.

1.3 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Meeting Minutes: Submit meeting minutes for each type of meeting as specified in this Section.
- C. Construction Progress Schedule: Submit construction progress schedule according to the requirements specified in this Section.
- D. Submittal Schedule: Submit submittal schedule according to the requirements specified in this Section.
- E. Progress Reports: Submit periodic progress reports as specified in this Section.

- F. Progress Photographs and Documentation: Submit photographic project documentation as specified in this Section.
- 1.4 PROJECT COORDINATOR (CONSTRUCTION MANAGER)
- A. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for site access, traffic, and parking facilities.
 - B. During construction, coordinate use of site and facilities through the Project Coordinator.
 - C. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 01 1000 - Summary.
 - D. Coordinate field engineering and layout work under instructions of the Project Coordinator.
 - E. Make the following types of submittals to Architect through the Project Coordinator:

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRECONSTRUCTION MEETING

- A. Architect will schedule a meeting after Notice to Proceed.
 - 1. Meeting will be conducted virtually on internet-based meeting software.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. Other invited participants.
- C. Minimum 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. Submission of list of known or anticipated substitution requests.
 - 7. Designation of personnel representing the parties to Contract, including Contractor, Owner, and Architect.
 - 8. Procedures and processing of field decisions, RFI's, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 9. Scheduling.
- D. Record minutes and distribute electronically within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.2 SITE MOBILIZATION MEETING

- A. Schedule meeting at the Project site prior to Contractor occupancy.
 - 1. Architect will participate in meeting virtually on internet-based meeting software.

- B. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Architect.
 - 4. Contractor's superintendent.
 - 5. Major subcontractors.
 - 6. Other invited participants.
- C. Minimum Agenda:
 - 1. Use of premises by Owner and Contractor.
 - 2. Owner's requirements.
 - 3. Construction facilities and controls provided by Owner.
 - 4. Temporary utilities provided by Owner.
 - 5. Survey and building layout.
 - 6. Security and housekeeping procedures.
 - 7. Schedules.
 - 8. Application for payment procedures.
 - 9. Procedures for testing.
 - 10. Procedures for maintaining record documents.
 - 11. Requirements for start-up of equipment.
 - 12. Inspection and acceptance of equipment put into service during construction period.
- D. Record minutes and distribute electronically within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.3 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the work at weekly intervals, unless otherwise agreed upon and approved by Owner.
 - 1. Architect and selected design consultants will participate in meetings virtually on internet-based meeting software.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Architect.
 - 4. Contractor's superintendent.
 - 5. Major subcontractors.
 - 6. Other invited participants.
- D. Minimum Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review and discussion of Weekly Progress Report.
 - 3. Review of work progress.
 - 4. Field observations, problems, and decisions.
 - 5. Identification of problems that impede, or will impede, planned progress.
 - 6. Review of submittals schedule and status of submittals.
 - 7. Review of RFIs log and status of responses.
 - 8. Review of known or anticipated substitution requests.
 - 9. Modification (Change Order) status.

10. Review of off-site fabrication and delivery schedules.
11. Maintenance of progress schedule.
12. Corrective measures to regain projected schedules.
13. Planned progress during succeeding work period.
14. Coordination of projected progress.
15. Maintenance of quality and work standards.
16. Effect of proposed changes on progress schedule and coordination.
17. Other business relating to work.

E. Record minutes and distribute electronically within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.4 PRE-PHASE MEETINGS

A. Schedule and administer meetings at various times during the progress of the Work as determined by master schedule.

1. Architect will participate in meeting virtually on internet-based meeting software.

B. Attendance Required: Job superintendent, subcontractors and suppliers involved in next phase of work as necessary.

C. Minimum Agenda:

1. Review permits required and status of each.
2. Review submittals required and status of each, and verification that submittals comply with specified requirements.
3. Review of materials delivery status.
4. Verification that materials comply with specified requirements.
5. Materials storage requirements and provisions made for meeting requirements.
6. Review maintenance requirements for stored materials and provisions made for compliance with manufacturer's requirements.
7. Review all specification requirements for the work considered.
8. Review status of required preceding work.
9. Review testing and inspection requirements and coordination of same.
10. Review record documentation, operation and maintenance documentation, methodology for recording variations from construction documents, and the methodology for accumulation of Project Record Documents.

D. Record minutes and distribute electronically within two days after meeting to participants and those affected by decisions made.

3.5 PROJECT CLOSEOUT MEETING

A. Specified in Section 01 7000 - Execution and Closeout Requirements.

3.6 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 Subcontractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

- E. Submit updated schedule with each Application for Payment.

3.7 PROGRESS REPORTS

- A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.
- B. In addition to transmitting electronically a copy to Owner and Architect, submit two printed copies of each report at weekly intervals.
- C. Prepare progress report recording the following information concerning events at Project site and project progress:
 - 1. Date.
 - 2. High and low temperatures, and general weather conditions.
 - 3. List of subcontractors at Project site.
 - 4. List of separate contractors at Project site.
 - 5. Major equipment at Project site.
 - 6. Material deliveries.
 - 7. Safety, environmental, or industrial relations incidents.
 - 8. Meetings and significant decisions.
 - 9. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
 - 10. Directives and requests of Authority(s) Having Jurisdiction (AHJ).
 - 11. Change Orders received and implemented.
 - 12. Testing and/or inspections performed.
 - 13. List of verbal instruction given by Owner and/or Architect.
 - 14. Signature of Contractor's authorized representative.

3.8 PROGRESS PHOTOGRAPHS AND DOCUMENTATION

- A. Document existing conditions in the work area prior to start of demolition. Take initial photographs in quantity and at locations required to fully document existing conditions which may become concealed as the result of new Work.
- B. Submit initial photographs to Owner and Architect, and discuss existing conditions that are a concern of Contractor in relation to proposed new Work.
- C. Take additional photographs as Work progresses, at same locations and from same viewing angles as initial photographs.
- D. Submit additional photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.
- E. Photography Type: Digital; electronic files; each photograph integrally date-stamped.
- F. 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.
 - 5. Final completion, minimum of ten (10) photos.

- G. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
 - 1. Delivery Medium: Via email.
 - 2. File Naming: Include project identification, date and time of view, and view identification.
 - 3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.

3.9 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. Combine RFI and its attachments into a single electronic file. PDF format is required.
- 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 definitely 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 - 01 6000 - 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.
 - 4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
 - a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.
- 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; "ASAP", "As Soon as Possible", or "Immediately" not acceptable as 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. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon 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 if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.10 SUBMITTAL SCHEDULE

- A. Submit to Architect for review a schedule for submittals in tabular format.
1. Provide initial schedule at first progress meeting, and provide updated and current schedule at each progress meeting.
 - a. Secure Architect's approval of submittal schedule before making any other product-related submittals.
 - b. Submittals received by Architect prior to Architect's approval of submittal schedule will be returned without review, and will be properly reviewed when received in accordance with the approved submittal schedule.
 2. Coordinate with Contractor's construction schedule, schedule of values, and facility services coordination requirements.

3. Format schedule to allow time for all facility services coordination conflicts to be identified and resolved as specified in Section 01 3114 before transmitting associated submittals.
 4. Format schedule to allow tracking of status of submittals throughout duration of construction.
 5. Include in schedule anticipated dates for each submittal to Architect, required dates of return of reviewed submittal to Contractor, and any required lead times associated with applicable submittals.
 - a. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - b. Arrange information to include specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
 6. 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.
 - b. If Contractor fails to submit a submittal schedule, Contractor will not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.
- B. Coordinate submittals into logical groupings to facilitate interrelation of the several items:
1. Submit complete package of specified submittals for each product or system, generally associated with an individual specification Section. Partial submittals will not be reviewed, and no delay claim will be considered as the result of a partial submittal being returned for proper resubmittal.
 2. Submit all structural concrete shop drawings, product data, schedules, and other specified submittal information in a single package as specified in Division 03.
 3. Submit all structural steel framing shop drawings, product data, schedules, and other specified submittal information in a single package as specified in Division 05.
 4. Submit all door, frame, and hardware product data, schedules, and other specified submittal information in a single package as specified in Division 08.
 5. Submit mechanical items in a single package, including but not limited to items specified in Divisions 21, 22, and 23.
 6. Submit electrical items in a single package, including but not limited to items specified in Divisions 25, 26, 27, and 28.

