SOUTHERN UNIVERSITY AT SHREVEPORT

REQUEST FOR BIDS

BID DUE DATE: NOVEMBER 15, 2023

Sealed Bids are currently being accepted for Backup IT Server Room at Southern University-Shreveport include the bid number on the envelope.

BIDS MAY BE SENT BY MAIL OR HAND DELIVERED TO

Bids should be mailed to:	As an alternative bids may be hand delivered to:
Southern University at Shreveport	Southern University at Shreveport
Purchasing Department	Purchasing Department
3050 Martin Luther King Jr Dr	Administration Building 1st Floor, Room A-18
Shreveport LA 71107	Shreveport LA 71107

Please note the following documents listed below are needed in order to expedite the proposal:

1. Proof of Commercial General Liability Insurance
2. Workmen's Compensation Insurance and End Employers Liability
3. Automobile Insurance Coverage
4. Surety Bond-a Louisiana domiciled insurance company with at least an A-rating in the latest printing of the A.M. Best's Key Rating Guide or by an insurance company that is either domiciled in Louisiana residents and is licensed to write surety bonds.
5. All licenses and permits for operating in the City of Shreveport and the State of Louisiana are needed for our files

MANDATORY PRE-BID CONFERENCE AND MANDATORY JOBSITE VISIT REQUIRED

October 25, 2023 at 10:00 am

Southern University Shreveport

610 Texas Street

Shreveport LA, Room 302, Metro Center

Mandatory Pre-Bid Conference and Manadatory Jobsite Visit on the same date

If additional information is needed, please contact Earnestine Lewis at (318) 670-9317.

SOUTHERN UNIVERSITY AT SHRVEPORT

BUSINESS OFFICE

3050 MARTIN LUTHER KING JR. DRIVE

SHREVEPORT LA 71107

PROPOSAL FOR BACKUP IT SERVER ROOM

FOR SOUTHERN UNIVERSITY AT SHREVEPORT

Bids will be received up till 4:00 pm November 15, 2023 by the Business Office

of Southern University-Shreveport, 3050 Martin Luther King Jr. Drive, Shreveport LA 71107. Bids will not be received after this hour. At the same hour of the same day they will be publicly opened and read aloud in the Administration Bldg., Purchasing Department, Room A-18.

BID OF_____

ADDRESS_____

DATE_____

TO: PURCHASING DEPARTMENT

SOUTHERN UNIVERSITY AT SHREVEPORT

3050 MARTIN LUTHER KING JR. DRIVE

SHREVEPORT LA 71107

The undersigned certifies that he/she has (or they have) carefully examined the instructions to bidders. The general conditions, and specifications hereto attached and made part thereof and agrees to comply with such instructions, conditions and specifications. The undersigned proposes to furnish and all items hereto attached upon which prices are requested and at prices as stated for each item.

SIGNATURE OF BIDDER_____

BY_____

000279

BID NUMBER

LOUISIANA UNIFORM PUBLIC WORK BID FORM

TO: Southern Universitty at Shreveport
3050 Martin Luther King Jr Dr
Shreveport LA 71107

(Owner to provide name and address of owner)

BID FOR: Bid Number 00279
Backup IT Room
Southern University Shreveport
610 Texas St., 3rd Floor Shreveport LA 71101

(Owner to provide name of project and other identifying information)

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: Williams Architecture, 228 Napoleon Street, Baton Rouge LA 70802 and dated: August 7, 2023

(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) _____.

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____ Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

THE FOLLOWING ITEMS ARE TO BE INCLUDED WITH THE SUBMISSION OF THIS LOUISIANA UNIFORM PUBLIC WORK BID FORM:

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** **A CORPORATE RESOLUTION OR WRITTEN EVIDENCE** of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5).

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA R.S. 38:2218(A) attached to and made a part of this bid. 5%

LOUISIANA UNIFORM PUBLIC WORK BID FORM

UNIT PRICE FORM

TO: ______________________________

____

____

____

(Owner to provide name and address of owner)

BID FOR: ______________________________

____

____

____

(Owner to provide name of project and other identifying information)

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	❑ Base Bid or ❑ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner

BID NO. 000279

SOUTHERN UNIVERSITY AT SHRVEPORT

BUSINESS OFFICE

3050 MARTIN LUTHER KING JR. DRIVE

SHREVEPORT LA 71107

Telephone: (318) 670-9371

Or

Telephone: (318) 670-9317

EXECUTION OF BID

EXECUTION OF BID MUST BE SIGNED IN INK **DATE**_____

In compliance with the above request for bids and subject to all the conditions thereof, the undersigned offers and agrees, if this bid be accepted within **thirty (30)** days from the date of the bid opening, to furnish and or all items upon which prices are quoted, at the price set opposite each item and unless otherwise specified within **thirty (30) days after receipt of executed contract and/or purchase order.**

BIDDER_____ **ADDRESS**_____

BY_____ **CITY**_____

Member of firm or person

authorized to sign bids

STATE_____**ZIP CODE**_____

TITLE_____ **TELEPHONE NO.**_____

INSURANCE REQUIREMENTS

Southern University at Shreveport

PROJECT: NEW IT BACKUP ROOM

METRO CENTER 3TH FLOOR

A. MINIMUM SCOPE AND LIMITS OF INSURANCE

1. Workers Compensation

   Workers Compensation Insurance shall be in compliance with the Workers Compensation law of the State of the Contractor's headquarters. Employers Liability is included with a minimum limit of $500,000 per accident/per disease/per employee. If work is to be performed over water and involve maritime exposure, applicable LHWCA, Jones Act, or other maritime law coverage shall be included and the Employers Liability limit increased to a minimum of $1,000,000. A.M. Best's Insurance company rating requirement may be waived for workers compensation coverage only.

2. Commercial General Liability

   Commercial General Liability Insurance, including Personal and Advertising Injury Liability, shall have a minimum limit per occurrence of $1,000,000 and a minimum general aggregate of $2,000,000. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

3. Automobile Liability

   Automobile Liability Insurance shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall incude third-party bodily injury and property damage liability for owed, hired and non-owned automobiles.

B. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and accepted by the Agency. The Contractor shall be responsible for all deductibles and self-insured retentions.

C. OTHER INSURANCE PROVISION

_____The policies are to contain, or be endorsed to contain, the following provisions:

1. General iability and Automobile Liability Coverage
   a. The Agency, its officers, agents, employees and volunteers shall be named as an additional insured as regards negligence by the contractor. ISO Form CG 20 10 (current form approves for use in Louisiana or equivalent, is to be used when applicable. The coverage shall contain no special limitations on the scope of protection afforded to the Agency.
   b. The Contractor's insurance shall be primary as respects the Agency, its officers, agents, employees and volunteers. Any insurance or self-insurance maintained by the Agency shall be excess and non-contributory of the Contractor's insurance.
   c. Any failure of the Contractor to comply with reporting provisions of th policy shall not affect coverage provided to the Agency, its officers, agents employees and volunteers.
   d. The Contractor's Insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the policy limits.
2. Workers Compensation and Employers Liability Coverage
   The insurer shall agree to waive all rights of subrogation against the Agency, its officers, agents, employees and volunteers for losses arising from work performed by the Contractor for the Agency.
3. All Coverage

a. Coverage shall not be canceled, suspended, or voided by either party (the Contractor or the insurer) or reduced in coverage or in limits except after 30 days written notice has been given to the Agency. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy.
b. Neither the acceptance of the completed work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.
c. The insurance companies issuing the policies shall have no recourse against the Agency for payment of premiums or for assessments under any form of the policies.
d. Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Agency, its officers, agents, employees and volunteers.

D. **ACCEPTABILITY OF INSURERS**

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with a A.M. Best's rating of A-:VI or higher. This rating requirement may be waived for workers compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another Certificate of Insurance as required in the contract.

E. VERIFICATION OF COVERAGE

Contractor shall furnish the Agency with Certificated of Insurance reflecting proof of required coverage. The Certificate for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates are to be received and approved by the Agency before work commences and upon any contract renewal thereafter.

In addition to the Certificates, Contractor shall submit the declarations page and the cancelation provision endorsement for each insurance policy. The Agency reserves the right to request complete certified copies of all required insurances policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain such insurance as above provided this contract, at the election of the Agency, may be suspended, discontinued or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

F. **SUBCONTRACTORS**

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for vertifying and maintaining the Certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Agency reserves the right to request copies of subcontractor's Certificates at any time

G. **WORKERS COMPENSATION INDEMNITY**

In the event Contractor is not reqired to provide or elects not to provide workers compensation coverage, the parties hereby agree that Contractor, its owners, agents and employees will have no cause of action against, and will not assert a claim against, the State of Louisiana, its department, agencies, agents and employees as an employer whether pursuant to the Louisiana Workers Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its owners, agents and employees. The parties further agree that Contractor is a wholly independent contractor and is exclusively responsible for its employees, owners, and agents. Contractor hereby agrees to protect, defend. Indemnify and hold the State of Louisiana, its department, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

H. **INDEMNIFICATION/HOLD HARMLESS AGREEMENT**

Contractor agrees to protect, defend, Indemnify, save and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees, and volunteers, from and against any and all claims, damages, expenses, and liability arising out of injury or death to any person or th damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants, and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits, or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits, or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent.

NOTE: SUCCESSFUL BIDDER IS REQUIRED TO PROVIDE A CERTICATE OF INSURANCE WITH SOUTHERN UNIVERSITY AT SHREVEPORT THE CERTIFICATE HOLDER

SOUTHERN UNIVERSITY AT SHREVEPORT

3050 MARTIN LUTHER KING JR DR

SHREVEPORT LA 71107

INSTRUCTIONS TO BIDDERS

SUBMITTAL OF PROPOSAL

The Bidder must submit his proposal on the form provided, with the blank space filled in for each and every item. If an item is not bade on, the letters **NB (No Bid)** should be entered in the space. The Bidder should state brand name and attach complete specifications and circulars illustrating and describing items quoted if other than as shown on specifications. Said specifications and circulars illustrating and describing items quoted shall then be considered a part of this proposal. The Bidder must state the prices **(written in ink)** in figures for which he proposes to furnish each quantity shown. All erasures and strike overs must be initialed by person doing so. Where a conflict exists between the unit price and the extended price, the unit price shall govern. The proposals must be signed in ink, the proposal shall be sealed and then delivered to the **Business Office/Purchasing Department, Southern University Shreveport Bossier City Campus, 3050 Martin Luther King, Jr. Drive, Shreveport, Louisiana 71107**, before the time set for receiving proposals as entered on the front sheet thereof. Proposals received after the time set shall be returned to the Bidder unopened. All bids must be submitted in envelopes provided. If another envelope is used, it must be marked plainly, showing name of bid, date and time bid will open. No bid will be withdrawn after closing time for at least twenty (20) days.

PRICES

Unless otherwise stated, all items are to be transportation charges prepaid to destination as shown in specifications.

REJECTION OF BIDS

Southern University reserves the right to reject any or all bids and to waive any informalities. Additionally, it reserves the right to award the bid by item or on an **"all or none"** basis and to increase or decrease quantity by 10%. Any quantity increased above 10% must be approved in writing before shipment.

NO BID WILL BE ACCEPTED UNLESS ALL PAPERS ARE ATTACHED, SUCH AS THE PROPOSAL SHEET, INSTRUCTIONS TO BIDDERS, SCHEDULE OF ITEMS, SPECIFICATIONS AND ANY CIRCULARS OR OTHER MATERIAL NECESSARY IN COMPLETELY DESCRIBING THE ITEMS QUOTED ON/MADE ON.

Notice: **We have no facilities for furnishing abstracts of the bids. Complete record of all bids is kept in this office subject to the inspection of any citizen.**

GENERAL

Whenever in the proposal the term **"Owner"** is used it shall be interpreted as Southern University-Shreveport Bossier City Campus.

Whenever in the proposal the term **"Vendor"** is used, it shall be interpreted as the individual, firm or corporation whose proposal to furnish the items awarded to him has been accepted by Southern University-Shreveport Bossier City Campus.

GUARANTEES

All guarantees for workmanship quality and performance as specified by the manufacturers for the particular item furnished, shall apply to the same furnished under this proposal. Additionally, the guarantee as stated in the specifications will apply.

PURCHASE ORDER

When a bid is accepted, an initial purchase order or orders for the entire number of units or a part thereof shown on the schedule of items will be issued to the lowest responsible bidder offering products, which in the opinion of the Purchasing Department, meet the specifications and requirements.

DELIVERY

Delivery shall be made to the destination noted for each item. All items to be furnished under this contract shall be delivered on the date (or dates) stated for each item in the bid.

INSPECTION AND ACCEPTANCE

Upon delivery, inspection of the item(s) will be made by Southern University-Shreveport Bossier City Campus or its representative at the point of delivery. Acceptance will be determined after all requirements of the specifications and proposals have been met.

INVOICES

Invoices for item(s) delivered and accepted shall be submitted by the vendor in duplicate (original and one (1) copy).

IMPORTANT

BIDDER NOTE CAREFULLY

TERMS: UNLESS OTHERWISE AGREED, OUR TERMS ARE NET 30 DAYS.

DEFAULT OF CONTRACT

Southern University-Shreveport Bossier City Campus reserves the right to cancel that portion of the purchase order which the vendor has failed to deliver within the time specified.

SPECIAL CONDITIONS

VENDOR AGREES TO COMPLY WITH STANDARD GOVERNMENT CONTRACT PROVISIONS AS THEY RELATE TO:

1. Nonsegrated Facilities Requirements
2. Equal Employment Opportunity
3. Equal Employment Opportunity Reporting Requirements
4. Employment of Qualified Handicapped Individuals
5. Employment of Veterans

TABLE OF CONTENTS:

228 Napoleon Street | Baton Rouge, Louisiana 70802

SECTION 010000 - GENERAL REQUIREMENTS

PART 1 GENERAL

1. CONTRACTOR SUBMITTALS: Prior to the approval of the Contractor's Initial Pay Application, the following shall be submitted for approval by the A/E and review by the Owner:
   a. Progress Schedule.
   b. Schedule of Values
   c. List of ALL Subcontractors, Principal Suppliers & Fabricators, and Specialty Systems Contractors.
   d. List of Contractor's staff assignments and principal consultants.
   e. Breakdown of DBE Subcontractors participating in the project, and the total percentage of participation reached.

