

LANDER UNIVERSITY

Bathroom Renovations for BROOKSIDE APARTMENTS Building #1

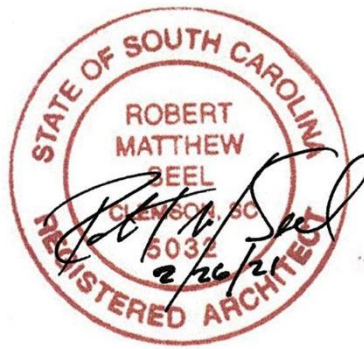
SPECIFICATIONS

2 / 26 / 21



RMS ARCHITECTURE

P.O. BOX 1414 CLEMSON, SC 29633



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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 Related Documents

- a. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to all other Sections unless noted otherwise.

1.2 Project Information

- a. Project Identification: Brookside Apartments, Building #1 Bathroom Renovations
- b. Project Location: Brookside Apartments, Lander University, Greenwood, SC
- c. Owner: Lander University, Greenwood, SC
- d. Owner's Representatives:
 - Jeff Beaver, Director of Engineering Services, Lander University
320 Stanley Avenue, Greenwood, SC 29649, (864) 388-8208
 - Robert M. Seel, AIA, Architect, RMSArchitecture,
P.O. Box 1414Clemson SC 29633, (864) 320-8441

1.3 Work Summary

Extensive renovation of shared bathrooms in residential suites.

- a. Scope indicated on Drawings

1.4 Work to include

- a. Demolition and removal of gypsum drywall walls and ceilings, wood doors and steel frames, lighting, plumbing fixtures, ceramic floor tile, ceiling framing.
- b. Ceiling framing
- c. Wood doors, steel door frames, and hardware
- d. Internal wood blocking for accessories
- e. Gypsum drywall walls and ceilings

f. Floor tile

g. Paint

1.5 Owner-Provided Items

Owner-provided items, such as fixtures and furnishings, may be delivered or stored on site. It is the Contractor's responsibility to protect these items from damage due to general construction activities until the Work is completed. Damaged items will be replaced by the Contractor if damages are caused by the Contractor's activities.

Owner-provided items that require collateral support or installation shall be indicated.

Owner-provided or performed work includes:

- a. Plumbing and piping renovations
- b. HVAC modifications to supply and exhaust ductwork, fans, etc.
- c. Installing new shower units and water closets
- d. Installing new vanity units with integral sink counter tops
- e. Accessories, towel bars, toilet paper holders

1.6 Access to Site

Contractor shall be afforded use of Project site limited to areas within the Contract limits indicated, as well as other areas necessary for the Work, such as electrical and mechanical rooms. Do not disturb portions of Project site beyond areas in which the Work is indicated.

Parking: Park in designated areas only. Vehicles located in areas other than approved parking areas must be attended or they will be subject to towing. Refer to University Guidelines, obtain and display the proper, University-issued parking permits.

Firearms: No firearms, concealed or otherwise, are permitted on the Clemson University campus.

Smoking, Tobacco, and Vapor Devices: Use of tobacco and vaping products on the Clemson University campus is prohibited.

1.7 Owner Occupancy

Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install furnishings and/or equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1.8 Substantial Completion

When a Work area has been inspected and approved by the Authority having Jurisdiction for the Owner's intended use, Architect will issue Notice of Substantial Completion prior to Owner acceptance of the completed Work. Mechanical and electrical systems shall be fully operational and required tests and inspections shall be successfully completed. Upon occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.

1.9 Work Restrictions

On-Site Work Hours: Limit work to normal business working hours Monday through Friday, except as otherwise indicated or granted for evenings and weekends. Refer to University Guidelines for work on weekend, evening, and early morning hours.

1.10 Miscellaneous Provisions

Contractor shall be responsible to monitor, police and control its employees and its subcontractors with regard to the following:

- a. No guns or weapons allowed on the project site.
- b. No drugs or alcohol allowed on the project site.
- c. Clothing, language and actions shall not be abusive, lewd or offensive to the general public on or near the project site.
- d. Proper and considerate use of University facilities is expected and shall not be abused.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION 011000

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 Summary: Section includes:

- a. Administrative and procedural requirements for substitutions.

1.2 Related Requirements:

- a. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 Definitions

Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1.4 Submittals

Substitution Requests: Submit product data 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. Highlight performance criteria for direct correlation and comparison to specified item.

1.5 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. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
- h. Research reports evidencing compliance with building code in effect for Project.
- i. 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.
- j. Cost information, including a proposal of change, if any, in the Contract Sum.
- k. 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.
- l. 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.

1.6 Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, 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.

1.7 Quality Assurance

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.

PART 2 - PRODUCTS

2.1 Substitutions

Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) days prior to time required for preparation and review of related submittals.