3.11 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.
 5. Coordination drawings specified in Section 01 3114 - Facility Services Coordination.
- 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 as applicable.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.12 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 specified.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.13 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 at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:

1. Project record documents.
2. Operation and maintenance data.
3. Warranties.
4. Bonds.
5. Maintenance materials.
6. Other types specified.

D. Submit for Owner's benefit during and after project completion.

3.14 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents - Submittals for Review and Information: 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. Submittals for Review: Submit electronically as specified.

C. Submittals for Information: Submit electronically as specified.

D. 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.

3.15 SUBMITTAL PROCEDURES - GENERAL

A. General Requirements:

1. Submit separate packages of submittals for review and submittals for information, when included in the same specification Section.
2. Transmit using approved form.
 - a. Use Contractor's form, subject to prior approval by Architect.
3. Sequentially identify each item. For revised submittals use original number and a sequential combination numerical and alphabetical suffix.
4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
5. 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.
 - a. Submittals not bearing Contractor's review stamp, indicating both review and approval, will not be reviewed and be returned for required review.
 - b. Submittals from sources other than Contractor will not be acknowledged, reviewed, or returned.

6. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
7. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
 - b. Review time will be extended day-for-day if legal holiday(s) are within the projected review time period.
 - c. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 days.
 - d. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 30 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. Include brief description or narrative of what and how review comments were addressed.
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 reviewed by Contractor will be rejected, and will not be reviewed by Architect. Claims for delay as the result of submittals not reviewed by Contractor will not be allowed.
14. Submittals not requested will be recognized, and will be returned "Not Reviewed".

B. Product Data Procedures:

1. Submit only information required by individual specification sections.
2. Collect required information into a single submittal.
3. Submit concurrently with related shop drawing submittal.
4. Do not submit (Material) Safety Data Sheets for materials or products.
5. Manufacturer's Catalog Submittals: If manufacturer's published catalog information is used as part of a submittal, include only those pages from catalog that are specifically applicable to the proposed products for this Project.
 - a. Clearly identify in the submittal those specific products and components for which review and action is requested.
 - b. Submittals received that do not clearly identify specific applicable products, or that include more pages than those specifically applicable to the subject submittal, will be returned as "not reviewed" and the time for submittal review will not commence until a properly scoped submittal is received by Architect.

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, unless otherwise permitted.
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 single package to Architect's office, unless otherwise specified.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
3. Include with transmittal high-resolution image files of samples to facilitate electronic review and approval. Provide separate submittal page for each item image.

3.16 SUBMITTAL REVIEW

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action. See below for actions to be taken.
- 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.
 - 1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.
- D. Architect's Actions:
 - 1. Architect will review each submittal, mark it with appropriate "action," and return it to Contractor within specified time allowance; except when it must be held for coordination, and Contractor is so advised.
 - 2. Where submittals include materials, products, systems, or manufacturers not specified, approved by Addendum prior to execution of the Contract, or approved in writing in conjunction with the proposed products list submittal specified in Section 01 6000 - Product Requirements, Architect reserves the right to exceed the specified time allowance to allow sufficient time to determine the acceptability of such items, and no claim for delay by Contractor will be allowed.
 - 3. Where submittals include a material, product, system, or manufacturer substitution which has not been previously accepted or approved in writing, Architect reserves the right to reject such submittal and require a compliant submittal, or may direct that other action be taken by Contractor to achieve compliance with Contract Documents, and no claim for delay by Contractor will be allowed.
 - 4. Architect's review is for general conformance only and does not relieve Contractor from full compliance with the Contract Documents.

END OF SECTION

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**SECTION 01 4000
QUALITY REQUIREMENTS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General quality requirements, including:
 - 1. Submittals.
 - 2. Quality assurance.
 - 3. References and standards.
 - 4. Testing and inspection agencies and services.
- B. Specific quality requirements, including:
 - 1. Contractor's construction-related professional design services.
 - 2. Contractor's design-related professional design services (delegated design work).
 - 3. Control of installation.
 - 4. Mock-ups.
 - 5. Tolerances.
 - 6. Manufacturer's field services.
 - 7. Defect assessment.
- C. Basis of design specifications.

1.2 DEFINITIONS

- A. Contractor's Professional Design Services: Design of some aspect or portion of the project by party other than the design professional of record. Provide these services as part of the Contract for Construction.
 - 1. Design Services Types Required:
 - a. Construction-Related: Services Contractor needs to provide in order to carry out the Contractor's sole responsibilities for construction means, methods, techniques, sequences, and procedures.
 - b. Design-Related: Design services explicitly required to be performed by another design professional due to highly-technical and/or specialized nature of a portion of the project. Services primarily involve engineering analysis, calculations, and design, and are not intended to alter the aesthetic aspects of the design.
- B. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, design professional appropriately licensed in American Samoa.

1.3 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

- A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions for Construction Contract.
- B. Provide such engineering design services as may be necessary to plan and safely conduct certain construction operations, pertaining to, but not limited to the following:
 - 1. Temporary sheeting, shoring, or supports.
 - 2. Temporary scaffolding.
 - 3. Temporary bracing.
 - 4. Temporary falsework for support of spanning or arched structures.
 - 5. Permanent foundation underpinning.
 - 6. Temporary stairs or steps required for construction access only.

7. Temporary hoist(s) and rigging.
8. Investigation of soil conditions to support construction equipment.

1.4 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES (DELEGATED DESIGN WORK)

- A. Coordination: Contractor's professional design services are subject to requirements of project's Conditions of the Contract for Construction.
- B. Performance and Design Requirements: Where professional design services or certifications by a licensed design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with requirements specified in individual specification Sections.
 1. Base design of products and systems on performance and design criteria indicated or specified in individual specification Sections.
 2. Submit a Request for Information to Architect if the criteria indicated or specified are not sufficient to perform required design services.
- C. Scope of Contractor's Professional Design Services is specified in the following Sections, which include but may not be limited to:
 1. Section 07 6200 - Sheet Metal Flashing and Trim.
- D. Contractor's Responsibilities:
 1. Coordinate design and space requirements with other affected work and Architect.
 2. Review applicable submittals and coordinate selections with Architect.
 3. Receive and unload products and systems at the site; inspect for completeness and for damage.
 4. Handle, store, install, and finish products and systems.
 5. Repair or replace damaged, defective, or missing items.
 6. Arrange for manufacturer's warranties, inspections, and service.
 7. Comply with applicable provisions of Division 01 - General Requirements, specifically including administrative requirements, coordination, quality, regulatory, and product requirements.

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Designer's Qualification Statement: Submit for Architect's knowledge as contract administrator, or for Owner's information.
 1. Include information for each individual professional responsible for producing, or supervising production of, design-related professional services provided by Contractor.
 - a. Full name.
 - b. Professional licensure information.
 - c. Statement addressing extent and depth of experience specifically relevant to design of items assigned to Contractor.
- C. Design Data: Submit for Architect's knowledge for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
 1. Include calculations that have been used to demonstrate compliance to performance and regulatory criteria provided, and to determine design solutions.
 2. Include required product data and shop drawings.
 3. Include a statement or certification attesting that design data complies with criteria indicated, such as building codes, loads, functional, and similar engineering requirements.
 4. Include signature and seal of design professional responsible for allocated design services on calculations and drawings.

5. Provide additional copies of design data for Architect's design consultants, including but not limited to structural engineer, mechanical engineer, plumbing engineer, and electrical engineer; transmit to each design consultant's address concurrently, if requested by Architect.
- D. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
 1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- E. Subcontractor, Trade Contractor and Installer Qualifications: When specified in individual specification Sections, submit qualifications data substantiating specified qualifications; three copies, one of which will be reviewed and returned to Contractor indicating action taken.
- F. Manufacturer's Instructions: When specified in individual specification Sections, submit printed 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.
- G. Manufacturer's Field Reports: When specified in individual specification Sections, submit reports for Architect's benefit as contract administrator or for Owner.
 1. Submit report in duplicate within 30 days of observation to Architect for information.
 2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.
- H. Warranty Documentation: When specified in individual specification Sections, submit specified manufacturer warranty indicating all required inclusions and restricted exclusions, and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

- A. Designer Qualifications: Where professional engineering design services and design data submittals are specifically required of Contractor by Contract Documents, provide services of a Professional Engineer experienced in design of this type of work and licensed in American Samoa, unless otherwise permitted by local jurisdiction.
- B. Contractor's Quality Control (CQC) Plan:
 1. 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.
 - 1) Include qualifications (in resume form), duties, responsibilities of each person assigned to CQC function.
 - 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. 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.
- C. Quality-Control Personnel Qualifications. Engage a person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project.