2. PROGRESS SCHEDULE: Contractor shall submit his/her proposed Construction Progress Schedule to the Owner and the A/E at the Pre-Construction Meeting. The Schedule shall clearly identify the following:
   a. The Substantial Completion of the project within the Contract Time; include consideration for Weather Days.
   b. Shall be UPDATED concurrent with each Progress Payment Application.

3. SCHEDULE OF VALUES: Contractor shall prepare his/her Schedule of Values for each Work Line Item in accordance with the General Conditions.

4. CONTRACTOR'S INITIAL PAYMENT APPLICATION:
   a. Cover data submitted on AIA Document G702 (no substitutions) with all required information, signatures, and notarization.
   b. Allowed to use legible computer printouts outlining Work Line Items and Schedule of Values and Stored Materials in format similar to AIA Document G702 Continuation Sheets.
   c. Must bear A/E approval signature prior to review/approval action by the Owner.
   d. Owner will not approve for payment until all data listed in item #2 above has been submitted and approved.
   e. Payment will be made in accordance with Owner's published schedule pending timely receipt & approval action.

5. CONTRACTOR'S PROGRESS PAYMENT APPLICATIONS:
   a. Shall comply with items #4a, 4b, 4c, and 4e above.
   b. Contractor shall concurrently submit UPDATED Progress Schedules and Submittal Schedules.
   c. Shall include payment adjustments for FULLY EXECUTED Change Orders.
   d. Affidavits of major subcontractors for no claims.

6. CONTRACTOR'S FINAL PAYMENT APPLICATION:
   a. Shall comply with items #4a, 4b, 4c, and 4e above.
   b. Shall be clearly marked **"FINAL"**.
   c. Payment will be made ONLY after satisfactory completion of all Contract Close-Out items.
   d. Payment after submission of clear lien and privilege certificate.
   e. Shall be submitted at closeout meeting with all closeout documents.

7. NOT USED

8. RECORD DOCUMENTS:

a. Contractor shall maintain one clean set of Contract Documents at the project site for the sole purpose of identifying by date and/or authority all As-Built conditions and authorized modifications as they occur during the progress of the Work. Particularly important is the documentation of locations for underground and underslab items.
b. Contractor shall maintain an orderly file at the project site of all "APPROVED" and "APPROVED AS NOTED" submittals, shop drawings, etc.
c. At completion of the project, the Contractor shall transmit the on-site As-Built Documents to the A/E; the A/E shall transcribe all information to create one set of RECORD DOCUMENTS to be sent to the Owner for file.

9. OPERATION & MAINTENANCE ("O&M") MANUALS:
   a. Owner requires one complete set.
   b. Contractor shall logically organize (using index tabs) into a set of manageable size, heavy-duty, transparent spine label, **three-ring binder** clearly identifying the Project Name, and general content of each binder.
   c. The A/E shall review the O&M manuals for completeness & correctness prior to transmitting to the Owner for file.

10. CONTRACTOR CLOSE-OUT MATERIALS:
   a. Provide quantities of attic stock maintenance materials as specified in locations designated by the Owner.
   b. Mount framed-under-glass valve tag schedules in Mechanical Room.
   c. Provide required extra sprinkler heads and tools in cabinet in Sprinkler Valve area.
   d. Mount framed-under-glass fire annunciator wiring diagram.

11. CONTRACTOR CLOSE-OUT DOCUMENTS:
   a. Owner requires one complete set in 3-ring binders.
   b. Contractor shall logically organize similar to O&M manual criteria.
   c. A/E shall review (and sign where required) prior to transmitting to the Owner at the closeout meeting for further action & file.
   d. Required documents include, but may not be limited to, originals and copies of the following:
      1. Final Occupancy Certificate.
      2. General Contractor's Warranty.
      3. All Subcontractor & Specialty Contractor Warranties.
      4. All Manufacturer Warranties.
      5. All Extended (longer than 1 year) Warranties.
      6. Executed Certificate of Substantial Completion.
      7. Executed Consent of Surety.
      8. Executed Waivers of Liens.
      9. Signed-off Acknowledgements of Instruction.
      10. Signed-off Acknowledgement of Receipt of Keys.
      11. Statutory Affidavit.
      12. Non-Influence Affidavit.
      13. Valve Tag Schedule.
      14. Acknowledgement of satisfactory completion of Punch List Items
      15. No Hazardous Material Certification.
      16. Boiler Inspection Certificates from State Inspector.
      17. Elevator Inspection Certificate

13. HAZARDOUS MATERIALS:
   a. Contractor shall include in the Close-Out Documents a Certification Warranty Statement that no hazardous materials (containing asbestos, PCB, etc.) were incorporated into the Work.

b. Contractor is advised that the Owner will perform post-construction verification analyses of the project to confirm the Contractor-certified absence of hazardous materials. If hazardous materials are found to exist, the Contractor shall pay ALL costs for the testing, abatement, and replacement with non-hazardous materials.

END OF SECTION

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.
   1. Substitutions for Convenience (as defined in this Section): Will only be considered in the Bidding Phase only in accordance with the Instructions to Bidders. Substitutions for convenience must be submitted electronically via email to architect must be received by Architect at least seven (7) working days prior to the date for receipt of bids.

B. Related Requirements:
   1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
   2. Divisions 02 through 33 Sections for specific requirements and limitations for substitutions.

1.03 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
   1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms. The failure of the Contractor to order products or materials at an appropriate time shall not constitute 'cause' for purposes of substitution in the event the product or material is unavailable.
   2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.04 ACTION SUBMITTALS

A. Substitution Requests: Submit electronic copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Substitution Request Form (During Construction): Submit electronically via email to architect.
   2. Substitution Request Form (Bidding Phase): Submit electronically via email to architect. Submit during the bidding phase for consideration of substitutions prior to submittal of bids in accordance with the Instructions to Bidders.
   3. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
      a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
      b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
      c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
      d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
      e. Samples, where applicable or requested.

f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

4. Architect's Action for Substitutions during Construction: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution during construction. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven (7) days of receipt of additional information or documentation requested, whichever is later.
   a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
   b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.05 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.06 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 PRODUCTS

2.01 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
   1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
      a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
      b. Requested substitution provides sustainable design characteristics that specified product provided.
      c. Substitution request is fully documented and properly submitted.
      d. Requested substitution will not adversely affect Contractor's construction schedule.
      e. Requested substitution has received necessary approvals of authorities having jurisdiction.
      f. Requested substitution is compatible with other portions of the Work.

g. Requested substitution has been coordinated with other portions of the Work.
h. Requested substitution provides specified warranty.
i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Submit requests for substitution for convenience electronically via email to architect and must be received by Architect at least seven (7) working days prior to the date for receipt of bids.
1. General: Architect will consider requests for substitution if received within 7 working days prior to the bid due date, as per Instructions to Bidders. Requests received after that time will not be considered by Architect.
2. Conditions for Consideration: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
b. Requested substitution does not require extensive revisions to the Contract Documents.
c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
d. Substitution request is fully documented and properly submitted.
e. Requested substitution will not adversely affect Contractor's construction schedule.
f. Requested substitution has received necessary approvals of authorities having jurisdiction.
g. Requested substitution is compatible with other portions of the Work.
h. Requested substitution has been coordinated with other portions of the Work.
i. Requested substitution provides specified warranty.
j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Requirements:
   1. General Conditions, Article 7 "Changes in the Work".
   2. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.03 PROCEDURES

A. In the event of overlap or conflict is discovered between this Section and the requirements of the General Conditions, Article 7; then the more stringent requirement relating to Change Orders and Construction Change Directives will govern.

C. All Requests for Change (RFCs), Change Order Requests (CORs), Change Proposal Requests (CPRs), etc.shall be submitted to Architect electronically in PDF format.

1.04 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.05 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
   1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
   2. Within time specified in Proposal Request, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
      a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
      b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
      c. Include costs of labor and supervision directly attributable to the change.
      d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
      e. Quotation Form: Use forms acceptable to Architect.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a change by submitting a request for a change to Architect.
   1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
   2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use form acceptable to Architect.

1.06 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.07 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
   1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
   1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 2900 - PAYMENT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:
   1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
   2. Section 01300 "Submittal Procedures" for administrative requirements governing the preparation and submittal of submittal schedule.
   3. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.03 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.04 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
   1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
      a. Application for Payment forms with continuation sheets.
      b. Submittal schedule.
      c. Items required to be indicated as separate activities in Contractor's construction schedule.
   2. Submit the initial schedule of values to Architect and Owner at the Pre-Construction Conference, on the Schedule of Values form provided as part of these Specifications.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
   1. Identification: Include the following Project identification on the schedule of values:
      a. Project name and location.
      b. Name of Architect.
      c. State project number.
      d. Contractor's name and address.
      e. Date of submittal.
   2. Arrange schedule of values consistent with format of Schedule of Values included as part of these Specifications.
   3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
   4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
   5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
      a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

6. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
   a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
8. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.05 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
   1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: Progress payments shall be submitted to Architect seven days before the regularly scheduled monthly progress meeting. The period covered by each Application for Payment is one month, ending on the last day of the month.
   1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
   1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
   2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
   3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
   4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
   1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
   2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
   3. Provide summary documentation for stored materials indicating the following:
      a. Materials previously stored and included in previous Applications for Payment.
      b. Work completed for this Application utilizing previously stored materials.
      c. Additional materials stored with this Application.
      d. Total materials remaining stored, including materials with this Application.

F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
   1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
   1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
   2. When an application shows completion of an item, submit conditional final or full waivers.
   3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
   4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
   1. List of subcontractors.
   2. Schedule of values.
   3. Contractor's construction schedule (preliminary if not final).
   4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
   5. Products list (preliminary if not final).
   6. Schedule of unit prices.
   7. Submittal schedule (preliminary if not final).
   8. List of Contractor's staff assignments.
   9. List of Contractor's principal consultants.
   10. Copies of building permits.
   11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
   12. Initial progress report.
   13. Report of preconstruction conference.
   14. Certificates of insurance and insurance policies.
   15. Performance and payment bonds.
   16. Data needed to acquire Owner's insurance.
   17. Fixed job site overhead cost itemized

I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
   1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
   2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
   1. Evidence of completion of Project closeout requirements.
   2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
   3. Updated final statement, accounting for final changes to the Contract Sum.

   7. Evidence that claims have been settled.
   8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
   9. Final liquidated damages settlement statement.

PART 2 EXECUTION (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
   1. General coordination procedures.
   2. Requests for Information (RFIs).
   3. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Requirements:
   1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
   2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
   3. Section 017000 "Closeout Procedures" for coordinating closeout of the Contract.

1.03 DEFINITIONS

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

1.04 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form to be submitted at the Preconstruction Conference:
   1. Name, address, and telephone number of entity performing subcontract or supplying products.
   2. Number and title of related Specification Section(s) covered by subcontract.
   3. Drawing number and detail references, as appropriate, covered by subcontract.

1.05 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
   1. Schedule Pre-Install conferences for all major items to be incorporated in project.
   2. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
   3. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
   4. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
   1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of Contractor's construction schedule.
   2. Preparation of the schedule of values.
   3. Installation and removal of temporary facilities and controls.
   4. Delivery and processing of submittals.
   5. Progress meetings.
   6. Preinstallation conferences.
   7. Project closeout activities.
   8. Startup and adjustment of systems.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
   1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.06 KEY PERSONNEL

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

1.07 REQUESTS FOR INFORMATION (RFIS)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI electronically via email to architect.
   1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
   2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
   1. Project name.
   2. Project number.
   3. Date.
   4. Name of Contractor.
   5. Name of Architect.
   6. RFI number, numbered sequentially.
   7. RFI subject.
   8. Specification Section number and title and related paragraphs, as appropriate.
   9. Drawing number and detail references, as appropriate.
   10. Field dimensions and conditions, as appropriate.
   11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
   12. Contractor's signature.
   13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by after 1:00 p.m. will be considered as received the following working day.
   1. The following RFIs will be returned without action:
      a. Requests for approval of submittals.
      b. Requests for approval of substitutions.
      c. Requests for approval of Contractor's means and methods.
      d. Requests for coordination information already indicated in the Contract Documents.
      e. Requests for adjustments in the Contract Time or the Contract Sum.
      f. Requests for interpretation of Architect's actions on submittals.
      g. Incomplete RFIs or inaccurately prepared RFIs.
   2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
   3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
      a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.

D. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Software log with not less than the following:
   1. Project name.
   2. Name and address of Contractor.
   3. Name and address of Architect.
   4. RFI number including RFIs that were dropped and not submitted.
   5. RFI description.
   6. Date the RFI was submitted.
   7. Date Architect's response was received.
   8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
   9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

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

1.08 PROJECT MEETINGS

A. General: Architect will schedule and conduct meetings and conferences at Project site, unless otherwise indicated. Contractor to be responsible for preparation of agendas and recordation of all meeting minutes.
   1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
   2. Agenda: Contractor to prepare the meeting agenda. Distribute the agenda to all invited attendees.
   3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting. Contractor to solicit comments on meeting minutes and promptly issue corrected versions if necessary.