Substitutions for Convenience: Architect will consider requests for substitution if received within seven (7) days after the Notice to Proceed. Architect will consider Contractor's request for substitution when the following conditions are satisfied:

Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:

- a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- b. Requested substitution will not adversely affect Contractor's construction schedule.
- c. Requested substitution has received necessary approvals of authorities having jurisdiction.
- d. Requested substitution is compatible with other portions of the Work.
- e. Requested substitution has been coordinated with other portions of the Work.
- f. Requested substitution provides specified warranty.
- g. 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.

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PART 3 – EXECUTION

Not Used

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 – GENERAL

1.1 Summary: Section includes:

- a. Specifics of administrative and procedural requirements for handling and processing Contract modifications.

1.2 Minor Changes in the Work

Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, if required.

1.3 Proposal Requests

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.

Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.

Within 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 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.

Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.

- a. 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.
- b. 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.
- c. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
- 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. Comply with requirements in Division 01 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.

1.4 Proposal Request Form: Use AIA Document G709.

1.5 Allowances

Allowance Adjustment: To adjust allowance amounts, if Work includes allowances, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

- a. Include installation costs in purchase amount only where indicated as part of the allowance.
- b. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
- c. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.

- d. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit. Submit claims within twenty-one (21) days of receipt of the Change Order or Construction Change Directive authorizing work to proceed. Owner will reject claims submitted later than twenty-one (21) days after such authorization.

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

1.6 Change Order Procedures

On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor.

1.7 Construction Change Directive

Construction Change Directive: Architect may issue a Construction Change Directive on if required. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

- a. 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.
- c. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

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PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 Summary

This section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

Related Sections:

- a. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
- b. Division 01 Section "Project Closeout" for requirements precedent to final applications for payment.

1.2 Schedule of Values

Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's construction schedule. Correlate 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. Items required to be indicated as separate activities in Contractor's construction schedule

Submit the Schedule of Values to Architect at earliest possible date but no later than three days before the date scheduled for submittal of initial Applications for Payment.

Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of Contract Sum.

- a. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
- b. 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.

- c. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
- d. **Allowances:** Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
- e. 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.
- f. 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.
- g. **Schedule Updating:** Update the Schedule of Values before the next Application for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum. Change Orders and Change Directives shall be listed as single line items, and component aspects of the changes shall not be distributed among previous values.

1.3 Applications for Payment

Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

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

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.

- a. Entries shall match data on the Schedule of Values and Contractor's construction schedule. Use updated schedules if revisions were made.
- b. 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.
- c. Include amounts of Change Orders issued before last day of construction period covered by application.
- d. **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. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
- e. 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.

Transmittal: Submit signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within twenty-four (24) hours. One copy shall include waivers of lien and similar attachments if required.

Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

- a. List of subcontractors.
- b. Schedule of Values.
- c. Contractor's construction schedule (preliminary if not final).
- d. Schedule of Unit Prices.

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.

- a. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
- b. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work, if applicable.
- c. Upon Substantial Completion of the work, the Contractor shall transmit the Record Set of Contract Documents to the Architect along with a typed list of each change or revision made during construction of the project. This list shall include Change Order numbers, authorization dates, and other information relevant to each change. Record Drawings and Specifications must be received and approved prior to issuance of Final Payment.

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:

- a. Evidence of completion of Project closeout requirements, including submittal of Record Documents.
- b. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
- c. Updated final statement, accounting for final changes to the Contract Sum.
- d. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
- e. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
- f. AIA Document G707, "Consent of Surety to Final Payment."
- g. AIA Document G715, "Supplemental Attachment" to Accord Certificate of Insurance 255.
- h. Evidence that claims have been settled.
- i. Final liquidated damages settlement statement.

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PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.1 Summary: Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

- a. General project coordination procedures
- b. Administrative and supervisory personnel
- c. Coordination drawings
- d. Requests for Information (RFIs)
- e. Project meetings

1.2 General Project Coordination

Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

- a. Preparation of Contractor's construction schedule
- b. Preparation of the Schedule of Values
- c. Installation and removal of temporary facilities and controls
- d. Delivery and processing of submittals
- e. Progress meetings
- f. Preinstallation conferences
- g. Startup and adjustment of systems
- h. Project closeout activities

1.3 Requests for Information (RFIs)

General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

- a. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response
- b. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors

Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

- a. Project name and Project number
- b. Date
- c. Name of Contractor
- d. RFI number, numbered sequentially
- e. RFI subject
- f. Specification Section number and title and related paragraphs, as appropriate
- g. Drawing number and detail references, as appropriate
- h. Field dimensions and conditions, as appropriate
- i. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI
- j. Contractor's signature

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, and details of affected materials, assemblies, and attachments on attached sketches.

RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.

Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

The following RFIs will be returned without action:

- a. Requests for approval of submittals
- b. Requests for approval of substitutions
- c. Requests for coordination information already indicated in the Contract Documents
- d. Requests for adjustments in the Contract Time or the Contract Sum
- e. Requests for interpretation of Architect's actions on submittals
- f. Incomplete RFIs or inaccurately prepared RFIs

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.

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 01 Section "Contract Modification Procedures."

If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within ten (10) days of receipt of the RFI response.

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 (7) days if Contractor disagrees with response.

RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit and distribute log as current. Include the following:

- a. Project name

- b. Name and address of Contractor
- c. RFI number including RFIs that were dropped and not submitted
- d. RFI description
- e. Date the RFI was submitted
- f. Date Architect's response was received
- g. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate
- h. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate

1.4 Conferences and Meetings

Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

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 fifteen (15) days after execution of the Agreement. Conduct the conference to review responsibilities and personnel assignments.

Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Owner's Project Manager, Construction Manager, 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.

Agenda: Discuss items of significance that could affect progress, including the following:

- a. Tentative construction schedule, Phasing
- b. Critical work sequencing and long-lead items

- c. Designation of key personnel and their duties, Lines of communications
- d. Procedures for processing field decisions and Change Orders, Procedures for RFIs
- e. Procedures for testing and inspecting
- f. Procedures for processing Applications for Payment
- g. Distribution of the Contract Documents
- h. Submittal procedures, Sustainable design requirements, Preparation of Record Documents
- i. Use of the premises, Work restrictions, Working hours
- j. Owner's occupancy requirements
- k. Responsibility for temporary facilities and controls. Procedures for moisture and mold control
- l. Procedures for disruptions and shutdowns
- m. Construction waste management and recycling
- n. Parking availability
- o. Office, work, and storage areas
- p. Equipment deliveries and priorities
- q. First aid and Safety
- r. Security
- s. Progress cleaning

1.5 Preinstallation Conferences

Conduct a Preinstallation Conference at Project site before each construction activity that requires coordination with other construction.

Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Owner's Commissioning Authority, of scheduled meeting dates.

Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

- a. Contract Documents
- b. Options
- c. Related RFIs
- d. Related Change Orders
- e. Purchases
- f. Deliveries
- g. Submittals
- h. Review of mockups
- i. Possible conflicts
- j. Compatibility problems
- k. Time schedules
- l. Weather limitations
- m. Manufacturer's written recommendations
- n. Warranty requirements
- o. Compatibility of materials

- p. Acceptability of substrates
- q. Temporary facilities and controls
- r. Space and access limitations
- s. Regulations of authorities having jurisdiction
- t. Testing and inspecting requirements
- u. Installation procedures
- v. Coordination with other work
- w. Required performance results
- x. Protection of adjacent work
- y. Protection of construction and personnel

Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.

Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

1.6 Project Closeout Conference

Schedule and conduct a Project closeout conference, at a time convenient to Owner and Architect, but no later than fifteen (15) days prior to the scheduled date of Substantial Completion.

Conduct the conference to review requirements and responsibilities related to Project closeout.

Attendees: Authorized representatives of Owner, Owner's Project Manager, Owner's Commissioning Authority, Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

- a. Preparation of Record Documents
- b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance
- c. Submittal of written warranties
- d. Requirements for preparing sustainable design documentation
- e. Requirements for preparing operations and maintenance data
- f. Requirements for demonstration and training
- g. Preparation of Contractor's punch list
- h. Procedures for processing Applications for Payment at Substantial Completion and for final payment
- i. Submittal procedures
- j. Coordination of separate contracts
- k. Owner's partial occupancy requirements
- l. Installation of Owner's furniture, fixtures, and equipment
- m. Responsibility for removing temporary facilities and controls

1.7 Progress Meetings

Conduct progress meetings at weekly intervals.

Coordinate dates of meetings with preparation of payment requests.

Attendees: In addition to representatives of Owner, Owner's Project Manager, Owner's Commissioning Authority and 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.

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.

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.

Review schedule for next period.

Review present and future needs of each entity present, including the following:

- a. Interface requirements
- b. Sequence of operations
- c. Status of submittals
- d. Deliveries
- e. Off-site fabrication
- f. Access
- g. Site utilization

- h. Temporary facilities and controls
- i. Progress cleaning
- j. Quality and work standards
- k. Status of correction of deficient items
- l. Field observation
- m. Status of RFIs
- n. Status of proposal requests
- o. Pending changes
- p. Status of Change Orders
- q. Pending claims and disputes
- r. Documentation of information for payment requests

Schedule Updating: Revise Contractor's construction schedule after each Progress Meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION 013100

SECTION 013300 - ELECTRONIC SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 Summary: Section includes:

- a. Requirements for the administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.2 Definitions

Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.