1.7 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 or required by applicable code.
- C. Obtain copies of standards where required by product specification Sections.
 - 1. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- D. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- E. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference standard document.

1.8 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Special Testing and Inspection: It is recognized that specified special testing and inspection program is intended to assist Contractor, Owner, Architect, and jurisdictional authorities in nominal determination of probable compliance with specified requirements for certain elements of the Work. This program is not intended to limit Contractor's standard quality control program.
 - 1. See Section 01 4533 - Code-Required Special Inspections and Procedures, for special inspection and testing requirements.

1.9 BASIS OF DESIGN SPECIFICATIONS

- A. Individual specification Sections may include a Basis of Design Manufacturer or Product, which forms the basis of the specifications, Drawing details, and other requirements of the Contract Documents. The specified Basis of Design Manufacturer or Product is not intended to exclude other manufacturers, products, or systems which comply with the requirements of the Contract Documents, subject to the provisions and requirements specified in individual specification Sections.
- B. Comply with the administrative requirements for substitutions specified in Section 01 6000 - Product Requirements for proposed products or systems other than the specified Basis of Design Manufacturer or Product.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 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.
 - 1. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- C. 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.
- D. Have work performed by persons qualified to produce required and specified quality.
- E. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 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 and, if applicable, compliance with moisture management materials, claddings, and fenestrations.
- B. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.
- C. Integrated Exterior Mock-ups: Construct integrated exterior mock-up as indicated on Drawings. Coordinate installation of exterior envelope materials and products as required in individual Specification Sections. Provide adequate supporting structure for mock-up materials as necessary.
 - 1. Include typical and unique material and fenestration transition conditions, and typical roof applications.
 - 2. Construct mock-up in phased sequence matching sequencing of building construction, so that building envelope and drainage plane details can be observed on mock-up prior to installation on building, and also prior to installation of finish materials on mock-up.
 - 3. When finish materials are installed on mock-up, provide partial cut-away features which leave concealed drainage plane components including weather barriers, flashings, and sealants remain visible for ongoing reference throughout construction process.
- D. Notify Architect fifteen (15) working days in advance of dates and times when mock-ups will be completed and ready for review and evaluation.
 - 1. Review and evaluation by Architect will be accomplished by review of photographs of mock-up prepared by Contractor. Comply with general requirements for photographic documentation specified in Section 01 3000.
- E. Provide supervisory personnel who will oversee mock-up construction. Provide workers that will be employed during the construction at Project.
- F. Assemble and erect specified items with specified backing materials, attachment and anchorage devices, weather barriers, flashings, sealants, applied coatings, surface treatments, and finishes.

- G. Obtain Architect's approval of mock-ups before starting work, fabrication, or construction.
 - 1. Architect will issue written comments within seven (7) working days of initial review and each subsequent follow up review of each mock-up.
 - 2. Make corrections as necessary until Architect's approval is issued.
- H. Architect will use accepted mock-ups as a comparison standard for the remaining Work.
- I. 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.

3.3 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.

3.4 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 of equipment, and inspection of surfaces to receive waterproofing systems as applicable, and to initiate instructions when necessary.
 - 1. Manufacturer's field representative will be required to submit daily reports as specified in this Section, when daily observations and inspections are specified in individual Sections.
- B. Submit qualifications of observer to Architect minimum 30 days in advance of required observations.
 - 1. Observer subject to approval of Architect.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.5 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.
- B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct an appropriate remedy or adjust payment, with Owner's consent.

END OF SECTION

**SECTION 01 4100
REGULATORY REQUIREMENTS**

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Obtain and pay for required permits, fees, licenses, and inspections as stipulated in the Agreement.
- B. Arrange for required regulatory inspections and approvals.
- C. Verify applicable codes and regulations.
- D. Comply with applicable codes and regulations as stipulated in the Agreement.
 - 1. Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities.
 - 2. Contractor is required to promptly report to Architect any nonconformity discovered by or made known to Contractor as a request for information as specified, or in such form as Architect may otherwise require.
- E. Listing of applicable Codes and regulations in this Section is not to be considered complete and all-inclusive; listing refers to primary applicable Codes and regulations only. See Drawings for additional information.

1.2 SUMMARY OF APPLICABLE CODES AND REFERENCE STANDARDS

- A. Federal Regulations (Including but not limited to); currently adopted editions of the following, unless noted otherwise:
 - 1. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines.
 - 2. ADA Standards - 2010 ADA Standards for Accessible Design.
 - 3. 29 CFR 1910 - Occupational Safety and Health Standards.
- B. Territory of American Samoa regulations, and other regulations (including but not limited to); currently adopted editions of the following, unless noted otherwise:
 - 1. Fire Protection District: Local jurisdiction.
 - 2. ICC A117.1 - Accessible and Usable Buildings and Facilities.
 - 3. ICC (IFC) - International Fire Code.
 - 4. ICC (IBC) - International Building Code.
 - 5. ICC (IPC) - International Plumbing Code.
 - 6. ICC (IMC) - International Mechanical Code.
 - 7. NFPA 70 - National Electrical Code.
 - 8. Erosion and Sedimentation Control Regulations: Local jurisdiction, unless otherwise specified.

1.3 QUALITY ASSURANCE

- A. Become familiar with applicable requirements of codes and regulations.
- B. Verify that substituted materials and equipment used in the Work meet or exceed requirements of applicable codes and regulations.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 4216
DEFINITIONS AND EXPLANATIONS

PART 1 GENERAL

1.1 SUMMARY

- A. This Section supplements the definitions contained in the General Conditions and other Contract Documents.
- B. Other definitions are included in individual specification Sections.
- C. Limitations: Definitions and explanations are not necessarily complete or exclusive, but are generally applicable to the Work to the extent such definitions or explanations are not stated more explicitly in other provisions of the Contract Documents.

1.2 SPECIFICATION EXPLANATIONS

- A. General: Explanations are provided to assist in understanding format, language, implied requirements and conventions of specification content. None of these explanations will be interpreted to modify the substance of content requirements.
- B. Division 01 General Requirements: Expand on the broad provisions of the Conditions of the Contract, and govern the execution of the work of all Sections of the specifications. Division 01 General Requirements specify administrative and procedural requirements relating to execution of the Work, and temporary facilities for use during the construction period.
- C. Sections and Divisions: The basic unit of specification text is the "Section," each of which is named and numbered. These are organized into related families called "Divisions," which generally conform to the most current edition of "MasterFormat" as published by CSI. Any Section title is not intended to limit meaning or content of Section, nor to be fully descriptive of requirements specified therein, nor to be an integral part of the text.
- D. Imperative Language: Used generally in the Specifications. Except as otherwise specified, requirements expressed imperatively are to be performed by Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe the responsibilities which must be fulfilled either indirectly by Contractor, or when so noted by others.

1.3 SPECIFICATION CONTENT CONVENTIONS

- A. Overlapping Requirements: Where compliance with two or more industry standards or sets of requirements is specified, and overlapping of those requirements also establishes different or conflicting minimums or levels of quality, the more stringent requirement will be enforced (which is generally the more costly level).
- B. Refer apparently equal but different requirements and uncertainties as to which level of quality is required to Architect for interpretation or decision before proceeding.
- C. Specification Minimum: In every instance, the specified requirement is the minimum to be performed or fulfilled. In complying with minimum requirements, the indicated numeric values are either minimums or maximums as noted or as appropriate for the context of the requirement. Refer instances of uncertainty to Architect for decision.
- D. Abbreviations: The language of the Specifications and elsewhere in the Contract Documents is of the abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual work abbreviations of a self-explanatory nature have been included in the text.

- E. Trade associations and general standards are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular wherever applicable and wherever the full context of the requirements so indicate.
- F. Specialists: In certain instances the Specification text may require that specific work be assigned to certain specialists or expert entities for the performance of those units of the Work. These are specified as requirements on which the Contractor has no choice or option.