B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 10 days after Notice of Award.
   1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
   2. Submittals: Refer to General Conditions for listing of items required to be submitted at Preconstruction Conference.
   3. Location: Contractor to provide suitable indoor meeting space on the site with table and chairs for at least twelve (12) persons.
   4. Agenda: Discuss items of significance that could affect progress, including the following:
      a. Tentative construction schedule.
      b. Phasing.
      c. Critical work sequencing and long-lead items.
      d. Designation of key personnel and their duties.
      e. Lines of communications.
      f. Discuss need for weekly project meetings in addition to monthly progress meetings.
      g. Procedures for processing field decisions and Change Orders.
      h. Procedures for RFIs.
      i. Procedures for testing and inspecting. Contractor shall not directly contact Owner's testing agency for any reason, rather Contractor shall notify Architect in advance of any required construction or materials testing that is to be performed. Architect in turn shall promptly notify Program Manager who will schedule Testing Agency's presence.
      j. Procedures for processing Applications for Payment.
      k. Distribution of the Contract Documents.
      l. Discuss required pre-installation conferences.
      m. Submittal procedures.
      n. Preparation of record documents.
      o. Use of the premises.
      p. Work restrictions.
      q. Working hours.
      r. Responsibility for temporary facilities and controls.
      s. Procedures for moisture and mold control.
      t. Procedures for disruptions and shutdowns.
      u. Construction waste management and recycling.
      v. Parking availability.
      w. Office, work, and storage areas.
      x. Equipment deliveries and priorities.
      y. First aid.
      a`. Security - discuss requirements for credentialing of workers, uniform requirements, drug-testing, etc.
      aa. Progress cleaning.
   5. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Progress Meetings: Architect will conduct progress meetings once a month, as well as weekly if determined necessary during Pre-Construction Conference..
   1. Date of monthly progress meetings will be coordinated and determined at Pre-Construction Conference.
   2. Attendees: In addition to representatives of Owner, Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

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

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Requirements:
   1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
   2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
   3. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
   4. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.03 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

D. Bluebeam Document (BSX): A standard file format licensed by Bluebeam Software, Inc. and available for use in creating, marking up, collaborating, and sharing PDF documents.

1.04 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
   1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
   2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
   3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
      a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
   4. Format: Arrange the following information in a tabular format:
      a. Scheduled date for first submittal.
      b. Specification Section number and title.
      c. Submittal category: Action; informational.

d. Name of subcontractor.
e. Description of the Work covered.
f. Scheduled date for Architect's final release or approval.
g. Scheduled dates for installation.

1.05 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will be provided one time by Architect for Contractor's use in preparing submittals.
   1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings within 21 days of receiving request for files.
      a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
      b. Digital Drawing Software Program: The Contract Drawings are available in AutoCAD 2010 or higher.
      c. Contractor shall execute a data licensing agreement in the form of the Architect's
      d. CAD Release Form included at the end of this Section.
      e. The following plot files only will by furnished for each appropriate discipline:
         1) Floor plans.
         2) Reflected ceiling plans.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
   3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
   4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
      a. Architect reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
   1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
   3. Resubmittal Review: Allow 15 days for review of each resubmittal.
   4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
   5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned Architect before being returned to Contractor.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
   1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.

2. Name file with submittal number or other unique identifier, including revision identifier.
   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LHS-061000.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
   a. Project name.
   b. Date.
   c. Name and address of Architect.
   d. Name of Architect.
   e. Name of Contractor.
   f. Name of firm or entity that prepared submittal.
   g. Names of subcontractor, manufacturer, and supplier.
   h. Category and type of submittal.
   i. Submittal purpose and description.
   j. Specification Section number and title.
   k. Specification paragraph number or drawing designation and generic name for each of multiple items.
   l. Drawing number and detail references, as appropriate.
   m. Location(s) where product is to be installed, as appropriate.
   n. Related physical samples submitted directly.
   o. Indication of full or partial submittal.
   p. Transmittal number, numbered consecutively.
   q. Submittal and transmittal distribution record.
   r. Other necessary identification.
   s. Remarks.
5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
   a. Project name.
   b. Number and title of appropriate Specification Section.
   c. Manufacturer name.
   d. Product name.

E. Options: Identify options requiring selection by Architect.

F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 PRODUCTS

2.01 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Email electronic submittals as PDF electronic files directly to the architect.
      a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
   2. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures", including Owner's closeout checklist included as part of Section 017700 and any other forms as required by General Conditions.
   3. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
      a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
      b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:
      a. Manufacturer's catalog cuts.
      b. Manufacturer's product specifications.
      c. Full range of color charts.
      d. Statement of compliance with specified referenced standards.
      e. Testing by recognized testing agency.
      f. Application of testing agency labels and seals.
      g. Notation of coordination requirements.
      h. Availability and delivery time information.
   4. For equipment, include the following in addition to the above, as applicable:
      a. Wiring diagrams showing factory-installed wiring.
      b. Printed performance curves.
      c. Operational range diagrams.
      d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
   5. Submit Product Data before or concurrent with Samples.
   6. Submit Product Data in the following format:
      a. PDF electronic file.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
   1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
      a. Identification of products.
      b. Schedules.
      c. Compliance with specified standards.
      d. Notation of coordination requirements.
      e. Notation of dimensions established by field measurement.
      f. Relationship and attachment to adjoining construction clearly indicated.

g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
3. Submit Shop Drawings in the following format:
   a. PDF electronic file.
   b. Hard copies - 2 sets of drawings that are larger format than 8-1/2 by 11 inches ONLY.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.
   e. Specification paragraph number and generic name of each item.
3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
   a. Number of Samples: Submit sets of Samples. Architect will retain two Sample sets; remainder will be returned.
      1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.

2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:
   a. PDF electronic file.

F. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."

G. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."

H. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."

I. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."

J. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
   1. Name of evaluation organization.
   2. Date of evaluation.
   3. Time period when report is in effect.
   4. Product and manufacturers' names.
   5. Description of product.
   6. Test procedures and results.
   7. Limitations of use.

T. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

U. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

V. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

W. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.02 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
   1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
   1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement 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.

3.02 ARCHITECT'S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
   1. Final Unrestricted Release: When the Architect marks a submittal "Approved," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
   2. Final-But-Restricted Release: When the Architect marks a submittal "Approved as Noted," the Work covered by the submittal may proceed provided it complies with notations or

corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.

3. Returned for Resubmittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
   a. Do not use, or allow others to use, submittals marked "Revise and Resubmit" or "Rejected" at the Project Site or elsewhere where Work is in progress.
4. Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Architect will return the submittal marked "Action Not Required."

C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

E. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

F. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

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

B. Related Requirements:
   1. Section 012500 "Substitution Procedures" for requests for substitutions.

1.03 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
   3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.04 ACTION SUBMITTALS

A. Comparable product requests or substitutions for the Contractor's convenience will not be considered after award of bid unless otherwise indicated.

B. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
   2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
      a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
      b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

C. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.05 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
   1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
   2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

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

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

1.07 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
   1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
   2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Owner's Special Warranties forms are included as part of Section 017700 "Closeout Procedures".
   1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
   2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.

3. See Divisions 02 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
   1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
   2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
   3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
   4. Where products are accompanied by the term "as selected," Architect will make selection.
   5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
   6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
      a. Products specified with "or equal" provisions will only be considered after award of bid at the discretion of the Architect. Refer to Section 012500 "Substitution Procedures" for requests for "or equal" products.

B. Product Selection Procedures:
   1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   3. Products:
      a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered after award of bid unless otherwise indicated.
      b. Non-restricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
   4. Manufacturers:
      a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
      b. Non-restricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
      c. Comparable products or substitutions for Contractor's convenience will not be considered after award of bid unless otherwise indicated.
   5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or

indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

a. Comparable products or substitutions for Contractor's convenience will not be considered after award of bid.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.02 COMPARABLE PRODUCTS

A. Comparable products or substitutions for Contractor's convenience will not be considered after award of bid unless otherwise indicated.

B. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 017300 - EXECUTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Construction layout.
   2. Field engineering and surveying.
   3. Installation of the Work.
   4. Cutting and patching.
   5. Progress cleaning.
   6. Starting and adjusting.
   7. Protection of installed construction.
   8. Correction of the Work.

B. Related Requirements:
   1. Section 013300 "Submittal Procedures" for submitting surveys.
   2. Section 078400 "Firestopping" for patching penetrations in fire-rated construction.

1.03 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.04 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
   1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
   2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
      a. Primary operational systems and equipment.
      b. Fire separation assemblies.
      c. Air or smoke barriers.
      d. Fire-suppression systems.
      e. Mechanical systems piping and ducts.
      f. Control systems.
      g. Communication systems.
      h. Fire-detection and -alarm systems.
      i. Conveying systems.
      j. Electrical wiring systems.
      k. Operating systems of special construction.
   3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or

decreased operational life or safety. Other construction elements include but are not limited to the following:

a. Water, moisture, or vapor barriers.
b. Membranes and flashings.
c. Sprayed fire-resistive material.
d. Equipment supports.
e. Piping, ductwork, vessels, and equipment.
f. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 PRODUCTS

2.01 MATERIALS

A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 EXECUTION

3.01 EXAMINATION

A. Existing Conditions: The existence and location of utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of utilities, mechanical and electrical systems, and other construction affecting the Work.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.02 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."

3.03 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
   1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
   2. Establish limits on use of Project site.
   3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
   4. Inform installers of lines and levels to which they must comply.
   5. Check the location, level and plumb, of every major element as the Work progresses.
   6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
   7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.04 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
   1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
   2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

3.05 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.06 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
   4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
   5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
   6. Proceed with patching after construction operations requiring cutting are complete.

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

G. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.07 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
   1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
   2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
      a. Use containers intended for holding waste materials of type to be stored.
   4. Provide rodent and pest control during construction.

B. Site: Maintain Project site free of waste materials and debris.
   1. Staging, dumpster, worker-parking and trailer areas are required to be kept clean, orderly and debris-free during construction, including regular mowing and trimming of undisturbed lawn areas, fencelines and areas within tree protection zones.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.08 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.09 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Demolition and removal of selected site elements.

B. Related Requirements:

1. Section 011000 "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 017300 "Execution" for cutting and patching procedures.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

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

1.5 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.

1.6 INFORMATIONAL SUBMITTALS

A. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services. B. Predemolition

Photographs or Video: Submit before Work begins.

1.7 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 FIELD CONDITIONS

A. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

C. Storage or sale of removed items or materials on-site is not permitted.

D. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 - PRODUCTS

2.1 PEFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs.

1. Comply with requirements specified in Section 013233 "Photographic Documentation."
2. Inventory and record the condition of items to be removed and salvaged. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.
3. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 PREPARATION

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

1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people.

1. Provide protection to ensure safe passage of people around selective demolition area.

3.3 SELECTIVE DEMOLITION, GENERAL

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

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
3. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."

3.4 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

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

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

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

END OF SECTION 024119

SECTION 06105
MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Miscellaneous lumber.
   2. Panel products for equipment backing panels.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product indicated.

   1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that materials comply with requirements.

B. Research/Evaluation Reports: For the following:
   1. Fire-retardant-treated wood.
   2. Power-driven fasteners.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.

   1. Factory mark each piece of lumber with grade stamp of grading agency.
   2. For exposed lumber indicated to receive stained or natural finish, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by grading agency.
   3. Provide dressed lumber, S4S, unless otherwise indicated.
   4. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.

2.2 FIRE-RETARDANT-TREATED MATERIALS

A. General: Where fire-retardant-treated materials are indicated, provide materials that comply with performance requirements in AWPA C20 (lumber) and AWPA C27 (plywood). Identify fire-retardant-treated wood with appropriate classification marking of UL, U.S. Testing, Timber Products Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.

A High Temperature (HT), unless otherwise indicated.

2.3 MISCELLANEOUS LUMBER

A. Provide miscellaneous lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Furring.
4. Grounds.
5. Shims.

B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.

C. For concealed boards, provide lumber with 15 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine, No. 2 grade; SPIB.
2. Eastern softwoods, No. 2 Common grade; NELMA.
3. Northern species, No. 2 Common grade; NLGA.
4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.4 INTERIOR WOOD TRIM

2.5 PANEL PRODUCTS

A. Miscellaneous Concealed Plywood: Exposure 1 sheathing, span rating to suit framing in each location, and thickness as indicated but not less than 1/2 inch (13 mm).

B. Particleboard Underlayment: ANSI A208.1

C. Plywood Underlayment: Exposure 1 Underlayment, fully sanded face, and thickness as indicated but not less than 1/4 inch (6 mm).

D. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 1/2 inch (12.7 mm) thick.

2.6 FASTENERS

A. Power-Driven Fasteners: CABO NER-272.

B. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

B. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.

C. Countersink fastener heads on exposed carpentry work and fill holes with wood filler.

D. Wood Structural Panels: Comply with applicable recommendations contained in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.

END OF SECTION 061053

SECTION 07214
SPRAY FOAM INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Closed Cell Spray Foam Insulation for Exterior Envelope

1.2 REFERENCES

A. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.

B. ASTM C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.

C. ASTM C 1338 - Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.

D. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

E. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.

F. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

G. ASTM D 1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics.

H. ASTM D 1622 - Standard Test Method for Apparent Density of Rigid Cellular Plastics.

I. ASTM D 1623 - Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.

J. ASTM D 2126 - Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.

K. ASTM D 2842 - Standard Test Method for Water Absorption of Rigid Cellular

1.3 PERFORMANCE REQUIREMENTS

A. Conform to applicable code for flame and smoke, concealment, and over coat requirements.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer with a minimum of ten years experience manufacturing products in this section shall provide all products listed.

B. Installer Qualifications: Products listed in this section shall be installed by a single organization with at least five years experience successfully installing insulation on projects of similar type and scope as specified in this section.

C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship is approved by Architect.
   3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.

B. Storage: Store materials in dry locations with adequate ventilation, protected from freezing rain, direct sunlight and excess heat and in such a manner to permit easy access for inspection and handling. Store at temperature between 55 and 80 degrees F (12.7 to 26.6 degrees C).