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."

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.

1.3 Administrative Procedures

General: Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

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.

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.

Resubmittal Review: Allow 15 days for review of each resubmittal.

Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

- a. Project name

- b. Date
- c. Name and address of Architect
- d. Name of Contractor
- e. Name of firm or entity that prepared submittal
- f. Names of subcontractor, manufacturer, and supplier
- g. Specification Section number and title
- h. Location(s) where product is to be installed, as appropriate
- i. Related physical samples submitted directly
- j. Indication of full or partial submittal
- k. Other necessary identification
- l. Remarks

1.4 Delegated-Design Services (Engineered Shop Drawings)

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.

Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file of certificate, 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.

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.

1.5 Samples for Selection or 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.

1.6 Distribution

Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities.

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

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION 013300

SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 Summary: Section includes:

- a. Remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.

1.2 Materials Ownership

Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.

1.3 Quality Assurance

Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.

Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.

Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.

Safety and Health Standard: Comply with ANSI/ASSE A10.6.

1.4 Storage and Handling of Salvaged Materials

Salvaged materials as indicated are to be carefully removed and protected for future use by the Owner.

- a. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
- b. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.

- c. Store items in a secure area until delivery to Owner, or transport items to Owner's local storage area if known. Protect items from damage during transport and storage.

Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.

Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.

Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.

- a. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
- b. Secure stored materials to protect from theft.
- c. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg or more above the dew point.

PART 2 – PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 Utility and Communications Services:

Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.

Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.

Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.

Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.2 Protection from Fire

General: Follow fire-prevention plan and the following:

- a. Comply with NFPA 241 requirements unless otherwise indicated.
- b. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work. If combustible material cannot be removed, provide fire blankets to cover such materials.
- c. Heat-Generating Equipment and Combustible Materials: Not Allowed.

Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.

END OF SECTION 013516

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 Summary

Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed.

1.2 Qualifications, General:

Manufacturers, Fabricators, and Installers shall be experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance. Specific certifications may be required, as indicated.

PART 2 - PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION 014000

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 Summary: Section includes:

- a. Requirements for temporary utilities, support facilities, and security and protection facilities.

1.2 Use of Existing Facilities, Utilities and Accommodations

General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

Toilets: Provide temporary, portable toilet facilities for construction use. Maintain cleanliness and clean-out service on a regular basis so as to remain presentable and not be a nuisance.

Use of Owner's existing toilet facilities is permitted, unless expressly allowed by Client and confirmed by Owner's Project Manager. In this case, facilities are to be cleaned and maintained in a condition acceptable to Owner on a daily basis. At Substantial Completion, restore these facilities to condition existing before initial use.

Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV 8 at each return-air grille in system and remove at end of construction and clean HVAC system as required in Section 017700 "Closeout Procedures."

Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition on a daily basis acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.

- a. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

1.3 Safety

Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire prevention program.

Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

PART 2 - PRODUCTS

2.1 Field Office

If required, of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Field Office space may be designated within the area of the Work, as coordinated with Owner and Architect.

PART 3 - EXECUTION

3.1 General

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

Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.

Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution." Coordinate storage location with Owner.

3.2 Security and Protection Facilities Installation

Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

Egress: Maintain egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 Summary: Section includes:

- a. This 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; product substitutions; and comparable products.

1.2 Products

Items purchased 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.

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. These are often necessary to integrate with existing, campus-wide standards or to match adjacent products already installed.

New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.

Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, 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.

Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," 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 other named manufacturers.

1.3 Quality Assurance

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

Asbestos: No asbestos or asbestos-containing material may be incorporated into the Work.

1.4 Product Warranties

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.

PART 2 - PRODUCTS

2.1 Product Selection Procedures

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

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.

Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions to obtain Architect's approval for use of an "equal" product.

Basis-of-Design Products: Where Specifications name a product and include a list of manufacturers, provide the specified 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.

2.2 Product Substitutions

Requests for substitution following award of contract must comply with requirements of this article and are restricted to those necessitated by the following circumstances:

- a. Specified product is no longer available for purchase.
- b. Specified product is not available within schedule requirements of project.
- c. Specified product is not compatible with other product approved for project.
- d. Specified warranty is not available.

Timing: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

2.3 Comparable Products

Conditions: Architect will consider Contractor's request for comparable product 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. Evidence that the proposed product does not require extensive 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.
- b. 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.
- c. Evidence that proposed product provides specified warranty.
- d. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
- e. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 Summary: Section includes:

General administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

- a. Construction layout
- b. Installation of the Work
- c. Coordination of Owner-installed products
- d. Progress cleaning
- e. Starting and adjusting
- f. Protection of installed construction
- g. Correction of the Work

PART 2 – PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 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.

3.2 Preparation

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.

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

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 the Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."