1.4 DEFINITIONS

- A. Approve/Approved: Where used in conjunction with Architect's or Architect's consultant response to submittals, requests, applications, inquiries, reports, and claims by Contractor, the meaning of the term "approve" or "approved" will be held to the limitations of Architect's responsibilities and duties as specified in Section 01 3000 - Administrative Requirements and stipulated in the General Conditions of the Contract. In no case will approval by Architect be interpreted as an assurance to Contractor that the requirements of the Contract Documents have been fulfilled.
- B. By Others: Work performed by entities outside the Contract; interchangeable with "NIC" or "Not in Contract."
- C. Contract Documents: Those documents defined in the Owner-Contractor Agreement (Contract) as applicable to the construction of the Project by Contractor.
 - 1. Refer to General Conditions of the Contract for Construction for broader definition of this term.
- D. Contractor's Option: Where materials, products, systems or methods are specified to be at Contractor's option, the choice of which material, method, product, or system will be used is solely Contractor's. There will be no change in Contract Sum or Time because of such choice.
- E. Directed, Requested, etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by Architect", "requested by Architect", etc. However, no such implied meaning will be interpreted to extend Architect's responsibility into Contractor's area of construction supervision.
- F. Drawings: Capitalized term referring to the drawings prepared by Architect and its design consultants, and by any Owner consultants as applicable; bound and published as a sub-set of the Contract Documents as defined in Owner-Contractor Agreement (Contract). Non-capitalized term "drawings" used in the Contract Documents generally refers to other drawings not part of the Contract Documents, unless the context explicitly indicates otherwise.
 - 1. Refer to General Conditions of the Contract for Construction for broader definition of this term.
- G. Equipment: Defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including connections (wiring, piping, etc.).
- H. Final Acceptance: The administrative action taken by Owner authorizing final payment and settlement of the Contract.
 - 1. Refer to General Conditions of the Contract for Construction for broader definition of this term.
- I. Furnish: To supply, deliver, unload, and inspect for damage (by Contractor).
- J. General Requirements: Provisions or requirements of Division 01 specification Sections. General Requirements apply to the entire Work of the Contract and, where so indicated, to other elements of work which are included in the Project. See specification explanations in this Section.

- K. Indicated: Cross reference to details, notes or schedules on the Drawings, other paragraphs or schedules in the Specifications, and similar means of recording requirements in the Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for the purpose of helping the reader accomplish the cross reference, and no limitation is intended except as specifically noted.
- L. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use (by Contractor).
- M. Installer: The entity (person or firm) engaged by Contractor or his Subcontractor or Sub-subcontractor for the performance of a particular unit of work at the project site, including installations, erection, application and similar required operations.
- N. Material(s): Defined as products which must be substantially cut, shaped, worked, mixed, finished, refined or otherwise fabricated, processed, installed or applied to form units of work.
- O. Not in Contract (NIC): Work performed by entities outside the Contract; interchangeable with "By Others."
- P. Product(s): Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- Q. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the Specifications.
- R. Provide: To furnish and install.
- S. Supply: Same as Furnish.
- T. Testing Agency/Laboratory: An independent entity engaged to perform specific inspections or tests of the Work, either at the project site or elsewhere; and to report and (if required) interpret the results of those inspections or tests.
- U. Work (the Work): Capitalized term referring to the entire scope of work of the Project as defined in the Contract Documents. Non-capitalized term "work" used in the Contract Documents generally refers to work by specific trades or other entities as components or phases of the Work, unless the context explicitly indicates otherwise.
 - 1. Refer to General Conditions of the Contract for Construction for broader definition of this term.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary facilities, including:
 - 1. Dewatering.
 - 2. Temporary utilities.
 - 3. Temporary telecommunications services.
 - 4. Temporary sanitary facilities.
 - 5. Temporary Controls: Barriers, enclosures, and fencing.
 - 6. Field offices.
- B. Temporary controls on Project site, including:
 - 1. Vehicular access and parking.
 - 2. Waste removal facilities and services.

- C. Project identification sign.

1.2 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

1.3 DEWATERING

- A. Provide temporary means and methods for dewatering all temporary facilities and controls.
- B. Maintain temporary facilities in operable condition throughout duration of construction period.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Site Logistics Plan: Showing:
 - 1. Areas for temporary construction and field offices.
 - 2. Temporary site fencing and gate locations.
 - 3. Traffic control measures.
 - 4. Dumpster and waste management facilities.
 - 5. Temporary toilet facilities.
 - 6. Temporary signage locations and details.
 - 7. Field offices.
 - 8. Storage and lay-down areas.
 - 9. Barriers and other temporary facilities.

1.5 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Electrical power and metering, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.

- B. New permanent facilities may not be used.
- C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.6 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:
 - 1. Personal computer or lap-top computer dedicated to project telecommunications, with necessary software and printer.
 - 2. Telephone Lines: Minimum of one phone line, reserved for project use only.
 - 3. Internet Connections: Minimum of one; 2.4G or faster.
 - 4. Email: Account/address reserved for project use only.

1.7 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

1.8 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for Owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.9 FENCING

- A. Construction: Commercial grade chain link fence.
- B. Provide minimum 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.10 EXTERIOR ENCLOSURES

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

1.11 INTERIOR ENCLOSURES

- A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
- B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:
 - 1. STC rating of 35 in accordance with ASTM E90.
 - 2. Maximum flame spread rating of 75 in accordance with ASTM E84.

- C. Paint surfaces exposed to view from Owner-occupied areas.

1.12 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
- F. Do not allow vehicle parking on existing pavement, unless authorized by Owner in writing.

1.13 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site at least weekly.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.14 PROJECT IDENTIFICATION

- A. Provide project identification sign of design, construction, and location approved by Owner.
- B. No other signs are allowed without Owner permission except those required by law.

1.15 FIELD OFFICES

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 10 persons.
- C. Locate offices a minimum distance of 20 feet from structures and permanent site improvements.

1.16 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 6000
PRODUCT REQUIREMENTS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General product requirements.
- B. Specific product requirements, including:
 - 1. Transportation, handling, storage and protection.
 - 2. Product option requirements.
 - 3. Substitution limitations.
- C. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 RELATED REQUIREMENTS

- A. Section 01 2500 - Substitution Procedures: Substitutions made after award of Contract and during construction phase.
- B. Section 01 4000 - Quality Requirements: Product quality monitoring.

1.3 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
 - 1. Submit within 15 days after date of Agreement.
 - 2. For products specified only by reference standards, list applicable reference standards.
- C. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.1 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. See Section 01 4000 - Quality Requirements, for additional source quality control requirements.
- C. Use of products having any of the following characteristics is not permitted:
 - 1. Made using or containing CFC's or HCFC's.
 - 2. Containing lead, asbestos, or other known hazardous substances.

2.2 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.
- D. Products Specified by Naming a Basis of Design Manufacturer or Product with a Provision for Substitutions: Submit a request for substitution for any other manufacturer listed under Other Acceptable Manufacturers, or for a manufacturer not named.
 - 1. Refer to Section 01 4000 for basis of design specifications requirements.

2.3 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification Sections.
- B. Deliver and place in location as directed; obtain receipt prior to final payment.

PART 3 EXECUTION

3.1 SUBSTITUTION LIMITATIONS

- A. See Section 01 2500 - Substitution Procedures for general substitution procedures.
- B. Architect may consider requests for substitutions when one or more of the following conditions exist, as determined by Architect. If one or more of the following conditions are determined not to exist, Architect may not consider request further, and may take no action except to record the request and its non-compliance. Consideration may be given if substitution request:
 - 1. Offers Owner substantial advantage in cost, time, energy conservation, or other consideration, after deducting additional responsibilities Owner must assume as the result.
 - 2. Does not require extensive modification of Contract Documents.
 - 3. Is consistent with intent of Contract Documents, and will produce intended work results.
 - 4. Is fully documented and properly submitted.
 - 5. Resolves specified Product being unable to receive required approval by Authority Having Jurisdiction (AHJ), and substitution has received such approval prior to submission.
 - 6. Resolves incompatibility of specified Product with other related Products, and substitution is compatible with related Products.
 - 7. Resolves non-coordination of specified Product with other related Products, and substitution is coordinated with related Products.
 - 8. Provides specified warranty when specified Product cannot be provided with specified warranty.
 - 9. Is proposed for a Product that, through no fault of Contractor, becomes unavailable or unsuitable due to regulatory change.
 - 10. Will be considered if a Product cannot be provided within the Contract Time; Architect will not consider substitution if Product cannot be provided as the result of Contractor's failure to schedule and coordinate the Work as required by Contract Documents.
 - 11. Has been coordinated with and among all affected Subcontractors and other portions of the Work, and is acceptable to all affected Subcontractors.