C. Handling: Handle materials to avoid damage.

1.7 PRE-APPLICATION MEETINGS

[illegible] m two weeks prior to starting work of this section.

1.8 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.9 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

B. Do not apply insulation when substrate temperatures are under 40 degrees F (4.4 degrees C) prior to installation.

C. Surfaces must be dry prior to application of spray foam. Excess humidity may cause poor adhesion, and result in product failure.

D. To avoid overspray, product should not be applied when conditions are windy.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. **Basis of Design**: CertainTeed Corp., Insulation Group, Tel: 1-800-233-8990

B. BASF Corporation- Tel: 1-800-796-7943

C. John Manville- 1-800-654-3103

D. Requests for substitutions will be considered in accordance with provisions of Section 01630.

2.2 SPRAY FOAM INSULATION

A. Insulation: HFC-blown type Closed Cell Foam: CertainTeed CertaSpray Closed Cell Foam is a medium-density, MDI-based polyurethane thermoset rigid foam. When CertaSpray A-side closed cell is mixed with CertaSpray B-side closed cell under pressure in a 1:1 volumetric ratio, they react and expand into a medium-density closed cell foam with an in-place core density of 1.9- 2.2 pcf:
   1. Physical and Mechanical Properties:
      a. Core Density: 1.9-2.4 pcf when tested in accordance with ASTM D 1622.
      b. Thermal Resistance (aged): 5.8 less than or equal to 2-1/2 inches / 6.4 when greater than 2-1/2 inches when tested in accordance with ASTM C 518 at 75 degrees F, (h-ft2- degrees

c. Thermal Resistance (initial): 6.4 when tested in accordance with ASTM C 518 at 75 degrees F, (h-ft2- degrees F)/Btu.
d. Closed Cell Content: 88-95 percent when tested in accordance with ASTM D 2842.
e. Compressive Strength: Greater than 25 psi when tested in accordance with ASTM D 1621.
f. Tensile Strength: 23 psi when tested in accordance with ASTM D 1623.
g. Water Absorption: Less than 2 percent by volume when tested in accordance with ASTM D 2842.
h. Dimensional Stability: Less than 9 percent by volume when tested in accordance with ASTM D 2126 at 75 degrees F/95 percent RH, 28 Day.
i. Water Vapor Transmission: 1.3 perm/inch when tested in accordance with ASTM E 96.
j. Air Permeability: 0.013 when tested in accordance with ASTM E 283 at 1 inch thickness, L/s/m2.
k. Fungi Resistance: Pass, with no growth when tested in accordance with ASTM C 1338.

2. Fire performance
   a. Flame Spread: Less than 25 when tested in accordance with ASTM E 84.
   b. Smoke: Less than 450 when tested in accordance with ASTM E 84.
3. Thermal Performance (aged): Tested in accordance with ASTM C 518 and/or ASTM C 177 at 75 degrees F (24 degrees C) mean temperature.
   a. Thickness 1 inch (25 mm), R-Value 5.8 (h-ft2-degreesF)/Btu (1.0 (m2-degreesC)/W).
   b. Thickness 1-12 inches (38 mm), R-Value 8.7 (h-ft2-degreesF)/Btu (1.5 (m2-degreesC)/W).
   c. Thickness 2 inches (51 mm), R-Value 11.6 (h-ft2-degreesF)/Btu (2.0 (m2-degreesC)/W).
   d. Thickness 2-12 inches (64 mm), R-Value 16.0 (h-ft2-degreesF)/Btu (2.8 (m2-degreesC)/W).
   e. Thickness 3 inches (76 mm), R-Value 19.2 (h-ft2-degreesF)/Btu (3.4 (m2-degreesC)/W).
   f. Thickness 3-12 inches (89 mm), R-Value 22.4 (h-ft2-degreesF)/Btu (3.9 (m2-degreesC)/W).
   g. Thickness 4 inches (102 mm), R-Value 25.6 (h-ft2-degreesF)/Btu (4.5 (m2-degreesC)/W).
   h. Thickness 4-12 inches (114 mm), R-Value 28.8 (h-ft2-degreesF)/Btu (5.1 (m2-degreesC)/W).
   i. Thickness 5 inches (127 mm), R-Value 32.0 (h-ft2-degreesF)/Btu (5.6 (m2-degreesC)/W).
   j. Thickness 5-12 inches (140 mm), R-Value 35.2 (h-ft2-
      esF)/Btu (6.2 (m2-degreesC)/W).
      ness 6 inches (152 mm), R-Value 38.4 (h-ft2-degreesF)/Btu

(6.8 (m2-degreesC)/W).

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Verify that all exterior and interior wall, partition, and floor/ceiling assembly construction has been completed to the point where the insulation may correctly be installed.

C. Verify that substrate and cavities are dry and free of any foreign material that will impede application.

D. Verify that mechanical and electrical services in ceilings, walls and floors have been installed and tested and, if appropriate, verify that adjacent materials are dry and ready to receive insulation.

E. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Mask and protect adjacent surfaces from overspray or dusting.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions. Product must be installed according to local code, and must be applied by a qualified applicator.

B. Apply insulation by spray method, to uniform monolithic density without voids.

C. Apply to minimum cured thickness as indicated on the Drawings or as scheduled at the end of this Section.

D. Apply to achieve thermal resistance R-Value of _____ .

E. Apply insulation to seal voids at truss ends to prevent wind scouring of ceiling insulation.

F. Seal plumbing stacks, electrical wiring and other penetrations into attic to control air leakage.

› fill voids around doors and windows. Apply insulation to

fill voids around accessible service and equipment penetrations.

H. Do not install spray foam insulation in areas where it will be in contact with equipment or materials with operating temperatures of 180 degrees F (82 degrees C) or greater.

I. Patch damaged areas.

3.4 FIELD QUALITY CONTROL

A. Inspection will include verification of insulation and density.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 07214

SECTION 07900
JOINT SEALANTS

PART 1 GENERAL

1.1 DESCRIPTION

A. Preconstruction Joint Sealant-Substrate Tests: Submit substrate materials representative of actual joint surfaces to joint sealant manufacturer for laboratory testing of joint sealants for adhesion to primed and unprimed substrates and for compatibility with joint substrates and other joint-related materials.

1.2 SUBMITTALS

A. In addition to product data submit the following:
   1. Samples of each type and color of joint sealant required.
   2. Certified test reports for joint sealants evidencing compliance with requirements.

1.3 WARRANTY

A. 5-YEARS full material & labor against failures in material & workmanship.

PART 2 PRODUCTS

2.1 MATERIALS

A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions, as demonstrated by testing and field experience.

B. Colors: Provide color indicated of exposed joint sealants or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

C. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated complying with ASTM C 920 requirements.
   1. Two-Part, Nonsag Polysulfide Sealant: Type M; Grade NS; Class 12-1/2; Uses NT, M, G, A, and O.
   2. One-Part, Nonsag Polysulfide Sealant: Type S; Grade NS; Class 12-1/2; Uses T, M, G, A, and O.
   3. Multi-Part, Neutral-Curing Silicone Sealant: Type M; Grade NS; Class 25; Uses T, NT, M, G, A, and O with the additional capability to withstand 50 percent movement in both extension and compression for a total of 100 percent movement when tested per ASTM C 719 and still comply with other requirements of ASTM C 920.
   4. One-Part, Neutral-Curing Silicone Sealant: Type S, Grade NS, Class 25, and as follows:
      a. Uses NT, M, G, A, and O.
         1) 35 percent movement in both extension and compression for a total of 70 percent movement.
   5. One-Part, High-Modulus, Neutral-Curing Silicone Sealant: Type S; Grade NS; [illegible], M, G, A, and O.

6. One-Part, Acid-Curing Silicone Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and O.
7. One-Part, Mildew-Resistant Silicone Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and O; formulated with fungicide; intended for sealing interior joints with nonporous substrates exposed to high humidity and temperature extremes.
8. One-Part, Neutral-Curing Silicone Sealant for Use T: Type S; Grade NS; Class 25; Uses T, M, and O with the additional capability, when tested per ASTM C 719, to withstand the following percentage changes in joint width as measured at time of application and still comply with other requirements of ASTM C 920:
   b. 50 percent movement in both extension and compression for a total of 100 percent movement.
   c. 100 percent movement in extension and 50 percent movement in compression for a total of 150 percent movement.
9. Multi-Part, Nonsag Urethane Sealant for Use NT: Type M, Grade NS, Class 25, and as follows:
   d. Uses NT, M, G, A, and O.
   e. Uses NT, M, A, and O.
   f. Uses T, NT, M, G, A, and O.
   g. Uses T, NT, M, A, and O.
10. Multi-Part, Nonsag Urethane Sealant for Use T: Type M, Grade NS, Class 25, and as follows:
   h. Uses T, M, G, A, and O.
   i. Uses T, M, A, and O.
11. Multi-Part, Pourable Urethane Sealant for Use T: Type M, Grade P, Class 25, and as follows:
   j. Uses T, M, G, A, and O.
   k. Uses T, M, A, and O.
   l. Uses T, M, and O.
12. One-Part, Nonsag Urethane Sealant for Use NT: Type S; Grade NS; Class 25; and Uses NT, M, A, and O.
13. One-Part, Nonsag Urethane Sealant for Use T: Type S, Grade NS, Class 25, and as follows:
   m. Uses T, NT, M, G, A, and O.
   n. Uses T, NT, A, and O.
14. One-Part, Pourable Urethane Sealant for Use T: Type S, Grade P, Class 25, and as follows:
   o. Uses T, M, G, A, and O.
   p. Uses T, M, A, and O.
   q. Uses T, M and O.

D. Acrylic Sealant: One-part, nonsag, solvent-release-curing acrylic terpolymer sealant complying with AAMA 808.3 or FS TT-S-00230, or both, with capability, when tested per ASTM C 719, to withstand the following percentage change in joint width existing at time of application without failing adhesively or cohesively:
   15. Maximum cyclic movement capability: plus or minus 7.5 percent.

E. Butyl Sealant: Manufacturer's standard one-part, nonsag, solvent-release-curing, polymerized butyl sealant complying with ASTM C 1085 and formulated with minimum of 75 percent solids to be nonstaining, paintable, and have a tack-free time of 24 hours or less.

ealant: One-part, nonsag, mildew-resistant, paintable, ant complying with ASTM C 834.

G. Silicone-Emulsion Sealant: Product complying with ASTM C 834 and, except for weight loss measured per ASTM C 792, with ASTM C 920, that accommodates joint movement of not more than 25 percent in both extension and compression for a total of 50 percent.

H. Acoustical Sealant: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834 and effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies per ASTM E 90.

I. Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic rubber sealant recommended for sealing interior concealed joints to reduce transmission of airborne sound.

J. Tape Sealant: Solvent-free, butyl-based tape sealant with a solids content of 100 percent formulated to be nonstaining, paintable, and nonmigrating in contact with nonporous surfaces with or without reinforcement thread to prevent stretch and packaged on rolls with release paper on one side.

K. Preformed Foam Sealant: Preformed, precompressed, open-cell, high-density urethane foam sealant impregnated with a nondrying, water-repellent agent; in precompressed sizes and in roll or stick form to fit joint widths indicated; permanently elastic, mildew-resistant, nonmigratory, nonstaining, compatible with joint substrates and other joint sealants; and as follows:

16. Impregnating Agent: Manufacturer's standard.
17. Density: Manufacturer's standard.
18. Backing: Pressure-sensitive adhesive factory applied to one side, with protective wrapping.

L. Sealant Backings, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

19. Plastic Foam Joint Fillers: Preformed, compressible, resilient, nonwaxing, nonextruding strips of plastic foam of material indicated below, and of size, shape, and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
    r. Open-cell polyurethane foam.
20. Elastomeric Tubing Joint Fillers: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to -26 deg F (-32 deg C).
21. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing bond between sealant and joint filler or other materials at back of joint.

M. Primer: As recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 EXECUTION

3.1 GENERAL

A. Comply with joint sealant manufacturer's instructions applicable to products and applications indicated.

B. Sealant Installation Standard: Comply with ASTM C 1193.

C. Acoustical Sealant Application Standard: Comply with ASTM C 919 for use of joint applications.

END OF SECTION

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings, counterflashings, gutters, downspouts, and sill pans at storefront system, flashing at storefront system, trim on facia and vertical wall above roof., and other items indicated.

1.02 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Wood nailers.

B. Section 074113 - Metal Roof Panels:

D. Section 077100 - Roof Specialties: Preformed flashings and manufactured expansion joint covers.

E. Section 079005 - Joint Sealers.

1.03 REFERENCE STANDARDS

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; American Architectural Manufacturers Association.

B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.

C. ASTM B32 - Standard Specification for Solder Metal.

D. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

E. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric].

F. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free.

G. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association.

1.04 SUBMITTALS

A. See Section 013300 - Submittal Procedures, for submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

C. Samples: Submit two samples 6 x 6 inch in size illustrating metal finish color.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.

B. Maintain one copy of each document on site.

C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

1.06 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.

1.07 WARRANTY

A. Flashing & Coping Systems: 2-year material and labor covering all defects in materials and workmanship within warranty period. To be combined with roofing warranty.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Prefinished Aluminum: ASTM B209 with Kynar 500 paint finish to match Storefront and Curtainwall framing; minimum .063 inch thick, unless otherwise indicated in the drawings. Use 2-coat fluoropolymer finish meeting AAMA 605.2-90 criteria or anodized finishes on all exposed-to-view items. Use mill finish on all concealed items.

B. Lead: 4 lb per sq. ft., common desilvered pig lead.

C. Counterflashing: .040 Aluminum (color clad type). Min. 16 oz. per sq. ft.

D. Manufacturer's FULL RANGE OF COLOR OPTIONS

2.02 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Underlayment: ASTM D2178, glass fiber roofing felt.