3.3 Installation

General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

- a. Make vertical work plumb and make horizontal work level.
- b. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
- c. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- d. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.
- e. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- f. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- g. 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.

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

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.

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.

Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.

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.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 Summary: Section includes:

Administrative and procedural requirements for contract closeout, including, but not limited to, the following:

- a. Substantial Completion procedures
- b. Final Completion procedures
- c. Warranties
- d. Final cleaning

1.2 Substantial Completion Procedures

Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

Closeout Submittals: Prepare and submit documents and items including, as applicable:

- a. Project Record Documents
- b. Operation and Maintenance manuals
- c. Damage or settlement surveys
- d. Warranties
- e. Spare parts, extra materials, and similar items

1.3 Project Conditions

Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

Complete final cleaning requirements, including touchup painting.

Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

1.4 Inspection

Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected. Results of completed inspection will form the basis of requirements for final completion.

1.5 Final Completion Procedures

Certified List of Incomplete Items (Punch List): Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

Operations and Training: Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems as required.

Inspection: Submit a written request for final inspection to determine acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will notify Contractor to prepare the Final Application for Payment once the items on the List are satisfied.

PART 2 - PRODUCTS

2.1 Cleaning Agents

Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 Final Cleaning

Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

- a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
- b. Sweep paved exterior areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
- c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
- d. Remove tools, construction equipment, machinery, and surplus material from Project site.
- e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- g. Sweep concrete floors broom clean in unoccupied spaces.
- h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
- i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
- j. Remove labels that are not permanent.

- k. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- l. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- m. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- n. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- o. Leave Project clean and ready for occupancy.

END OF SECTION 017700

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 Summary: Section includes:

Administrative and procedural requirements for Project Record Documents, including the following:

- a. Record Drawings
- b. Record Specifications
- c. Record Product Data

1.2 Submittals

Record Drawings: Submit one set(s) of marked-up Record Prints.

Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

Record Product Data: Submit one copy of each Product Data submittal. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

Digital Files: Provide one copy of PDF electronic files of scanned record prints, record specifications, and record product data.

PART 2 - PRODUCTS

2.1 Record Drawings

Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
- b. Accurately record information in an understandable drawing technique.

- c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
- d. Scan completed Record Prints containing recorded changes and save data in current Windows file format required by Owner. Deliver files on CDROM or DVD media.

Content: Types of items requiring marking include, but are not limited to, the following as applicable:

- a. Dimensional changes to Drawings.
- b. Revisions to details shown on Drawings.
- c. Depths of foundations below first floor.
- d. Locations and depths of underground utilities.
- e. Revisions to routing of piping and conduits.
- f. Revisions to electrical circuitry.
- g. Actual equipment locations.
- h. Duct size and routing.
- i. Locations of concealed internal utilities.
- j. Changes made by Change Order or Construction Change Directive.
- k. Changes made following Architect's written orders.
- l. Details not on the original Contract Drawings.
- m. Field records for variable and concealed conditions.
- n. Record information on the Work that is shown only schematically.

Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.

Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

Mark important additional information that was either shown schematically or omitted from original Drawings.

Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

2.2 Record CAD Drawings

Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Architect. When authorized, prepare a full set of corrected CAD Drawings of the Contract Drawings, as follows:

Format: Same CAD program, version, and operating system as the original Contract Drawings.

Incorporate changes and additional information previously marked on Record Prints. Delete, redraw, and add details and notations where applicable.

Refer instances of uncertainty to Architect for resolution.

Architect will furnish Contractor one set of CAD Drawings of the Contract Drawings for use in recording information.

- a. Architect makes no representations as to the accuracy or completeness of CAD Drawings as they relate to the Contract Drawings.
- b. CAD Software Program: The Contract Drawings are available in AutoCad 2019

2.3 Newly Prepared Record Drawings

Prepare new Drawings instead of preparing Record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.

- a. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
- b. Consult Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.

2.4 Record Specifications

Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.

Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.5 Record Product Data

Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

Miscellaneous Record Submittals

Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 Recording and Maintenance

Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project. Annotate concurrently with construction progress, not less than weekly, to show actual revisions to the Work.

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

END OF SECTION 017839

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 Summary: Section includes:

- a. Demolition and removal of selected portions of building or structure and salvage of existing items to be reused or recycled.

1.2 Demolition Materials

Unless otherwise indicated, demolition waste becomes property of Contractor.

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

1.3 Field Conditions

Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

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

1.4 Hazardous Materials

It is not expected that hazardous materials will be encountered in the Work. However, 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.

1.5 Systems Maintenance

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

Maintain fire-protection facilities in service during selective demolition operations.

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

1.6 Regulations

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

Standards: Comply with ASSE A10.6 and NFPA 241.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

3.1 Utility Services and Mechanical/Electrical Systems

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

Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

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

3.2 Selective Demolition

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:

- a. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
- b. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
- c. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
- d. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- e. Dispose of demolished items and materials promptly.