3.2 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.3 STORAGE AND PROTECTION

- A. Provide protection of stored materials and products against theft, casualty, or deterioration.
- B. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
 - 1. Structural Loading Limitations: Handle and store products and materials so as not to exceed static and dynamic load-bearing capacities of project floor and roof areas.
- C. Store and protect products in accordance with manufacturers' instructions.
- D. Store with seals and labels intact and legible.
- E. Arrange storage of materials and products to allow for visual inspection for the purpose of determination of quantities, amounts, and unit counts.
- F. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- G. For exterior storage of fabricated products, place on sloped supports above ground.
- H. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- I. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- J. Comply with manufacturer's warranty conditions, if any.
- K. Do not store products directly on the ground.
- L. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- M. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

- N. Prevent contact with material that may cause corrosion, discoloration, or staining.
- O. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- P. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

**SECTION 01 7000
EXECUTION AND CLOSEOUT REQUIREMENTS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Execution procedures, including:
 - 1. Examination, preparation, and general installation procedures.
 - 2. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
 - 3. Pre-installation meetings.
 - 4. Cutting and patching.
 - 5. Surveying for laying out the work.
 - 6. Cleaning and protection.
- B. Closeout procedures, including:
 - 1. Starting of systems and equipment.
 - 2. Demonstration and instruction of Owner personnel.
 - 3. Project closeout meeting.
 - 4. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- C. General requirements for maintenance service.

1.2 DEFINITIONS

- A. Verify, Field Verify, or Drawing Abbreviation: Use on Drawings or in specifications is intended to alert Contractor that indicated measurement or description of work may not be fully determined without comparing verified dimension in larger context or other dependent measurements due to specific product, actual versus nominal dimensions, or measurements of existing conditions.
 - 1. Notify Architect of discrepancies between dimensions shown and field layout or measurements.

1.3 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.4 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.
 - 6. Include in Request:
 - a. Identification of Project.
 - b. Location and description of affected work.
 - c. Necessity for cutting or alteration.
 - d. Description of proposed work and products to be used.
 - e. Alternatives to cutting and patching.
 - f. Effect on work of Owner or separate Contractor, if applicable.

- g. Written permission of affected separate Contractor, if applicable.
- h. Date and time work will be executed.

C. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.5 QUALIFICATIONS

- A. For surveying work, employ a land surveyor licensed in American Samoa.
- B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in American Samoa.

1.6 PROJECT CONDITIONS

- A. Use of explosives is not permitted without written permission from Owner.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Perform dewatering activities, as required, for the duration of the project.
- E. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- F. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
- G. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
 - 1. Minimize amount of bare soil exposed at one time.
 - 2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
 - 3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
 - 4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- H. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- I. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- J. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.7 ADMINISTRATIVE COORDINATION - GENERAL

- A. Coordinate scheduling, submittals, and work of the various Sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.

- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate Sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product Sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitutions: For any proposed change in materials, submit request for substitution described in Section 01 2500 - Substitution Procedures.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification Sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.

- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3 PRE-INSTALLATION MEETINGS

- A. When required in individual specification Sections, convene a pre-installation meeting at the site prior to commencing work of the Section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific Section.
- C. Notify Architect minimum 7 calendar days in advance of proposed meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with electronic copies to Architect, Owner, participants, and those affected by decisions made.

3.4 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect of any discrepancies discovered.
- C. Locate and protect survey control and reference points.
- D. Control datum for survey is that indicated on Drawings.
- E. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- F. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- H. Utilize recognized engineering survey practices.
- I. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.
- J. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations.
- K. Periodically verify layouts by same means.
- L. Maintain a complete and accurate log of control and survey work as it progresses.

3.5 GENERAL INSTALLATION REQUIREMENTS

- A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

- B. Install products as specified in individual Sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.6 ALTERATIONS

- A. Photographic Documentation: Specified in Section 01 3000 - Administrative Requirements.
- B. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- C. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000.
 - 2. Provide sound retardant partitions of construction indicated on Drawings in locations indicated on Drawings.
- D. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
 - 1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
 - 2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.
- E. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- F. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 - 2. Remove items indicated on Drawings.
 - 3. Relocate items indicated on Drawings.
 - 4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- G. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 - 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.

3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. See Section 01 1000 for other limitations on outages and required notifications.
 - c. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

H. Protect existing work to remain.

1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

I. Adapt existing work to fit new work. Make as neat and smooth transition as possible.

1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.

J. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

K. Refinish existing surfaces as indicated:

1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

L. Clean existing systems and equipment.

M. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

N. Do not begin new construction in alterations areas before demolition is complete.

O. Comply with all other applicable requirements of this Section.

3.7 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:

1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.

5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-complying work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
 - E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
 - F. Cut rigid materials, resulting in clean and neat edges, using masonry saw or core drill. Cutting rigid materials using chisels, impact or pneumatic tools is not allowed without prior approval.
 - G. Restore work with new products in accordance with requirements of Contract Documents.
 - H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
 - I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.
 - J. Patching:
 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 2. Match color, texture, and appearance.
 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.8 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from wall cavities, pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site weekly and dispose off-site; do not burn or bury.

3.9 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification Sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

- G. 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.
 - 1. Keep waterproofed and roofed surfaces clean and free of debris that could cause damage to surfaces and membranes, particularly sharp objects including fasteners, wire cut-offs, and similar items.
 - H. Prohibit traffic from landscaped areas.
 - I. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.
 - J. Failure to protect installed and existing work may result in withholding of payments to Contractor as determined by Architect. Damage resulting from failure to protect installed and existing work must be fully repaired or replaced as applicable to the satisfaction of Architect at no additional cost to Owner.
- 3.10 SYSTEM STARTUP
- A. Coordinate schedule for start-up of various equipment and systems.
 - B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
 - C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
 - D. Verify that wiring and support components for equipment are complete and tested.
 - E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
 - F. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
 - G. Submit a written report that equipment or system has been properly installed and is functioning correctly.
- 3.11 DEMONSTRATION AND INSTRUCTION
- A. See Section 01 7900 - Demonstration and Training.
 - B. The amount of time required for instruction on each item of equipment and system is that specified in individual Sections.
- 3.12 ADJUSTING
- A. Adjust operating products and equipment to ensure smooth and unhindered operation.
 - B. Testing, Adjusting, and Balancing HVAC Systems: See Division 23 and Section 01 4000 - Quality Requirements.
- 3.13 FINAL CLEANING
- A. Execute final cleaning after Substantial Completion but before making final application for payment.
 - B. Use cleaning materials that are nonhazardous.
 - C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, and vacuum carpeted and soft surfaces.
 - D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Clean filters of operating equipment.
- G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.
- H. Clean site; sweep paved areas, rake clean landscaped surfaces.
- I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.14 PROJECT CLOSEOUT MEETING

- A. Schedule and administer a Project closeout meeting minimum two months before scheduled Date of Substantial Completion, at location mutually agreed upon by Owner, Contractor, and Architect.
- B. Attendance Required: Owner, Contractor, job superintendent, and Architect.
- C. Minimum Agenda:
 - 1. Review specified closeout process, tasks required of respective participants, task scheduling, and deadline dates for each critical path task in the closeout process.
 - 2. Review closeout submittals required and submittal procedures for each.
 - 3. Review maintenance materials requirements and Owner's requirements for delivery and storage.
 - 4. Review final inspection requirements of AHJ and coordination of same.
 - 5. Review status of record documentation, and discuss process for completing and distributing record documentation to Owner and Architect.
- D. Record minutes and distribute electronically within two days after meeting to participants and those affected by decisions made.

3.15 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Architect and Owner.
- B. Notify Architect in writing when work is considered ready for Architect's Substantial Completion inspection.
 - 1. Prerequisite for Substantial Completion: In addition to definition of Substantial Completion in the General Conditions or Agreement, Substantial Completion is not considered achieved until Certificate of Occupancy is issued by primary jurisdictional authority, allowing Owner to fully occupy or utilize building and associated facilities for intended use in all respects.
- C. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
- D. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- E. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- F. Accompany Owner and Architect on Contractor's preliminary final inspection.
- G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

3.16 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification Sections.
- B. Maintenance Period: As indicated in specification Sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of Owner.

END OF SECTION

**SECTION 02 4100
DEMOLITION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Selective demolition of existing site elements.
- B. Selective demolition of building elements for alteration purposes.

1.2 DEFINITIONS

- A. Demolish (Demo): Dismantle a defined component of existing construction, remove it from the Site, and dispose of it either as specified or in lawful manner.
- B. Dispose: Remove from the Project Site in lawful manner.
- C. Reinstall: Install a removed component of existing construction into new construction as indicated.
- D. Remove: Dismantle a defined component of existing construction in a manner which protects and preserves the component for future use/installation; definition includes lawful disposal, unless otherwise specifically indicated to be reinstalled, salvaged, or other described action.
- E. Salvage: Remove in a manner preserving the existing condition and integrity of the component, set aside, store and protect for future reinstallation.