C. Primer: Zinc chromate type.

D. Protective Backing Paint: Zinc molybdate alkyd.

E. Plastic Cement: ASTM D4586, Type I.

F. Solder: ASTM B32; Sn50 (50/50) type.

2.03 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Form pieces in longest possible lengths.

C. Hem exposed edges on underside 1/2 inch; miter and seam corners.

D. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

E. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.

F. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

2.04 GUTTER AND DOWNSPOUT FABRICATION

A. Gutters, Downspouts and Scuppers: Profile as indicated.

B. Splash Pans: Profile as indicated

C. Gutters and Downspouts: Sizes as indicated.

D. Accessories: Profiled to suit gutters and downspouts.
   1. Anchorage Devices: In accordance with SMACNA requirements.
   2. Gutter Supports: Brackets.
   3. Downspout Supports: Brackets.

E. Downspout Boots: Barry Pattern & Foundry, B-25A series cast iron downspout boot with cleanout, size as indicated..

F. Seal metal joints.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

[illegible] and base flashings are in place, sealed, and secure.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION

A. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.

B. Apply plastic cement compound between metal flashings and felt flashings.

C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

D. Solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.

E. Secure gutters and downspouts in place using concealed fasteners.

F. Slope gutters 1/4 inch per 10 feet, minimum.

G. Connect downspouts to downspout boots. Grout connection watertight.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

SECTION 08710
DOOR HARDWARE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes items known commercially as finish or door hardware that are required for swing doors.

1.3 REFERENCES

A. Standards of the following as referenced:
The following manufacturers products were used to establish these specifications:
1. American National Standards Institute (ANSI)
2. Door and Hardware Institute (DHI)
3. Factory Mutual (FM)
4. National Fire Protection Association (NFPA)
5. Underwriters' Laboratories, Inc. (UL)
6. UL 10C - Fire Tests Door Assemblies
7. Warnock Hersey

B. Regulatory standards of the following as referenced:
1. Department of Justice, Office of the Attorney General, Americans with Disabilities Act, Public Law 101-336 (ADA).
2. CABO/ANSI A117.1: Providing Accessibility and Usability for Physically Handicap People, 1992 edition.

1.4 SYSTEM DESCRIPTION

A. Refer to applicable "Headings" for system description for electric and electro-pneumatic hardware products.

1.5 SUBMITTALS

a. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification sections.
b. Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements. For items other than those scheduled in the "Headings" of Section 3, provide catalog information for the specified items and for those submitted.
c. Final hardware schedule coordinated with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. Final Hardware Schedule Content: Based on hardware indicated, organize schedule into vertical format "hardware sets" indicating complete designations of

every item required for each door or opening. Use specification heading numbers with any variations suffixed a, b, etc. Include the following information:

a. Type, style, function, size, and finish of each hardware item.
b. Name and manufacturer of each item.
c. Fastenings and other pertinent information.
d. Location of each hardware set cross-referenced to indications on drawings both on floor plans and in door and frame schedule.
e. Explanation of all abbreviations, symbols, and codes contained in schedule.
f. Mounting locations for hardware.
g. Door and frame sizes and materials.
h. Keying information.
i. Cross-reference numbers used within schedule deviating from those specified.
    i. Column 1: State specified item and manufacturer.
    ii. Column 2: State prior approved substituted item and its manufacturer.

2. Submittal Sequence: Submit final schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work that is critical in the Project construction schedule. Include with schedule the product data, shop drawings of other work affected by door hardware, and other information essential to the coordinated review of schedule.
3. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
4. In addition to hard copies provide 1 digital copy of the hardware schedule and keying schedule in MS Word format and any wiring diagrams in PDF format on a clearly labeled thumb drive.

d. Wiring Diagrams: Where any electrical/electronic hardware is used provide factory produced, color coded wiring diagrams. Provide individual diagrams for each type opening.
e. Templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware. Check shop drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
f. Contract Closeout Documents: Upon completion of the project provide the following closeout documents. All items to be provided in a single binder with the hardware schedule cover page as a binder cover, binder end to have project name label.
    1. Keying/hardware recap sheet in the following format
    Door # To/From Location Dr/Fr Type Hand Function Keyset (if keyed)
    Provide a hard copy and a digital copy in a USB thumb drive in MS Word format.
    2. Hardware Schedule. Hard copy and MS Word file
    3. Billing List for project. Hard copy and Excel or Word format.
    4. Key System Expansion as specified. Hard copy and Excel or Word format.
    5. Catalog Information for each item of hardware used. Hard copy and PDF.
    6. Installation Instructions for each item used. Hard copy and PDF.
    7. Template for each item used that requires a template. Hard copy and PDF.
    8. Service/Parts Manual for all items with moving parts. Hard copy and PDF.
    9. Wiring Diagrams. Hard copy and PDF
    10. Manufacturers certificate of compliance for installation of all hardware with moving parts. Hard copy and PDF.
    11. Warranties: Completed and executed warranty forms. Hard copy and PDF.

1.6 QUALITY ASSURANCE

A. Single Source Responsibility: Obtain each type of hardware (latch and locksets, hinges, closers, etc.) from a single manufacturer.
B. Supplier Qualifications: A recognized architectural door hardware supplier, with warehousing facilities in the Project's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that employs an experienced architectural hardware consultant (AHC) who is available to Owner, Architect, and Contractor, at reasonable times during the course of the Work, for consultation. To protect the owners investment in door hardware items the successful distributor must be factory authorized to provide each brand of hardware specified.
   1. Require supplier to meet with Owner to finalize keying requirements and to obtain final instructions in writing.
   2. Required supplier to meet with installer prior to beginning of installation of door hardware. (Pre-installation conference)
C. Report any and all discrepancies to the architect no later than 7 days prior to bid. It is the responsibility of the successful supplier to supply hardware to 100% of project completion, should a door or item of hardware be omitted from this specification or should hardware other than what is specified be required to meet codes it is the distributor's sole responsibility to supply that without additional cost to the contractor, architect or owner and in the same manufacturer and quality standard as set forth in this specification. Only "per plans and specifications" quotes will be entertained, value engineering will not be acceptable.
D. The hardware manufacturer's representative(s) shall conduct a pre-installation conference with the Contractor's installer, a representative of the parish planning and/or maintenance department, and a representative of the hardware supplier, to demonstrate product installation and adjustment in accordance with manufacturer's recommendations and Owner's requirements.
E. Hardware manufacturers' representative shall inspect hardware installation to confirm that all products are installed and adjusted according to manufacturer's recommendations. A certificate of compliance shall be submitted with the project closeout documents.
F. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and tested by UL or Warnock Hersey for given type/size opening and degree of label. Provide proper latching hardware, door closers, approved-bearing hinges and seals whether listed in the Hardware Schedule or not. All hardware shall comply with standards UBC 702 (1997) and UL 10C.
   1. Where emergency exit devices are required on fire-rated doors, (with supplementary marking on doors' UL labels indicating "Fire Door to be equipped with Fire Exit Hardware") provide UL label on exit devices indicating "Fire Exit Hardware".

1.7 PRODUCT HANDLING

A. Tag each item or package separately with identification related to final hardware schedule, and include basic installation instructions with each item or package.
B. Packaging of door hardware is responsibility of supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.
C. Inventory door hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.

D. Deliver individually packaged door hardware items promptly to place of installation (shop or Project site).
E. Contractor to provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of the Work will not be delayed by hardware losses both before and after installation.

1.8 WARRANTY

A. Special warranties:
   1. Door Closers: Ten year period
   2. Exit Devices: Three year period
   3. Locks and Cylinders: Three year period

1.9 MAINTENANCE

A. Parts kits: Furnish manufacturers' standard parts kits for locksets, exit devices, and door closers.

PART 2 PRODUCTS

2.1 MANUFACTURED UNITS

(*Denotes manufacturer referenced in the Hardware Headings)

A. Hinges:
   1. Acceptable manufacturers:
      a. McKinney TA2714, TA2314, T4A3786, T4A3386
      b. Ives* 5BB1, 5BB1 (Non Ferrous), 5BB1HW, 5BB1HW (Non Ferrous)
      c. Or approved equals
   2. Characteristics:
      a. Templates: Provide only template-produced units.
      b. Screws: Provide Phillips flat-head screws complying with the following requirements:
         i. For metal doors and frames install machine screws into drilled and tapped holes.
         ii. For wood doors and frames install threaded-to-the-head wood screws.
         iii. For fire-rated wood doors install #12 x 1-1/4 inch, threaded-to-the-head steel wood screws.
         iv. Finish screw heads to match surface of hinges or pivots.
      c. Hinge pins: Except as otherwise indicated, provide hinge pins as follows:
         i. Out-Swing Exterior Doors: Non-removable pins.
         ii. Out-Swing Corridor Doors with Locks: Non-removable pins.
         iii. Interior Doors: Non-rising pins.
         iv. Tips: Flat button and matching plug. Finished to match leafs.
      d. Size: Size hinges in accordance with specified manufacturer's published recommendations.
      e. Quantity: Furnish one pair of hinges for all doors up to 5'0" high. Furnish one hinge for each additional 2-1/2 feet or fraction thereof.
B. Continuous Hinges:
   1. Acceptable manufacturers:
      a. McKinney MCK-25HD
      b. Ives* 224HD

c. Or approved equals

2. Characteristics:
   a. Continuous gear hinges to be manufactured of extruded 6063-T6 aluminum alloy with anodized finish, or factory painted finish as scheduled.
   b. All hinges are to be manufactured to template. Uncut hinges shall be non-handed and shall be a pinless assembly of three interlocking extrusions applied to the full height of the door and frame without mortising.
   c. Vertical door loads shall be carried on chemically lubricated polyacetal thrust bearings. The door and frame leaves shall be continually geared together for the entire hinge length and secured with a full cover channel. Hinge to operate to a full 180°.
   d. Hinges to be milled, anodized and assembled in matching pairs. Fasteners supplied shall be 410 stainless steel, plated and hardened.
   e. Provide UL listed continuous hinges at fire doors. Continuous hinges at fire doors (suffix -FR) shall meet the required ratings without the use of auxiliary fused pins or studs.

C. Cylinders, Keys and Keying:
   1. Schlage* Everest D, CORES ONLY to be owner provided contractor installed.
   2. Equip all locking products with interchangeable core cylinder housing to accommodate Schlage Everest Cores provided by the General Contractor
   3. Cylinder housing to be provided by hardware supplier
   4. Temporary cores to be supplied for use during construction provided by the General Contractor
   5. Characteristics
   6. Metals: Construct cylinder parts from brass or bronze, stainless steel, or nickel silver.keying.

D. Locksets, Latchsets, Deadbolts:
   1. Acceptable manufacturers:
      a. Sargent 8200 LE1J Design
      b. Schlage* L9000 03L Design
      c. Or approved equals
   2. Mortise Locksets and Latchsets: as scheduled.
      a. Chassis: cold-rolled steel, handing field-changeable without disassembly.
      b. Latchbolts: 3/4-inch throw stainless steel anti-friction type.
      c. Lever Trim: through-bolted, accessible design, cast or forged brass, bronze or stainless steel solid lever as scheduled.
      d. Spindles: non-connected independent break-away.
      e. Thumbturns: accessible design not requiring pinching or twisting motions to operate.
      f. Deadbolts: stainless steel 1-inch throw.
      g. Electric operation: Manufacturer-installed continuous duty solenoid in 24v.
      h. Strikes: 16 gage curved stainless steel, bronze or brass with 1" deep box construction, lips of sufficient length to clear trim and protect clothing.
      i. Scheduled Lock Series and Design: Schlage L series, 03L design.
      j. Certifications:
         i. ANSI A156.13, 1994, Grade 1 Operational, Grade 2 Security.
         ii. ANSI/ASTM F476-84 Grade 30 UL Listed.

E. Floor Stops and Wall Bumpers:
   1. Acceptable manufacturers:
      a. Ives* 436, 438, WS407, FS18
      b. McKinney FS01, FS02, WS02, DS08
      c. Or approved equals
   2. Characteristics: Refer to Hardware Headings.

F. Silencers:
   1. Acceptable manufacturers:
      a. Ives*
      b. McKinney
      c. Or approved equals
   2. Three for each single door; four for pairs of doors.

2.2 MATERIALS AND FABRICATION

A. Manufacturer's Name Plate: Do not use manufacturers' products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise acceptable to Architect.
   1. Manufacturer's identification will be permitted on rim of lock cylinders only.

B. Base Metals: Produce hardware units of basic metal and forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI/BHMA A156 series standards for each type of hardware item and with ANSI/BHMA A156.18 for finish designations indicated. Do not furnish "optional" materials or forming methods for those indicated, except as otherwise specified.

C. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
   1. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.
   2. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
   3. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners.
   4. Do not use thru-bolts or sex bolts for installation where bolt head or nut on opposite face is exposed in other work unless their use is the only means of adequately fastening the hardware, or otherwise found in Headings. Coordinate with wood doors and metal doors and frames where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

2.3 HARDWARE FINISHES

A. Match items to the manufacturer's standard color and texture finish for the latch and lock sets (or push-pull units if no latch of lock sets).

B. Provide finishes that match those established by ANSI or, if none established, match the Architect's sample.

C. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

D. Provide protective lacquer coating on all exposed hardware finishes of brass, bronze, and aluminum, except as otherwise indicated. The suffix "-NL" is used with standard finish designations to indicate "no lacquer."