3.3 Cleaning

Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

Do not allow demolished materials to accumulate on-site.

Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

Burning: Do not burn demolished materials.

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 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 Summary: Section includes:

- a. Hybrid polyurethane joint sealants.

1.2 Submittals

- a. **Product Data:** For each joint-sealant product

1.3 Field Conditions

Do not proceed with installation of joint sealants under the following conditions:

- a. When joint substrates are wet.
- b. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
- c. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.4 Warranty

- a. **Special Installer's Warranty:** Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

Warranty Period: Two years from date of Substantial Completion.

- b. **Special Manufacturer's Warranty:** Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

Warranty Period: Five years from date of Substantial Completion.

- c. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 - 1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 - 2. Disintegration of joint substrates from causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.

4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 Joint Sealants, General

- a. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- b. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 Hybrid Joint Sealants

Polyurethane Hybrid, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, acrylic latex joint sealant; ASTM C-920, Type S, Grade NS, Class 50, use NT, A, G, O

Products: Subject to compliance with requirements, provide one of the following:

- a. Dow Corning Corporation.
- b. GE Construction Sealants; Momentive Performance Materials Inc.
- c. Pecora Corporation
- d. Sika Corporation U.S. SikaHyflex-150LM (Basis of Design)

PART 3 - EXECUTION

3.1 Examination

Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.

Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Preparation

Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

- a. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
- b. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 1. Metal.
 2. Glass.
 3. Porcelain enamel.
 4. Glazed surfaces of ceramic tile.

Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 Installation of Joint Sealants

General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

- a. Do not leave gaps between ends of sealant backings.
- b. Do not stretch, twist, puncture, or tear sealant backings.
- c. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

Install sealants using proven techniques that comply with the following and at the same time backings are installed:

- a. Place sealants so they directly contact and fully wet joint substrates.
- b. Completely fill recesses in each joint configuration.
- c. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

- a. Remove excess sealant from surfaces adjacent to joints.
- b. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- c. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.4 Cleaning

Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 Protection

Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or

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deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079200

SECTION 081110 – STEEL DOOR FRAMES

PART 1 GENERAL

1.1 Section Includes

- A. Steel door frames.

1.2 Related Sections

- A. Section 081416 – Flush Wood Doors
- B. Section 087100 – Door Hardware
- C. Section 099123 – Interior Painting.

1.3 References

- A. ANSI A115.IG - Installation Guide for Doors and Hardware
- B. ANSI A250.8 - SDI-100 Recommended Specifications for Standard Steel Doors and Frames.
- C. ANSI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces
- D. ASTM A 366/A 366M - Standard Specification for Commercial Steel (CS) Sheet, Carbon, (0.15 Maximum Percent) Cold-Rolled.
- E. ASTM A 1008/A 1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable

1.4 Submittals

- A. 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.
- B. Shop Drawings: Include schedule identifying each unit, with door marks or numbers referencing drawings. Show layout, profiles, product components and anchorages.

1. Indicate frame configuration, anchor types and spacing, location of cutouts for hardware, reinforcement, to ensure doors and frames are properly prepared and coordinated to receive hardware.

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

1.5 Quality Assurance

- A. Manufacturer Qualifications: Minimum five years documented experience manufacturing products specified this Section.
- B. Installer Qualifications: Minimum five years documented experience installing products specified this Section.
- C. All products shall conform to the requirements of ANSI A250.8 Recommended Specifications for Standard Steel Doors and Frames".

1.6 Delivery, Storage, And Handling

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store frames in an upright position with heads uppermost under cover. Place on 4 inch high wood sills to prevent rust and damage. Store assembled frames five units maximum in a stack with 2 inch space between frames to promote air circulation.
- C. Do not use non-vented plastic or canvas shelters to prevent rust or damage.
- D. Should wrappers become wet, remove immediately.

1.7 Sequencing

- A. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
- B. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.8 Coordination

- A. Coordinate Work with other directly affected sections involving manufacture or fabrication of internal cutouts and reinforcement for door hardware, electric devices and recessed items.
- B. Coordinate Work with frame opening construction, door and hardware installation.

- C. Sequence installation to accommodate required door hardware.
- D. Verify field dimensions for factory assembled frames prior to fabrication.

PART 2 PRODUCTS

2.1 Manufacturers:

- A. Subject to compliance with requirements, provide doors and frames by one of the following:
 - 1. Amweld International, LLC.
 - 2. Ceco Door Products; an Assa Abloy Group company.
 - 3. Curries Company; an Assa Abloy Group company.
 - 4. Pioneer Industries, Inc.
 - 5. Republic Doors and Frames.
 - 6. Steelcraft; an Ingersoll-Rand company.
- B. Provide all steel door frames from a single manufacturer.