1.3 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

1.5 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Company specializing in the type of work required.
 - 1. Minimum of five years of documented experience.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.1 DEMOLITION

- A. Remove portions of existing building as indicated on Drawings.
- B. Remove paving and curbs required to accomplish new work.
- C. Remove other items as specifically indicated on Drawings.
- D. Remove items specifically indicated for salvage, relocation, and recycling.

3.2 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with requirements in Section 01 7000.

- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Comply with applicable requirements of NFPA 241.
 - 3. Use of explosives is not permitted.
 - 4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 5. Provide, erect, and maintain temporary barriers and security devices.
 - 6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 - 7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 8. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
 - 9. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
 - 10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.
- C. Do not begin removal until receipt of notification to proceed from Owner.
- D. Do not begin removal until existing elements to be salvaged or relocated have been removed.
- E. Do not begin removal until vegetation to be relocated has been removed and vegetation to remain has been protected from damage.
- F. Protect existing structures and other elements to remain in place and not removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.
- G. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- H. Hazardous Materials:
 - 1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.
- I. Partial Removal of Paving: Neatly saw cut at right angle to surface.

3.3 EXISTING UTILITIES

- A. Protect existing utilities to remain from damage.
- B. Do not disrupt public utilities without permit from authority having jurisdiction.
- C. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- D. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- E. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- F. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

- G. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone. Identify and mark, in same manner as other utilities to remain, utilities to be reconnected.

3.4 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Photographic Documentation: Specified in Section 01 3000.
- B. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
 - 1. Verify construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- C. Separate areas in which demolition is being conducted from areas that remain occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on Drawings.
- D. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.
- E. Remove existing work as indicated and required to accomplish new work.
 - 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction indicated.
 - 2. Remove items indicated on Drawings.
- F. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
 - 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - 3. See Section 01 1000 - Summary for limitations on outages and required notifications.
 - 4. Verify that abandoned services serve only abandoned facilities before removal.
 - 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.
- G. Protect existing work to remain.
 - 1. Prevent movement of structure. Provide shoring and bracing as required.
 - 2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch to match new work.

3.5 DEBRIS AND WASTE REMOVAL

- A. Remove debris and trash from site.
- B. Remove from site all materials not to be reused on site; do not burn or bury.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

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**SECTION 05 4000
COLD-FORMED METAL FRAMING**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Formed steel stud temporary exterior wall framing.

1.2 REFERENCE STANDARDS

- A. AISI S100 - North American Specification for the Design of Cold-Formed Steel Structural Members.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- D. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.
- E. ASTM C955 - Standard Specification for Cold-Formed Steel Structural Framing Members.
- F. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories.
- G. AWS D1.1/D1.1M - Structural Welding Code - Steel.

1.3 QUALITY ASSURANCE

- A. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and AWS D1.3/D1.3M and dated no more than 12 months before start of scheduled welding work.
- B. Installer Qualifications: Company specializing in performing the work of this Section with minimum three years documented experience.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. CEMCO: www.cemcosteel.com.
 - 2. ClarkDietrich: www.clarkdietrich.com/#sle.
 - 3. Jaimes Industries: www.jaimesind.com/#sle.
 - 4. MarinoWARE: www.marinoware.com/#sle.
 - 5. MiTek Industries, Inc.: www.mii.com.
 - 6. SCAFco Corporation: www.scafco.com/#sle.
 - 7. Steel Construction Systems: www.steelconsystems.com/#sle.
 - 8. The Steel Network, Inc.: www.SteelNetwork.com.
 - 9. Substitutions: See Section 01 6000 - Product Requirements.

B. Acceptable Manufacturers - Framing Connectors and Accessories:

1. Same manufacturer as metal framing.
2. Simpson Strong-Tie: www.strongtie.com/#sle.
3. Substitutions: See Section 01 6000 - Product Requirements.

2.2 FRAMING SYSTEM

- A. Provide primary and secondary framing members, bridging, bracing, plates, gussets, clips, fittings, reinforcement, and fastenings as required to provide a complete framing system.

2.3 FRAMING MATERIALS

A. Studs and Track: ASTM C955; track in matching nominal width and compatible height.

1. Depth: As indicated on Drawings.
2. Gauge: 16, minimum.
3. Galvanized in accordance with ASTM A653/A653M, G90/Z275 coating.
4. Provide components fabricated from ASTM A1008/A1008M Designation SS (structural steel).

B. Framing Connectors: Factory-made, formed steel sheet.

1. Material: ASTM A653/A653M SS Grade 33 and 40 (minimum), with G90/Z275 hot dipped galvanized coating for base metal thickness less than 10 gauge, 0.1345 inch, and factory punched holes and slots.
2. Structural Performance: Maintain load and movement capacity required by applicable code, when evaluated in accordance with AISI S100.
3. Movement Connections: Provide mechanical anchorage devices that accommodate movement using slotted holes, shouldered screws or screws and anti-friction or stepped bushings, while maintaining structural performance of framing. Provide movement connections where indicated on Drawings.
4. Fixed Connections: Provide non-movement connections for tie-down to foundation, floor-to-floor tie-down, roof-to-wall tie-down, joist hangers, gusset plates, and stiffeners.

2.4 FASTENERS

- A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot dip galvanized per ASTM A153/A153M.
- B. Anchorage Devices: Powder actuated.
- C. Welding: Comply with AWS D1.1/D1.1M.

2.5 ACCESSORIES

- A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined for conditions encountered; finish to match framing components.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify field measurements and adjust installation as required.

3.2 INSTALLATION OF STUDS

- A. Install components in accordance with ASTM C1007 requirements.

- B. Place studs at 16 inches on center unless otherwise indicated on Drawings; not more than 2 inches from abutting walls and at each side of openings. Connect studs to tracks using fastener or welding method as indicated or specified on structural Drawings.
- C. Construct corners using minimum of three studs.
- D. Install load-bearing studs full length in one piece. Splicing of studs is not permitted.
- E. Install framing between studs for attachment of mechanical and electrical items, and to prevent stud rotation.
- F. Touch-up field welds and damaged primed surfaces with primer.
 - 1. Maintain continuity and integrity of primer on all metal surfaces until building enclosure is complete and weather-tight.

3.3 TOLERANCES

- A. Maximum Variation from True Position: 1/4 inch.
- B. Maximum Variation of any Member from Plane: 1/8 inch.
- C. Maximum Variation from Plumb and Level: 1/4 inch in 10 feet, non-cumulative.

END OF SECTION

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**SECTION 06 1053
MISCELLANEOUS ROUGH CARPENTRY**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Preservative treated wood materials.
- B. Wood blocking, nailers, and supports.

1.2 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- B. AWPA U1 - Use Category System: User Specification for Treated Wood.
- C. PS 1 - Structural Plywood.
- D. PS 20 - American Softwood Lumber Standard.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. Species: Douglas Fir-Larch or Hem-Fir.
 - 2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.2 DIMENSION LUMBER

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.3 CONSTRUCTION PANELS

- A. Other Applications:
 - 1. Plywood Exposed to View But Not Exposed to Weather: PS 1, A-D, or better.
 - 2. Other Locations: PS 1, C-D Plugged or better.

2.4 ACCESSORIES

A. Fasteners and Anchors:

1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
2. Anchors: Toggle bolt type for anchorage to hollow masonry.

2.5 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:

1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.10 lb/cu ft retention, minimum.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber in contact with roofing or flashing.
 - c. Treat lumber in contact with concrete.
 - d. Treat lumber less than 18 inches above grade.
 - e. Treat lumber in other locations as indicated.

PART 3 EXECUTION

3.1 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.2 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to erecting members.

3.3 CLEANING

- A. Waste Disposal:
 1. Comply with applicable regulations.
 2. Do not burn scrap on project site.
 3. Do not burn scraps that have been pressure treated.
 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

**SECTION 07 2100
THERMAL INSULATION**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Insulation in metal framed walls.

1.2 REFERENCE STANDARDS

- A. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- C. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 °C.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Do not allow insulation materials to become wet, soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage, and protection during installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. As specified in this Section for each insulation type and application.
 - 2. Substitutions: See Section 01 6000 - Product Requirements.

2.2 APPLICATIONS

- A. Insulation in Metal Framed Walls: Batt insulation with integral vapor retarder.