E. The designations used to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
   1. Hinges (Exterior): 630 (US32D) Satin Stainless Steel
   2. Hinges (Interior wood doors): 652 (US26D) Satin Chrome Plated Steel
   3. Hinges (Interior metal doors): 652 (US26D) Satin Chrome Plated Steel
   4. Continuous Hinges: 628 (US28) Clear Anodized Aluminum
   5. Flush Bolts: 626 (US26D) Satin Chrome Plated Brass/Bronze
   6. Locks: 630 (US32D) Satin Stainless Steel
   7. Exit Devices: 628 (US28) chassis, 689 (powder coated) covers, and 630 (US32D) touchpads
   8. Door Closers: 689 Powder Coat Aluminum
   9. Push Plates: 630 (US32D) Satin Stainless Steel
   10. Pull Plates: 630 (US32D) Satin Stainless Steel
   11. Protective Plates: 630 (US32D) Satin Stainless Steel
   12. Door Stops: 626 (US26D) Satin Chrome Plated Brass/Bronze
   13. Overhead Holders: 630 Satin Stainless Steel and 689 Powder Coated Steel (as scheduled)
   14. Thresholds/Weatherstripping: 627/628 (US27/US28) Aluminum

PART 3 EXECUTION

3.1 INSTALLATION

A. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by Architect.
   1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.
   2. "Recommended Locations for Builders Hardware for Custom Steel Doors and Frames" by the Door and Hardware Institute.
   3. NWWDA Industry Standard I.S.1.7, "Hardware Locations for Wood Flush Doors."

B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.

C. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

D. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements specified in Division 7 Section "Joint Sealers".

F. Weather stripping and Seals: Comply with manufacturer's instructions and recommendations to the extent installation requirements are not otherwise indicated.

2. ADJUSTING, CLEANING, AND DEMONSTRATING

A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.
   1. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make final check and adjustment of all hardware

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items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to function properly with final operation of heating and ventilating equipment.

B. Clean adjacent surfaces soiled by hardware installation.
C. Door Hardware Supplier's Field Service
   1. Inspect door hardware items for correct installation and adjustment after complete installation of door hardware.
   2. Instruct Owner's personnel in the proper adjustment and maintenance of door hardware and hardware finishes.
   3. File written report of this inspection to Architect.
D. Prior to project completion, representatives of the lock, exit device and overhead closer manufacturers shall inspect and adjust all units and certify that all units are installed in accordance with the manufacturer's instructions, and are regulated properly and functioning correctly. A written report shall be provided to the Architect as to the inspection and shall include appropriate certificates.

3.2 INSTALLATION

A. Hardware Mounting Locations: As recommended by the Door and Hardware Institute, unless indicated otherwise.
B. Install each hardware item to comply with manufacturer's instructions and recommendations.
C. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant. Remove excess sealant and clean adjacent surfaces.
D. Hardware Adjustment: Return to Project one month after Owner's occupancy, and adjust hardware to proper operation and function. Instruct Owner's personnel in proper maintenance and adjustment.

3.3 HARDWARE SCHEDULE

HARDWARE SET 1: (SINGLE DOOR, INTERIOR, WOOD) DOOR TAG 1

3 EA. HINGES- HEAVY DUTY
1 EA. OFFICE LOCKSET- CYLINDER AS REQ'D.
1 EA. DOOR CLOSER
1 EA. DOME STOP
3 EA. DOOR SILENCERS
1 EA. SMOKE GASKETING

HARDWARE SET 2: (SINGLE DOOR, INTERIOR, WOOD) DOOR TAG 2

3 EA. HINGES- HEAVY DUTY
1 EA. STORAGE LOCKSET- CYLINDER AS REQ'D.
1 EA. DOOR CLOSER
1 EA. DOME STOP
3 EA. DOOR SILENCERS
1 EA. SMOKE GASKETING
1 EA. CONTROL ACCESS PANEL

END OF SECTION

SECTION 09111
METAL STUD FRAMING SYSTEM

PART 1 GENERAL

1.1 WORK INCLUDED

A. Top and bottom runners, studs, internal bracing, and blocking for non-load bearing walls
   1. Use 3 5/8" metal studs @ 16" oc at interior walls except for those required to be wider to receive piping, electrical panels or equipment.
   2. Use 6" minimum metal studs @ 16" oc at exterior walls.

B. All axial or wind loaded light gage steel studs, track, joists, bridging and related accessories.

C. This section includes installation and grouting of hollow metal frames.

1.2 REFERENCES

A. ASTM C645 - Non-Loadbearing Steel Studs, Runners, and Rigid Furring Channels.

B. ASTM C754 - Installation of Steel Framing Members to Receive Screw-Attached Gypsum Wallboard, Backing Board, or Water-Resistant Backing Board.

C. ASTM C955, ASTMA653 - Standards for Load Bearing (Transverse and Axial) Steel Studs, Runners, Bracing or Bridging

D. GA 203 - Installation of Screw-type Steel Framing Members to Receive Gypsum Board.

E. American Iron and Steel Institute (AISI) Design of Cold Formed Steel Structural Members.

F. American Welding Society (AWS) D.1.3

G. American Institute of Steel Construction (AISC) Manual of Steel Construction, 9th Edition.

1.3 QUALITY ASSURANCE

A. Perform the work in accordance with above standards.

1.4 SUBMITTALS

A. Submit shop drawings under provisions of Section 01300.

B. For structural framing, provide erection drawings and fabrication drawing is prefabricated panels are used. Indicate framing, openings, bracing and blocking, and reinforcement.

C. Submit engineering calculations if proposed deviations from that shown are recommended.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Dietrich, Industries, Inc.

B. Marinoware
D. Dale Industries, Inc.
E. Substitutions: Under provisions of Section 01600 and Instruction to Bidders.

2.2 MATERIALS

A. Studs: Interior, Non-Load bearing rolled steel, galvanized, channel shaped, 1-5/8, 2-1/2, 3-5/8, 4, and 6 inches wide, 20 gage, punched for utility access.
B. Studs: Interior and Exterior Load Bearing rolled steel, galvanized, channel shaped 3 5/8" and 6" wide, 16 ga.
C. Runners: Of same material and finish as studs, bent leg retainer notched at 2 inch centers to receive studs, with provision for crimp locking to stud.
D. Joists, Beams, Headers and Bracing: See drawings for gage of material (20 gage minimum).
E. Furring, Headers, at non-bearing walls, Sills: Of same material and finish as studs, thickness to suit purpose.
F. Fasteners: self tapping screws or welding of sufficient size to insure the strength of the connection. Welding is not recommended on 20 ga material.
G. Wood Blocking: Construction grade softwood fire retardant moisture resistant F. Provide stud manufacturer's metal tracks, stud shoes, clips, wire ties, stiffeners, and other accessories and attachment devices as required for complete installation.
H. Finish: Galvanize in accordance with ASTM A525, G90 or heavier coating.
I. Provide studs which accept snap-in channel bridging.

2.3 FIRE-RATED ASSEMBLIES

A. Where steel studs are components of fire-rated wall, partition or column protection assemblies, provide steel studs and accessories complying with the requirements of UL "Fire Resistance Index" for the UL design numbers corresponding with construction assemblies shown.

2.4 STUD TYPES

A. Provide the following types of steel studs in sizes indicated on the Drawings, for application indicated, as shown or specified:
1. For gypsum drywall applications, provide screw-type steel studs.

2.5 HAT CHANNELS

A. Provide channels fabricated from 24 gage sheet metal roll-formed to hat-shaped sections, 7/8 inches deep, 2-9/16 inches wide, with knurled attachment face 1-1/4 inches wide.
B. Finish: Galvanize in accordance with ASTM A525, G90 or heavier coating.

PART 3 EXECUTION

3.1 ERECTION

A. Manufacturer's Instructions: Unless otherwise shown or specified, install steel studs and accessories in accordance with stud manufacturer's printed instructions.
B. Secure top and bottom runners at 24 inches oc. Align to configuration required. At load bearing walls, abutting pieces of track shall be securely achored to a common structural element or they shall be butt welded or spliced together.
C. Install studs vertically at 16 inches oc and not more than 2 inches from abutting construction, each side of openings, and at corners.
D. Fit runners under and above openings; secure intermediate studs at spacing of wall studs.
E. Brace stud framing system and make rigid.
F. Coordinate erection of studs with installation of service utilities, including but not limited to ductwork, piping, electrical conduit trays, etc. Align stud web openings.
G. Coordinate installation of bucks, anchors, blocking, electrical, and mechanical work to be placed in, behind, or through stud framing.
H. Coordinate erection of stud system with requirements of door and window frame supports or attachments.
I. For non-bearing studs, top of studs to be inserted in to top runner track. Studs to remain friction fit until Board is screw attached. Studs immediately adjacent to openings may be crimp attached or screwed to runner track.
J. For load bearing studs, Studs shall be plumbed , aligned and securely attached to the flange or webs of both upper and lower tracks.
K. Provide additional studs to support inside corners at partitions, intersections and corners, and to support outside corners, terminations of partitions, both sides of control joint (if any) and adjacent to all openings.
L. Where special conditions requiring extra stiff partition systems are indicated on Drawings or required, provide additional studs, in sizes indicated.
M. Provide framed openings for installation of recessed, semi recessed, or penetration of items. Provide additional Horizontal and vertical blocking members where necessary, to receive attachments for shelves, cabinets, garment hooks and other surface mounted items including toilet compartments, toilet room accessories, electrical and telephone panels and boards, etc., and reinforcement at fixture hangers.
N. Stud splicing is not permissible.
O. Maintain clearance under structural building members to avoid deflection transfer to non-load bearing studs.
P. Six inch studs shall be used where necessary to conceal pipes, to receive fire extinguisher cabinets, electrical panels, etc.
Q. At load bearing walls bridging shall be installed in a manner to provide resistance to both minor axis bending and rotation. Bridging rows shall be equally spaced not to exceed 5' for wind bracing.

3.2 DOOR FRAMES

A. Where doors and cased openings are shown or scheduled, provide two 16 gage studs at each jamb and one additional stud not more than six inches from jamb studs. Fasten jamb studs to metal frames with anchor clips using two self-tapping screws or bolts per clip. Where wood frames are shown, fasten jamb studs to rough framing with screws.
B. Anchor strut studs to floor and ceiling runners with 3/8 inch type "S" at each flange intersection.

C. Install heads formed from track, miter cut and bend 90 at each end to abut against strut studs.
D. Anchor door frames with 3/8 inch Type S-12 screws driven through header and strut studs into frame anchor clips.
E. For heavy oversize doors, install horizontal reinforcing channels in pairs at each side of door jamb and positioned 8 inched from head and floor and at mid-height.
F. Securely tie these aligning channels to inside of stud chord at each intersection.
G. Fill door frames solid with mixture of cement, water and sand.

3.4 CEILING ERECTION

A. Space 9 gage hanger wires 48 inch o.c. along carrying channels and within 6 inches of ends of carrying channel runs.
B. For steel construction, wrap hanger around or through beams or joints.
C. Install 1-1/2 inches carrying channels 48 inches o.c. - 24 inches for fire rated construction and within 6 inches of walls.
D. Position channels for proper ceiling height, level and secure with hanger wire saddle tied along channel.
E. Provide 1 inch clearance between runners and abutting walls and partitions.
F. At channel splices, interlock flange overlap ends 12 inches and secure each end with double strand 16 gage tie wire.
G. At light troffers or any openings that interrupt the carrying or furring channels, install additional cross reinforcing to restore lateral stability of grillage.

3.4 TOLERANCES

A. Install members to provide surface plane with maximum variation of 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09250
GYPSUM BOARD SYSTEMS

PART 1 GENERAL

1.1 WORK INCLUDED

A. Interior Gypsum board with taped and sanded joint treatment.
B. Use moisture resistant gypsum board in wet areas: toilet rooms, janitor closets, shower rooms, etc. Use fiber reinforced gypsum board at walls that receive ceramic tile.
C. Exterior gypsum sheathing.
D. Use 5/8" Impact Resistant gypsum at bottom 4' of all walls.

1.2 REFERENCES

A. ANSI/ASTM C36 - Gypsum Wallboard.
B. ANSI/ASTM C79 - Gypsum Sheathing Board.
C. ANSI/ASTM C442 - Gypsum Backing Board.
D. ANSI/ASTM C475 - Joint Treatment Materials for Gypsum Wallboard Construction.
E. ANSI/ASTM C514 - Nails for the Application of Gypsum Wallboard.
F. ANSI/ASTM C630 - Water Resistant Gypsum Backing Board.
G. ANSI/ASTM C645 - Non-Load Axial Bearing Steel Studs, Runners Track, and Rigid Furring channels for Screw Application of Gypsum Board.
H. ANSI/ASTM C646 - Steel Drill Screws for the Application of Gypsum Sheet Material to Light Gage Steel Studs.
I. ANSI/ASTM C754 - Installation of Framing Members to Receive Screw Attached Gypsum Wallboard, Backing Board, or Water Resistant Backing Board.
J. GA-201 - Gypsum Board for Walls and Ceilings.
K. GA-216 - Recommended Specifications for the Application and Finishing of Gypsum Board.
L. GA-214-90 - Levels of Gypsum Board Finish

1.3 SUBMITTALS

A. Submit product data under provisions of Section 01300.
B. Submit manufacturer's installation instructions under provisions of Section 01300.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. United States Gypsum Co.
B. National Gypsum Co.
C. Flintkote
D. Georgia-Pacific
E. Louisiana Pacific

F. Substitutions: Under provision of Section 01600 and Instructions to Bidders.

2.2 GYPSUM BOARD MATERIALS

A. Fire rated gypsum board: All areas unless noted otherwise, ANSI/ASTM C36; fire resistive and moisture resistant type where required (ANSI/ASTM C630), UL rated; maximum permissible length; ends square cut; tapered edges. Furnish 5/8 inch thick gypsum board unless noted otherwise on drawings.

B. Moisture and Mildew Resistant gypsum board: ANSI/ASTM C630; moisture resistant type; maximum permissible length; ends square cut; tapered edges, provide 5/8" thickness. This shall be used on painted walls in toilet rooms, shower rooms, janitor closets and wet areas or where shown on the drawings. Do not use on ceiling locations. Provide fire rated material where used on rated walls.

C. Fiber reinforced cement board: 5/8" US Gypsum Durock; equal products by Louisiana-Pacific or National Gypsum are approved. Provide at shower rooms or where shown on drawings, for chase walls, plumbing walls and lower wall heights and wainscots that receive ceramic tile.