2.3 MINERAL FIBER BLANKET (BATT) INSULATION MATERIALS

- A. Flexible Glass Fiber Blanket Thermal Insulation: Preformed insulation, complying with ASTM C665; friction fit.
 - 1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
 - 2. Smoke Developed Index: 50 or less, when tested in accordance with ASTM E84.
 - 3. Combustibility: Non-combustible, when tested in accordance with ASTM E136.
 - 4. Thickness: Full thickness of framing or cavity space indicated, unless otherwise specifically noted on Drawings.
 - 5. Facing: Provide foil-scrim-kraft faced one side; flame spread/smoke development rating 25/50 or less; approved for exposed applications where required by applicable building code.
 - 6. Acceptable Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com.
 - b. Johns Manville: www.jm.com.
 - c. Knauf Insulation: www.knaufinsulation.us.
 - d. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
 - e. Substitutions: See Section 01 6000 - Product Requirements.

2.4 ACCESSORIES

- A. Tape: Type and composition matching each type of membrane or insulation to be taped; self-adhering, mesh reinforced, 2 inch wide.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

3.2 BATT INSULATION INSTALLATION

- A. Installation - General:
 1. Install insulation at locations indicated and in accordance with manufacturer's instructions.
 2. Install in exterior wall areas without gaps or voids. Do not compress insulation.
 3. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
 4. Fit insulation tightly in wall cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
 5. Integral Vapor Retarder Membranes: Install with factory applied vapor retarder membrane facing warm side of building spaces. Lap ends and side flanges of membrane over framing members. Tape and seal to full perimeter of insulation area, and other items interrupting plane of vapor retarder membrane.
- B. Metal Stud Framing: Tape insulation batts in place.

3.3 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

SECTION 07 2700
AIR BARRIERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Air barriers.
- B. Air barrier system accessories, including:
 - 1. Sealants, tapes, and accessories for sealing air barrier and adjacent substrates.
 - 2. Other specified system accessories.

1.2 REFERENCE STANDARDS

- A. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- B. ASTM E1677 - Standard Specification for Air Barrier (AB) Material or Assemblies for Low-Rise Framed Building Walls.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- D. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials.
- E. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this Section with minimum three years documented experience.

1.4 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by materials manufacturers before, during, and after installation.

PART 2 PRODUCTS

2.1 AIR BARRIER ASSEMBLIES

- A. Air Barriers:
 - 1. On outside of exterior sheathing use air barrier sheet, self-adhered.

2.2 AIR BARRIER MATERIALS

- A. Air Barrier Sheet, Self-Adhered:
 - 1. Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178.
 - 2. Water Vapor Permeance: 10 perms, minimum, when tested in accordance with ASTM E96/E96M using Procedure A - Desiccant Method, at 73.4 degrees F.
 - 3. Water Penetration Resistance Around Nails: Pass, when tested in accordance with ASTM D1970/D1970M (modified).
 - 4. Ultraviolet (UV) and Weathering Resistance: Approved by manufacturer for up to 90 days of weather exposure.

5. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less, Class A when tested in accordance with ASTM E84.
6. Seam and Perimeter Tape: As recommended by sheet manufacturer.
7. Acceptable Products:
 - a. GCP Applied Technologies; Perm-A-Barrier VPS 30: www.gcpat.com/#sle.
 - b. Henry Company; Blueskin VP160: www.henry.com/#sle.
 - c. VaproShield, LLC; WrapShield SA - Self-Adhered: www.vaproshield.com/#sle.
 - d. Substitutions: See Section 01 6000 - Product Requirements.

2.3 ACCESSORIES

- A. Sealants, Tapes, and Accessories for Sealing Air Barrier and Adjacent Substrates: As indicated or in compliance with air barrier manufacturer's installation instructions.
- B. Accessory Components: As recommended by primary weather barrier membrane manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces and conditions are ready for work of this Section.
- B. Where existing conditions are responsibility of another installer, notify Architect of unsatisfactory conditions.
- C. Do not proceed with this work until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.
- B. Clean and prime substrate surfaces to receive adhesives and sealants in accordance with manufacturer's installation instructions.

3.3 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions and ASTM E1677, and as otherwise specified in this Section.
- B. Apply sealants and adhesives within recommended temperature range in accordance with manufacturer's installation instructions.
- C. Self-Adhered Sheets:
 1. Prepare substrate in accordance with sheet manufacturer's installation instructions; fill and tape joints in substrate and between dissimilar materials.
 2. Cold Weather Applications: Comply with manufacturer's protocols and special application instructions.
 3. Lap sheets shingle fashion to shed water and seal laps airtight.
 4. Once sheets are in place, press firmly into substrate with resilient hand roller; ensure that laps are firmly adhered with no gaps or fishmouths.
 5. Use same material, or other material approved by sheet manufacturer, to seal to adjacent substrates, and as flashing.
 6. At wide joints, provide extra flexible membrane allowing joint movement.
- D. Openings and Penetrations in Exterior Air Barriers:
 1. Install flashing over sills, covering entire sill frame member, extending at least 5 inches onto air barrier and at least 6 inches up jambs; mechanically fasten stretched edges.

2. At openings with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with sealing tape at least 4 inches wide; do not seal sill flange.
3. At openings with nonflanged frames, seal air barrier to each side of framing at opening using flashing at least 9 inches wide, and covering entire depth of framing.
4. At head of openings, install flashing under air barrier extending at least 2 inches beyond face of jambs; seal air barrier to flashing.
5. At interior face of openings, seal gap between window/door frame and rough framing, using joint sealant over backer rod.
6. Service and Other Penetrations: Form flashing around penetrating item and seal to air barrier surface.

3.4 PROTECTION

- A. Protect installed air barrier systems and associated flashings from damage until covered by subsequent construction.
- B. Do not leave materials exposed to weather longer than recommended by manufacturer.

END OF SECTION

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SECTION 07 6200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fabricated sheet metal items, including:
 - 1. Sheet metal flashing and trim accessories.
 - 2. Other sheet metal flashing and trim items indicated on Drawings and not specified in other Sections.
- B. Design of attachment systems to comply with specified requirements.

1.2 REFERENCE STANDARDS

- A. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems.
- B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- C. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free.
- D. SMACNA (ASMM) - Architectural Sheet Metal Manual.

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) requirements and standard details, except as otherwise indicated or specified.
- B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with three years of documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.1 SHEET METAL FLASHING AND TRIM ASSEMBLIES

- A. General: Design sheet metal flashing and trim assemblies to physically protect roofing systems, roof accessories, and other building elements and systems from damage that would permit water leakage to building interior under all weather conditions.
- B. Flashing Assemblies: Design flashing assemblies to withstand structural movement, thermally induced movement, and exposure to wind and weather without failure or permanent deformation.
- C. Roof Edge Flashing and Coping Assemblies: Design assemblies to comply with the following requirements.
 - 1. Pull-Off Resistance: Tested in accordance with ANSI/SPRI/FM 4435/ES-1, RE-1, RE-2, and RE-3 as applicable to positive and negative design wind pressure as defined by applicable code.
 - 2. Movement: Capable of withstanding structural movement, thermally induced movement, and exposure to wind and weather without failure or permanent deformation.

2.2 SHEET MATERIALS

- A. Stainless Steel: ASTM A666, Type 316 alloy, soft temper, minimum 24 gauge, 0.0239 inch thick; smooth No. 4 - Brushed finish.

2.3 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
 - 1. Comply with specific requirements detailed on Drawings, which supercede general requirements specified in this Section.
- B. Fabricate cleats and starter strips of same material as exposed sheet, one gage thickness heavier than exposed sheet, and interlockable with exposed sheet.
- C. Form pieces in longest possible lengths.
- D. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- E. Form material with lapped seams, except where otherwise indicated on Drawings; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- F. Provide for thermal expansion/contraction of all exposed sheet metal work exceeding 15 feet in running length, except as otherwise indicated.
 - 1. Facias, Flashings, and Trim: 10 feet maximum spacing, and not closer than 24 inches from corners and intersections.

2.4 ACCESSORIES

- A. Fasteners: Same material and finish as flashing metal, with soft neoprene washers.
- B. Primer: Zinc chromate type.
- C. Protective Backing Paint: Asphaltic mastic, ASTM D4479/D4497M, Type I.
- D. Concealed Sealants: Non-curing butyl sealant; compatible with metals and roofing system membranes.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify existing roofing termination and base flashings are in place, sealed, and secure.
- B. Metal Facias: Verify that wood grounds and nailing boards are secured to building framing sufficiently to resist specified pull-off resistance requirements.

3.2 PREPARATION

- A. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil, 0.015 inch.

3.3 INSTALLATION - GENERAL

- A. Conform to Drawing details; if not detailed on Drawings, comply with standard details of the following:
 - 1. Steel Sheet Metal: SMACNA (ASMM).
- B. Lapped Seams - General: Overlap seams 4 inches, and seal with two continuous beads of non-curing butyl sealant spaced 2 inches apart and located 1 inch from end of each metal sheet.

- C. Cleats and Edge Strips: Secure edges of sheet metal members over 12 inches wide, and at other indicated locations with cleats. Fasten cleats at maximum 12 inches on center unless otherwise indicated. Provide continuous edge strips at eaves and gable ends for attaching exposed terminating edge of copings, gravel stops, or fascias. Provide minimum 1/8 inch butt joints as required to accommodate thermal movement.
- D. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted.
- E. Apply compatible sealant between metal flashings and roofing system flashings.
- F. Isolate sheet metal from cementitious materials and dissimilar metals with underlayment or protective coating that is compatible with all other materials with which it will come in contact.
- G. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- H. Seal metal joints watertight.

END OF SECTION

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**SECTION 07 9200
JOINT SEALANTS**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Joint backings and accessories.

1.2 REFERENCE STANDARDS

- A. ASTM C1472 - Standard Guide for Calculating Movement and Other Effects When Establishing Sealant Joint Width.
- B. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer.
- C. ASTM C1193 - Standard Guide for Use of Joint Sealants.
- D. ASTM C1311 - Standard Specification for Solvent Release Sealants.
- E. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.
- F. ASTM D2240 - Standard Test Method for Rubber Property--Durometer Hardness.
- G. SWRI - Sealant, Waterproofing and Restoration Institute; Sealants: The Professionals' Guide; current edition.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sealant work with other work requiring sealants, and with other Sections referencing this Section; do not obstruct indicated or required moisture weepage systems under any circumstances.

1.4 QUALITY ASSURANCE

- A. Conform to SWRI recommendations for materials and installation.
- B. Installer Qualifications: Company specializing in performing the work of this Section with minimum three years documented experience.
- C. System Compatibility: Assume responsibility for confirming that sealants are compatible with each other as a system, and also compatible with substrate surfaces with which they will be in contact, including but not limited to wall and sheathing surfaces, opening materials, other flashings and weather barrier materials.
 - 1. Assure that system components are compatible as specified prior to preparing and making specified submittals.
 - 2. Assume responsibility for removal of incompatible system components and installation of properly compatible components at no additional cost to Owner regardless of when incompatibility is discovered.

1.5 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.
 - 1. Install sealants only when temperature is in lower third of manufacturer's recommended installation temperature range wherever joint width is affected by ambient temperature variations.

2. Install sealants only when ambient temperature conditions can be maintained at or above 40 degrees F during installation and 48 hours immediately following installation.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in original, unopened containers or bundles with labels indicating manufacturer, product name and designation, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 1. Adhesives Technology Corporation: www.atcepoxy.com.
 2. Bostik Inc.: www.bostik-us.com.
 3. Dayton Superior Corporation: www.daytonsuperior.com.
 4. Dow Corning Corporation: www.dowcorning.com.
 5. Hilti, Inc.: www.us.hilti.com.
 6. Master Builders Solutions: www.master-builders-solutions.com/en-us/#sle.
 7. Momentive Performance Materials, Inc. (formerly GE Silicones): www.momentive.com.
 8. Pecora Corporation: www.pecora.com.
 9. Sika Corporation: www.usa.sika.com/#sle.
 10. Tremco Global Sealants: www.tremcosealants.com.
 11. W.R. Meadows, Inc.: www.wrmeadows.com.
 12. Substitutions: See Section 01 6000 - Product Requirements.

2.2 JOINT SEALANT APPLICATIONS

- A. General: Seal open joints, whether or not the joint is indicated on Drawings, unless specifically indicated not to be sealed.
- B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated below.
 1. Lap Joints in Sheet Metal Fabrications: Butyl rubber, non-curing.

2.3 NONSAG JOINT SEALANTS

- A. Nonstaining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
 1. Movement Capability: Plus and minus 50 percent, minimum.
 2. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
 3. Hardness Range: 15 to 35, Shore A, when tested in accordance with ASTM C661 or ASTM D2240.
 4. Color: To be selected by Architect from manufacturer's standard range.
 5. Cure Type: Single-component, neutral moisture curing.
 6. Service Temperature Range: Minus 20 to 180 degrees F.
- B. Non-Curing Butyl Sealant: Solvent-based, single component, non-sag, non-skinning, non-hardening, non-bleeding; non-vapor-permeable; intended for fully concealed applications.

2.4 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific applications.
 1. Applications Subject to Potential Moisture Intrusion (Exterior Applications): ASTM C1330; Type C - Closed Cell Polyethylene.

2. All Other Applications, and Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
 3. Closed Cell and Bi-Cellular Rod Size: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
 - C. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
 - D. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.
 - E. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.2 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.3 INSTALLATION

- A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Provide joint sealant installations complying with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
 1. Provide joints sized for width/depth ratios according to ASTM C1472.
- D. Multiple backer rods are not permitted; use single backer rod properly sized to joint width.
- E. Install bond breaker backing tape where backer rod cannot be used.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- G. Do not obstruct indicated or required moisture weepage systems under any circumstances.
- H. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

- I. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

END OF SECTION

**SECTION 09 2116
GYPSUM BOARD ASSEMBLIES**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Gypsum wallboard and sheathing.
- B. Joint treatment and accessories.

1.2 REFERENCE STANDARDS

- A. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board.
- B. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
- C. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- D. ASTM C1396/C1396M - Standard Specification for Gypsum Board.
- E. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- F. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- G. GA-216 - Application and Finishing of Gypsum Panel Products.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum three years of documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store and protect products in accordance with referenced standards.
- B. Handle gypsum boards to prevent damage to ends, edges, and surfaces.

1.5 FIELD CONDITIONS

- A. Maintain ambient temperatures at not less than 40 degrees F for non-adhesive attachment of gypsum board, and not less than 50 degrees F for adhesive attachment.
- B. Maintain ambient temperatures at not less than 50 degrees F for a period 48 hours before gypsum board finishing, during installation, and after installation of board materials.

PART 2 PRODUCTS

2.1 BOARD MATERIALS

- A. Acceptable Manufacturers - Gypsum-Based Board:
 - 1. American Gypsum Company: www.americangypsum.com/#sle.
 - 2. CertainTeed Corporation: www.certainteed.com/#sle.
 - 3. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
 - 4. Gold Bond Building Products, LLC provided by National Gypsum Company: www.goldbondbuilding.com/#sle.
 - 5. PABCO Gypsum: www.pabcogypsum.com/#sle.

6. USG Corporation: www.usg.com/#sle.
 7. Substitutions: See Section 01 6000 - Product Requirements.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Applications: Use for interior vertical surfaces.
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 3. Thickness: As indicated on Drawings.
- C. Glass Mat Faced Sheathing: Glass mat faced gypsum substrate as defined in ASTM C1177/C1177M.
1. Applications: Exterior sheathing.
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 3. Fungal Resistance: No fungal growth when tested in accordance with ASTM G21.
 4. Thickness: As indicated on Drawings.

2.2 INSTALLATION AND FINISHING ACCESSORIES

- A. Special Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic or galvanized steel, unless noted otherwise.
- B. Joint Materials: ASTM C475/C475M, and as recommended by gypsum board manufacturer for project conditions.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that project conditions are appropriate for work of this Section before commencing work of this Section.

3.2 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions.
1. Space fasteners in accordance with ASTM C840 and manufacturer's recommendations.
 2. Install interior wall and partition boards in accordance with requirements of referenced installation standards, except where fire or sound rating requires a particular direction; comply with the method stated in the tested assembly data.
 3. Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 24 inches in alternate courses of board.
- B. Single-Layer Non-Rated Applications: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

3.3 INSTALLATION OF TRIM AND ACCESSORIES

- A. Corner Beads: Install at external corners, using longest practical lengths.
- B. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.4 JOINT TREATMENT

- A. Glass-Mat-Faced Gypsum Board: Use fiberglass joint tape, bedded and finished with chemical hardening type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 2: Interior areas.

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface.

3.5 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

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