D. Exterior Sheathing Board continuous over all exterior wall framing members: 5/8" Dens Glass Gold, USB Triple sealed Gypsum Sheathing

E. Roof Sheathing: 5/8" fire rated Des Deck Prime or equal by US Gypsum.

F. Use 5/8" US Gypsum Fiberrock, ToughRock by GP Gypsum or equal meeting the following performance criteria at finish layer of bottom 4' of all walls.
   1. 0.14 or less indentation
   2. 99 ft-lbs hard body impact
   3. 300 ft-lbs soft body impact

2.3 ACCESSORIES

A. Corner Beads: Galvanized Metal

B. Edge Trim: GA 201 and GA 216

C. Joint Materials: ANSI/ASTM C475; GA 201 and GA 216; reinforcing tape, joint compound, adhesive, water, and fasteners.

D. Round Column Cover: Plastrglas Architectural Fabrications shall be used where round column enclosures are shown:

Plastrglas
4200 N 30th Street, Omaha, NE 68111
Phone 402-455-0652, Fax 402-451-5375

PART 3 EXECUTION

3.1 INSPECTION

A. Verify that site conditions are ready to receive work and opening dimensions are as indicated on shop drawings and instructed by the manufacturer.

B. Beginning of installation means acceptance of existing surfaces and substrate.

3.2 GYPSUM BOARD INSTALLATION

A. Install gypsum board in accordance with GA 201 and GA 216 manufacturer's instructions.
B. Erect single layer standard gypsum board in most economical direction, with ends and edges occurring over firm bearing. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
C. Use screws when fastening gypsum board to metal furring or framing.
D. Double Layer Applications: Use gypsum backing board for first layer, placed perpendicular to framing or furring members. Use fire rated gypsum backing board for fire rated partitions. Place second layer perpendicular to first layer. Offset joints of second layer from joints of first layer.
E. Treat cut edges and holes in moisture resistant gypsum board and exterior gypsum ceiling board with sealant.
F. Place control joints consistent with lines of building spaces as specified unless shown otherwise on Drawings.
G. Place corner beads at external corners as indicated. Use longest practical length. Place edge trim where gypsum board abutts dissimilar materials as indicated.

3.3 INTERIOR JOINT AND WALL TREATMENT

A. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes. Fill and sand at nail dimples.
B. Feather coats onto adjoining surfaces so that camber is maximum 1/32 inch.
C. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.
D. All of the above shall be done to meet the Level 4 recommended specifications of the AWCI included in GA 214-90:All joints and interior angles shall have tape embedded in joint compound and three separate coats of joint compound applied over all joints, angles, fastener heads and accessories. The surface shall be smooth, and free of tool marks and ridges preferably after priming.

3.4 TOLERANCES

A. Maximum Variation from True Flatness: 1/8 inch in 10 feet in any direction.

3.05 EXTERIOR SHEATHING INSTALLATION

A. Install continuous at all exterior walls over stud framing members.
B. Tape joints with weather proof tape at exterior applications. Eliminate all air gaps prior to installation. Apply damp proofing over sheathing.
C. Roof Sheathing shall be installed in accordance with roof manufacturer's and FM standards to meet wind uplift design criteria.

END OF SECTION

SECTION 09511
SUSPENDED ACOUSTICAL CEILINGS

PART 1 GENERAL

1.1 WORK INCLUDED

A. Suspended metal grid ceiling system.
B. Acoustical tile.
C. Non-fire rated assembly.
D. Perimeter trim.

1.2 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 01300.
B. Provide product data on metal grid system components, and acoustic units.
C. Submit samples under provisions of Section 01300.
   1. Submit two samples, illustrating material and finish of each acoustic units, properly identified with product data attached.
   2. Submit two samples each, 12 inches long, of suspension system main runner, cross runner and edge trim.

1.3 ENVIRONMENTAL REQUIREMENTS

A. Maintain uniform temperature of minimum 60 degrees F, and humidity of 20 to 40 percent prior to, during, and after installation.

1.4 SEQUENCING/SCHEDULING

A. Do not install acoustical ceilings until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
B. Schedule installation of acoustic units after interior wet work is dry.

1.5 EXTRA STOCK

A. Furnish full size units matching the units installed, packaged with protective covering for storage, and identified with appropriate labels. Furnish 2% of each type installed. Round to the nearest unopened box. Material to be given to owner for storage and future use. Signed receipt required by owner's representative.

1.6 WARRANTY

A. Provide five (5) year warranty against grid support failure and sagging tiles.

PART 2 PRODUCTS

2.1 SUSPENSION SYSTEM MATERIALS

A. Acceptable Manufacturers - Ceiling Grid
   1. Chicago Metallic Corp. - 200 Snap-Grid
   2. Armstrong World Industries, Inc.
   3. USG Interiors, Inc.
   4. Substitutions: Under provisions of Section 01600 and Instruction to Bidders.

B. Grid: ASTM C635, Intermediate duty, non-fire rated exposed T; components die cut and interlocking.

C. Accessories: Stabilizer bars, clips, edge and moldings required for suspended grid system. Provide hold down clips where indicated in specifications or on drawings.

D. Grid Materials: Commercial quality cold rolled steel with galvanized coating.

E. Grid Finish: Aluminum cap with standard white finish.

F. Support Channels and Hangers: Galvanized steel; size and type to suit application, to rigidly secure acoustic ceiling system including integral mechanical and electrical components with maximum deflection of 1/360.

2.2 ACOUSTIC TILE MATERIALS - TYPE 1

A. Acceptable Manufacturers - Acoustic Tiles
   1. Armstrong - Style: Fine Fissured, 1728
   2. USG Interiors, Inc.
   3. Substitutions: See Instructions to Bidders and Section 01600 Material and Equipment: Substitutions

B. Acoustic Tiles shall conform to the following:
   1. Surface Texture: Medium
   2. Composition: Mineral Fiber
   3. Color: White
   4. Size: 24in X 24in X 5/8in
   5. Edge Profile: TEGULAR- Lay-In for interface with compatible Armstrong grid.
   6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, 0.55.
   7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, 33
   8. Flame Spread: ASTM E 1264; Class A (UL)
   9. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.85.
   10. Dimensional Stability: HumiGuard Plus - temperatures up to 120 degrees F and high humidity excluding only exterior use, use over standing water, and direct contact with moisture .
   11. Mold/Mildew Inhibitor: The front and back of the product have been treated with BioBlock, a paint that contains

2.3 MAINTENANCE STOCK

A. Furnish 1% of full size units matching the units installed packaged with protective covering for storage, and identified with appropriate labels. Furnish one percent of the amount installed.

PART 3 EXECUTION

3.1 INSPECTION

A. Verify that conditions are ready to receive work.
B. Verify that layout of hangers will not interfere with other work.
C. Beginning of installation means acceptance of existing conditions.
D. Arrange for above ceiling inspection with architect of grid and support system prior to installing field acoustical tiles.

3.2 INSTALLATION - ACOUSTICAL TILE AND GRID

A. Install system in accordance with ASTM C636, manufacturer's instructions and as supplemented in this Section.
B. Install system capable of supporting imposed loads to a deflection of 1/360 maximum.
C. Install after major above ceiling work is complete. Coordinate the location of hangers with other work.
D. Supply hangers or inserts for installation to Section with instructions for their correct placement. If metal deck is not supplied with hanger tabs, coordinate the installation of hanger clips during steel deck erection. Provide additional hangers and inserts as required.
E. Hang system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
F. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and provide related carrying channels to span the extra distance.
G. Center system on room axis leaving equal border units according to reflected plan. Do not use less-than-half width units at borders. Where layouts will not allow less-than-half units, use 2 x 4 foot units and cut units as required.
I. Do not eccentrically load system, or produce rotation of runners. Grip hanger shall be suspended from structure and not decking.
J. Install edge molding at intersection of ceiling and vertical surfaces, using longest practical lengths. Miter corners. provide edge moldings at junctions with other interruptions. Field rabbett tile edge. Where round obstructions occur, provide preformed closers to match edge molding.
K. Form expansion joints as detailed. Form to accommodate plus or minus one inch movement. Maintain visual closure.
L. Fit acoustic units in place, free from damaged edges or other defects detrimental to appearance and function.
M. Install acoustic units level, in uniform plane, and free from twist, warp and dents.
N. **Furnish four hangers for grid, one at each corner of each light fixture. (This is in addition to supports for light fixture; independent jack chain supports from lights as outlined in Section 16500 of Specifications. Supports for light fixture and grid shall be independent of each other.)**
O. Provide hold down clips on all tiles within Dining Room/Physical Education area.

3.03 TOLERANCES

A. Variation from Flat and Level Surface: Levelness: 1/8 inch in 10'-0", 1/4 inch variation within room area.
B. Variation from Plumb of Grid Members Caused by Eccentric Loads: Two degrees maximum.
C. Lazer - level all ceilings.

END OF SECTION

SECTION 09650
RESILIENT FLOORING AND BASE

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

A. Extent of resilient flooring and accessories is shown on Drawings and in schedules. Replace floor tile and base where disturbed for installation of new doors and frames.

B. Provide a resilient floor and resilient base manufacturer's trained and authorized representative to conduct all tests specified herein, to supervise all work specified herein, and to verify that all materials are provided and professionally installed in strict accordance with the manufacturer's recommendations.

1.2 QUALITY ASSURANCE

A. Manufacturer: Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, and sealants.

B. No materials shall contain asbestos.

1.3 SUBMITTALS

A. Submit shop drawings and product data under provision of Section 01300.

B. Product Data: Submit two copies of manufacturer's technical data and installation instructions for each type of resilient flooring and accessory. Submit data showing compatibility of all products proposed, specifically glue, primer and joint isolation membrane.

C. Samples: Submit three sets of samples of each type, color, and finish of resilient flooring and accessory required, indicating full range of color and pattern variation.

D. Maintenance Instructions: Submit two copies of manufacturer's recommended maintenance practices for each type of resilient flooring and accessory required.

E. Submit manufacturer's warranty specified herein in triplicate.

1.4 JOB CONDITIONS:

A. Maintain minimum temperature of between 70 and 90 degrees F in spaces to receive resilient flooring for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. Subsequently, maintain minimum temperature of 55 degrees F in areas where work is completed.

B. Install resilient flooring and accessories after other finishing operations, including painting, have been completed. Moisture content of concrete slabs and environmental conditions must be within limits recommended by manufacturer of products being installed.

1.5 COMPLIANCE

A. Adhesives and latex underlayment provided shall be made by the same manufacturer as the resilient materials manufacturer, or shall be of brand names recommended, in writing, by the resilient material manufacturer to insure securing the minimum five (5) year warranty specified herein.

B. Materials specified herein shall be provided only by the highly trained and skilled installers recommended by the specified material manufacturers.

C. If any floor material or base material problem, or any installation problem occurs because of the Contractor's failure to use trained and skilled installers, the Contractor shall remove, replace and reinstall all new resilient floor and base materials at no additional cost to the Owner.

D. If any floor material or base material problem, or any installation problem occurs because of the Contractor's failure to follow all requirements specified herein, the Contractor shall remove, replace and reinstall all new resilient floor and base materials at no additional cost to the Owner.

E. If any floor material or base material problem, or any installation problem occurs because of the Contractor's failure to use adhesives and underlayment recommended, in writing, by the resilient floor material's manufacturer or the resilient base material's manufacturer, the Contractor shall remove, replace and reinstall all new resilient floor and base materials at no additional cost to the Owner.

F. All adhesive and underlayment materials provided by the Contractor shall be recommended, in writing, by the floor material and base material manufacturer, and shall be installed in strict accordance with the manufacturer's recommendations, after the manufacturer's representative tests and approves the concrete slab preparation and all concrete slab conditions.

G. All materials specified herein shall be "regulars" or "first quality" as specified by the manufacturer to qualify for the minimum 5 year warranty specified herein, as opposed to "irregulars", "remnants" or standards sold "as is".

H. As a general rule, a 4" thick slab will require a minimum of 3 months drying time after placement, prior to performing moisture tests specified herein and providing resilient floors specified here in.

I. Gypsum type or gypsum containing floor patching products and underlayment products shall not be provided under resilient floors specified herein.

J. Be aware that most tile manufacturers will not issue the specified warranty for resilient floors provided over gypsum containing patching or underlayment materials.

1.6 WARRANTY

A. Provide manufacture's minimum five (5) year commercial flooring products standard limited warranty in triplicate, covering all resilient floors and rubber bases specified herein.

B. Warranty shall cover manufacturing defects in material and workmanship, replacement, and repairs.

1.7 FINISH FLOOR MOCK UP PANELS

A. After reviewing approved color Samples, and after inspecting, preparing, sanding and testing a part of the concrete slab, provide latex underlayment, resilient floor adhesive and resilient floor materials and adjacent base adhesive and resilient base on a minimum 10 feet square section of floor for review by the Owner and Architect.

B. Review all concrete slab test results and finish floor installation with the Owner and Architect.

C. Because of so many square feet of resilient floor, the purpose of the finish floor mock up panels is to establish minimum standards for a level floor, to establish minimum standards for finish floor workmanship and to review color and design requirements of patterns for laying tile, tile joint laying methods, prior to providing large quantities of finish floors.

D. Remove and reinstall finish floor mock up panel if panel has been determined to be unsatisfactory to the Owner or Architect, and provide an approved finish floor mock up panel.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - RESILIENT FLOOR AND BASE

A. Vinyl Tile
   1. Armstrong- Imperial texture standard Excelon- #51911 Classic White
   2. Tarkett-Thru Chip Standard Mottle #3552 White Gray
   3. Azrock Custom Cortina-Tracery #V-312
   4. Substitutions: Under provision of Section 01600 and Instruction to Bidders.

B. Rubber Base and accessories
   1. Johnsonite #DC-40 black.
   2. Flexco
   3. Musson
   4. Roppe
   5. Substitutions: Under provision of Section 01600 and Instructions to Bidders.

C. Leveling Compound (Contractor must verify application thickness required with material to be used).
   1. Mapai Novaplan or M20
   2. Dura-Cap or Level-Right Plus by Maxxon Corporation

2.2 MATERIALS

A. Colors and Patterns: As shown or scheduled, or as selected by Architect from manufacturer's standards.

B. Vinyl Tile:
   1. FS SS-T-312B, Type IV, 12 x 12 x 1/8 inch gage, unless otherwise indicated.

C. Resilient Base: Provide continuous rubber base complying with FS SS-W-40A, Type I with matching end stops and preformed or molded corner units, and as follows:
   1. Height: 4 inches
   2. Thickness: 1/8 inch gage
   3. Style: Standard top-set cover
   4. NO 4' STRIPS ALLOWED.

D. Adhesives: Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions. Products by Mapai are approved for installation.

E. Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.

F. Waterproofing and anti-fracture membrane: Hydroment Blacktop 90210 or equal by Mapai shall be applied at control joints in slab before installing tile. The isolation membrane shall be compatible with the selected flooring adhesive and slab primer.

2.3 MAINTENANCE STOCK

A. At time of completing the installation, deliver stock of maintenance material to the Owner.

B. VCT: Furnish full size units matching the units installed, packaged with protective covering for storage, and identified with appropriate labels. Furnish 2% of each type installed. Round to the nearest unopened box. Material to be given to owner for storage and future use. Signed receipt required by owner's representative.

C. Wall Base: Furnish 100 linear feet of each type installed. Round to the nearest unopened box. Material to be given to owner for storage and future use. Signed receipt required by owner's representative

PART 3 EXECUTION

3.1 INSPECTING SURFACES FOR FINISH FLOORS

A. Early during construction, after concrete slabs are in place, begin to inspect all concrete floor slab areas to insure that the slab surfaces shall be provided level, smooth and true to line prior to providing finish floors specified herein.

B. Maintain a floor plan print, marked up with a pencil, indicating the concrete slab low spots and low areas observed.

C. Record areas on the print where standing water occurs after rain falls on the concrete slab.

D. Keep and maintain this floor plan print in the temporary Project office until prior to Substantial Completion and submit same to the Architect.

3.2 PREPARING FLOORS

A. Provide a Terrazzo grinder to grind down all the high spots on concrete slabs.

B. Remove all protruding coarse, concrete aggregate, concrete fins, trowel marks and other protruding slab imperfections.

C. Entirely remove and grind down all mortar and concrete droppings, and all other materials which could adversely affect the finish floor specified.

D. Scrape off, scrub, wash down and thoroughly clean off all mud and all other adverse materials.

3.3 SANDING FLOORS

A. Prior to providing any materials specified herein, machine sand the entire concrete slab where resilient tile materials are proposed to be provided.

B. Provide a special low speed electric buffer with a sanding disc attachment, with sanding discs, or similar electrically operated machine to sand the entire concrete floor slab surfaces and to remove all minor imperfections concrete slab curing compounds.

C. After providing final layer of latex materials specified herein, machine sand latex surfaces where resilient tile materials are proposed to be provided.

D. Feather edge all perimeters of latex underlayment.

3.4 TESTING CONCRETE FLOORS

A. After sanding concrete slab, test slab bonding compatibility with specified latex underlayment materials and with specified resilient floor adhesive materials in accordance with manufacturer's recommendations.

B. If bonding compatibility tests are not acceptable by the floor manufacturer's authorized representative, grind all no acceptable areas of the concrete slab with a Terrazzo grinder in accordance with the material manufacturer's recommendations.

C. Provide manufacturer's required moisture tests on all areas of concrete slabs in accordance with manufacturer's recommendations prior to providing latex underlayment, adhesives and resilient floor materials specified herein. (Moisture vapor transmission shall not exceed 5 pounds per 1,000 square feet per 24 hours, tested in accordance with ASTM F 1969).

D. Provide anhydrous calcium chloride quantitative tests on all areas of concrete slabs for pH readings in accordance with manufacturer's recommendations, prior to providing latex underlayment and resilient floor materials. (Surface pH shall not exceed 9).

E. Comply with all material manufacturer's test procedures, instructions and recommendations.

3.5 INSTALLING LATEX UNDERLAYMENT

A. Using the floor plan print specified above, fill all recorded holes and recorded low spots with the specified troweled cement latex underlayment.

B. Also check for concrete slab low spots and depressions with a six (6) foot metal straight edge and record same on the floor plan print.

C. Apply latex underlayment with a trowel in strict accordance with the approved specified latex manufacturer's recommendations, over all recorded concrete slab low spots and depressions.

D. Level latex underlayment with a metal straight edge, minimum 6 feet long, longer if necessary, depending on the irregularities of the unlevel concrete slab.

E. Rotate metal straight edge in all directions on all floor areas to insure that the latex underlayment is provided flat and true to line on all surfaces and in all areas.

F. In smaller rooms and areas, where a 6 foot straight edge cannot be used to level latex underlayment, provide maximum lengths of metal straight edges possible.

G. Insure that latex underlayment is thoroughly dried and cured prior to applying successive layers, in thicknesses in strict accordance with manufacturer's instructions.

H. Allow all layers and final layer of latex underlayment to cure in accordance with manufacturer's recommendations prior to beginning resilient tile work.

I. Provide extreme care to insure that floors are level and true to line adjacent walls because this is where a level, resilient finish base will have gaps between the bottom of the base and the top level of finish floor.

J. If after tiles are in place, the floor is found not to be level, remove all tile, tile adhesive, latex underlayment and start over.

3.6 INSTALLING RESILIENT FLOORS, BASES AND EDGE TREATMENT

A. Apply all adhesives with notched trowels at the adhesive manufacturer's recommended rate.

B. Do not allow build up of adhesive which may later squeeze through joints.

C. Lay tile to center of room or space and work to perimeter, laying tile not less than six (6") inches wide at perimeters if possible.

D. Snap chalk lines 1/4" below lines of tops of bases to provide a guide for applying rubber base adhesive.

E. Carefully provide base adhesive such that a solid layer of base adhesive is provided

after the rubber base is rolled and tightly adhered to the wall.

F. Fit all resilient floor and base materials neatly and tightly into breaks, recesses, around penetrating items and under saddles, thresholds and trim.

G. Heat and bend rubber bases around all bull nose corners on concrete blocks. Cut and miter bases neatly into interior corners.

H. Provide specified solid color resilient feature tile strips directly beneath all interior doors, full width, between all interior metal door frames and all metal cased opening framers. Colors of feature tile strips shall be as directed by the Architect.

I. Provide special different color resilient floor patters, borders and designs specified herein and indicated on the Drawings.

J. Provide additional latex underlayment under joints between resilient flooring and other floor materials and under joints between resilient flooring marble and metal thresholds and resilient edge treatment to insure a smooth transition and tight fitting joints between resilient floors and all other materials.

K. Clean completed work and protect same from traffic until Substantial Completion.

L. Remove floor materials, provide latex underlayment and replace with new materials where finished floor is not level and true to line.

M. Remove and replace all tiles and resilient materials which are scratched, marred, dented, cracked or broken, not aligned, fitted with non-uniform joints, placed over protruding aggregate or debris, spaced too far, from similar and dissimilar materials, and stained with materials which cannot be removed.

N. Provide resilient edge treatment on all edges of all resilient floor materials where resilient floors adjoin other different floor materials, as detailed on the Drawings, as specified herein, and as recommended by the edge treatment manufacturer, and as directed by the Architect.

3.7 REQUIRED RESILIENT TILE FLOOR REVIEW AND TILE REPLACEMENT (IF NECESSARY), AFTER OCCUPANCY

A. Resilient floors are usually installed after the Project is very near completion; hence, because of very light occupant traffic, the resilient floors usually appear to be acceptable immediately after installation whereby the Contractor receives payment from the Owner for same.

B. However, after Owner occupancy, with foot traffic when occupants begin walking on the floor, (and after Contractor has been paid, and has paid his subcontractor), sometimes, small pebbles are protruding upwards, and small resilient floor indentations are found, thus causing small tile cracks, which get progressively worse, and which are definitely, most unacceptable for this Project.

C. These imperfections are clearly observed after occupancy, and especially after the floor has been waxed.

D. The tile failure is usually caused solely by the failure of Contractor to properly level, sand, clean and prepare the concrete slab as specified herein.

E. If defective concrete surface preparation is detected by tile failure after Owner occupancy, and after the Contractor has been paid, the Contractor or his bonding company shall remove all damaged tile and replace same with tile from the same lot color number, so as to match color and pattern of adjacent tiles.

F. If replaced individual tiles do not match color and pattern of adjacent tiles, all tiles in the entire room or areas shall be removed and provided with new tile.

G. It has been witnessed in the past, where after Owner occupancy, that sometimes entire

resilient floors in the entire building had to be replaced because of Contractor failure to properly prepare and clean the concrete slab.

H. An acceptable resilient floor installation is a floor installation where the Contractor provided the entire concrete slab level, clean and properly prepared and after occupancy, foot traffic on a poorly provided concrete slab does not cause tile failure.

I. The Contractor is cautioned to thoroughly review every floor in every room and every area prior to providing resilient tile floor adhesives and resilient tile to avoid having to replace resilient tile and resilient tile floors.

END OF SECTION

SECTION 09900
PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation, painting, and finishing of exposed interior and exterior items and surfaces.
   1. Surface preparation, priming, and finish coats specified are in addition to shop-priming and surface treatments.
B. Paint exposed surfaces whether or not colors are designated in the schedules, except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.
C. Painting is not required on prefinished items, finished metal surfaces, concealed surfaces, operating parts, and labels.
   2. Labels: Do not paint over Underwriters Laboratories, Factory Mutual, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.2 SUBMITTALS

A. Samples for initial color selection in the form of manufacturer's color charts. After color selection, the Architect will furnish color chips for surfaces to be coated.
B. Samples for Verification Purposes: Provide samples of each color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate.

1.3 QUALIFICATIONS

A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to those indicated for the Project that have resulted in a construction record of successful in-service performance.
B. Single-Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats.

1.4 DELIVERY, STORAGE AND HANDLING

A. Field Samples: On wall surfaces and other exterior and interior components, duplicate finishes of prepared samples. Provide full-coat finish samples on at least 100 sq. ft. of surface.
   3. Final acceptance of colors will be from job-applied samples.
B. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label with the product trade name manufacturer's instructions.

C. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.
D. Project Conditions: Do not apply paint in snow, rain, fog, or mist, or when the relative humidity exceeds 85 percent, or at temperatures less than 5 deg F (3 deg C) above the dew point, or to damp or wet surfaces.
E. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 deg F (10 deg C) and 90 deg F (32 deg C).
F. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 deg F (7 deg C) and 95 deg F (35 deg C).

PART 2 PRODUCTS

2.1 MATERIALS

A. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
   1. Sherwin Williams.
   2. Devoe.
   3. Glidden.
   4. Benjamin Moore.
   5. Approved Equal.
B. Paint Materials, General: Provide block fillers, primers, finish coat materials, and related materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by the manufacturer, based on testing and field experience.
C. Material Quality: Provide the manufacturer's best-quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.
   4. Proprietary Names: Use of Sherwin Williams' proprietary product names to designate materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish the manufacturer's material data and certificates of performance for proposed substitutions.
D. Colors: Provide color selections made by the Architect from the manufacturer's full range of standard colors.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

E. Examine substrates and conditions under which painting will be performed for compliance with requirements. Do not begin application until unsatisfactory conditions have been corrected.
F. Coordination: Review other Sections in which primers are provided to ensure compatibility of the total systems for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
   5. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

G. Preparation: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items, if necessary, to completely paint the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.

H. Cleaning: Clean substrates of substances that could impair the bond of the various coatings. Remove oil and grease prior to cleaning. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

I. Surface Preparation: Clean and prepare surfaces to be painted according to the manufacturer's instructions for each particular substrate condition and as specified.

6. Provide barrier coats over incompatible primers or remove and reprime.
7. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
   a. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer before applying primer.
   b. Prime, stain, or seal wood to be painted immediately upon delivery. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling.
   c. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately upon delivery.
8. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop-coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with recommendations of the Steel Structures Painting Council.
   d. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents and touch up with the same primer as the shop coat.
9. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so that the surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

J. Materials Preparation: Carefully mix and prepare paint materials according to manufacturer's directions.

10. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
11. Use only thinners approved by the paint manufacturer and only within recommended limits.

3.2 APPLICATION

A. Application: Apply paint according to manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

12. The number of coats and the film thickness required are the same regardless of the application method. Do not apply succeeding coats until previous coat has

cured. Sand between applications where sanding is required to produce an even smooth surface.

13. Apply additional coats if undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance.
14. The term exposed surfaces includes areas visible when permanent or built-in fixtures are in place. Extend coatings in these areas to maintain system integrity and provide desired protection.
15. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with prime coat only.
16. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.

B. Inspection of Painting: The Contractor shall notify the Architect after each coat of paint is applied in order to allow the Architect to inspect the application of each coat of paint. Subsequent coats of paint shall not be authorized until the Architect has inspected the previously applied coat of paint.

C. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable and before subsequent surface deterioration. Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried.

D. Application Procedures: Apply paints and coatings by brush, roller, spray or other applicators according to manufacturer's directions.

17. Brushes: Use brushes best suited for the material applied.
18. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
19. Spray Equipment: Use airless spray equipment with orifice size as recommended for the material and texture required.

E. Minimum Coating Thickness: Apply materials at the manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.

F. Prime Coats: Before applying finish coats, apply a prime coat to material to be painted or finished that has not been prime-coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

G. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with specified requirements.

H. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

20. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

I. Protection: Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.

J. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

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