2.2 Door Frames

- A. General: Construct exterior/interior metal door frames to the following designs and gages;
 - 1. Interior Frames in stud wall construction: cold rolled steel, ASTM A 1008/A 1008M.
 - a. Thickness:
 - 1) 16 gage.
 - 2. Include galvanized components and internal reinforcements with galvanized frames.
- B. Steel Frames for Drywall:
 - 1. Profile:
 - a. Profile: 2 inches (51 mm) face dimension, 1/2 inch backbend with 5/16 inch return, 5/8 inch high stop, types and throat dimensions indicated.
 - 2. Provide following reinforcement and accessories:
 - a. Hinge preparation for 4-1/2 inches (114 mm) high, full mortise hinges, 0.134 inch or 0.180 inch leaf thickness.

- b. Strike preparation (single doors) for 4-7/8 inch universal strike; with plaster guard.
 - c. Closer reinforcement: minimum 14 gage steel.
 - d. Projection weld hinge and strike reinforcements to the door frame.
 - e. Provide metal plaster guards for all mortised cutouts.
 - f. Silencers. Prepare frames to receive inserted type door silencers, 3 per strike jamb on single doors, and 2 per head for pair of doors. Stick-on silencers are not permitted.
3. Anchors: Locate adjustable anchors in each jamb 4 inches from the top of the door opening to hold frame in rigid alignment.
- a. Provide 14 ga. pressure anchors used in conjunction with base floor clips as required.
4. Finish: Factory prime finish.

2.3 Accessories

- A. Anchors: Manufacturer's standard framing anchors, specified in manufacturer's printed installation instructions for project conditions.
- B. Plaster Guards: Same material as door frame, minimum 24 gage minimum; provide for all strike boxes.
- C. Silencers: Resilient rubber, Inserted type, three per strike jamb for single openings and two per head for paired openings. Stick-on silencers shall not be permitted except on hollow metal framing systems.

2.4 Fabrication

- A. Steel Frames:
 - 1. Factory-welded frames: Head and jamb intersecting corners mitered at 45 degrees, with back welded joints ground smooth.
 - a. Continuous face weld the joint between the head and jamb faces along their length either internally or externally. Grind, prime paint, and finish smooth face joints with no visible face seams.
 - b. Externally weld, grind, prime paint, and finish smooth face joints at meeting

mullions or between mullions and other frame members per a current copy of ANSI A250.8.

- c. Provide temporary steel spreaders (welded to the jambs at each rabbet of door openings) on welded frames during shipment. Remove temporary steel spreaders prior to installation of the frame.
- 2. Provide cutouts and reinforcements required for electrical and security components specified elsewhere in this specification.

2.5 Finishes

- A. Factory Prime Finish: Meet requirements of ANSI A250.10.

PART 3 EXECUTION

3.1 Examination

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that substrate conditions are acceptable for installation of doors and frames in accordance with manufacturer's installation instructions and technical bulletins.
- C. Verify door frame openings are installed plumb, true, and level.
- D. Select fasteners of adequate type, number, and quality to perform intended functions.
- 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.

3.3 Installation

- A. Install in accordance with manufacturer's instructions.
- B. Install frames plumb, level, rigid and in true alignment in accordance with ANSI A250.11, "Recommended Erection Instructions for Steel Frames" and ANSI A115.IG, "Installation Guide for Doors and Hardware".

- C. All frames other than slip-on types shall be fastened to the adjacent structure to retain their position and stability. Drywall slip-on frames shall be installed in prepared wall openings, and shall use pressure type and sill anchors to maintain stability.
- D. Where grouting is required in masonry installations, frames shall be braced or fastened
- E. Install doors to maintain alignment with frames to achieve maximum operational effectiveness and appearance. Adjust to maintain perimeter clearances as required. Shim as needed to assure the proper clearances are achieved.

3.4 Clearances

- A. Clearance between the door and frame head and jambs for both single swing and pairs of doors shall be 1/8 inch.
- B. Bottom clearance shall be 3/4 inch (Standard).
- C. The clearance between the face of the door and door stop shall be 1/16 inch to 1/8 inch.
- D. All clearances shall be, unless otherwise specified, subject to a tolerance of plus or minus 1/32 inch.

3.5 Adjusting and Cleaning

- A. Adjust doors for free swing without binding.
- B. Adjust hinge sets, locksets, and other hardware. Lubricate using a suitable lubricant compatible with door and frame coatings.
- C. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions before owner's acceptance.
- D. Remove from project site and legally dispose of construction debris associated with this work.

3.6 Protection

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 081110

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 Summary: Section includes:

- A. Structural Composite Lumber Core doors with HDF faces.

1.2 Submittals

Product Data: For each type of door. Include details of core and edge construction and trim for openings. Include factory-finishing specifications.

Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and the following:

- A. Dimensions and locations of blocking
- B. Dimensions and locations of mortises and holes for hardware
- C. Dimensions and locations of cutouts
- D. Undercuts

Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.

1.3 Delivery, Storage, and Handling

Comply with requirements of referenced standard and manufacturer's written instructions.

Package doors individually in cardboard cartons and wrap bundles of doors in plastic sheeting.

Mark each door on top and bottom rail with opening number used on Shop Drawings.

Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during remainder of construction period.

1.4 Warranty

Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

- A. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
- B. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.

Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.

Warranty Period for Solid-Core Interior Doors: Life of installation.

1.5 Warranty

Special Warranty: Certify that door construction is specially suited to withstand hot and damp environments.

PART 2 - PRODUCTS

2.1 Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- A. Algoma Hardwoods, Inc.
- B. Eggers Industries
- C. Graham Wood Doors; an Assa Abloy Group company
- D. VT Industries, Inc.

2.2 Source Limitations: Obtain flush wood doors from single manufacturer.

2.3 Flush Wood Doors, General

Quality Standard: In addition to requirements specified, comply with AWT's, AWMAC's, and WI's "Architectural Woodwork Standards."

Contract Documents contain selections chosen from options in quality standard and additional requirements beyond those of quality standard. Comply with those selections and requirements in addition to quality standard.

2.4 Veneer-Faced Doors for Opaque Finish

- A. **Grade:** Premium.
- B. **Veneer:** High-Density Fiberboard (HDF)

C. Exposed Vertical and Top Edges: High-Density Fiberboard (HDF)

D. Core: Structural Composite Lumber (SCL)

E. Construction: Single ply faces. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering. Faces are bonded to core using a hot press.

2.5 Fabrication

Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.

Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.

Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.

2.6 Finishing

General: Comply with referenced quality standard for field finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.

Seal and Finish faces, all four edges, edges of cutouts, and mortises.

Field finish doors with opaque painted finish:

A. Grade: Premium.

B. Sheen: Semigloss

PART 3 - EXECUTION

3.1 Examination

Examine doors and installed door frames, with Installer present, before hanging doors.

Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.

Reject doors with defects.

3.2 Installation

Hardware: For installation, see Section 087100 "Door Hardware."

Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.

Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.

3.3 Adjusting

Operation: Rehang or replace doors that do not swing or operate freely.

Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 083113 – ACCESS DOORS AND FRAMES

PART 1 – GENERAL

1.1 Summary: Section includes:

Access doors and frames for walls.

1.2 Submittals

Product Data: For each type of product:

Include construction details, fire ratings, material descriptions, dimensions of individual components and profiles, and finishes.

PART 2 – PRODUCTS

2.1 Manufacturers: Subject to compliance with criteria indicated, provide products by one of the following:

- a. Best Access
- b. Babcock-Davis
- c. Nystrom
- d. Williams Brothers Corporation of America

2.2 Access Doors and Frames

- a. **Description:** Face of door flush with frame, drywall flange frame
- b. **Door Sizes:** As indicated on Drawings.
- c. **Steel Sheet:**
 1. **Door Material:** Nominal 16 gauge. Fold on all four sides for structural rigidity.
 2. **Finish:** Paintable White; powder-coat.
- d. **Latch and Lock:** Cam latch, key operated.

PART 3 – EXECUTION

3.1 Examination

- a. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- b. Proceed with installation only after unsatisfactory conditions have been corrected.

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3.2 Installation

Comply with manufacturer's written instructions for installing access doors and frames.

3.3 Adjusting

Adjust doors and hardware, after installation, for proper operation.

END OF SECTION 083113

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 Summary: This Section includes mechanical door hardware for interior doors.

1.2 Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and of an Architectural Hardware Consultant who is available during the course of the Work to consult Contractor, Architect, and Owner about door hardware and keying.

1.3 Delivery, Storage, and Handling

Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.

Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

Deliver key blanks and permanent cores to University's Project Manager for installation of permanent keying by University Locksmith.

1.4 Warranty

Special Warranty: Manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:

- A. Structural failures including excessive deflection, cracking, or breakage.
- B. Faulty operation of doors and door hardware.
- C. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

Warranty Period: one (1) year from date of Substantial Completion.

1.5 Existing Door Hardware

Existing hardware on doors to be removed or modified shall be protected and salvaged to Owner. Some existing hardware may be relocated and re-used as acceptable to Owner's Project Manager and Architect.

PART 2 - PRODUCTS

2.1 Manufacturers

Obtain each type of door hardware from single manufacturer.

2.2 Scheduled Door Hardware

Provide products for each door that comply with requirements indicated and as listed in the Door Hardware Schedule.

2.3 Hinges

BHMA A156.1. Provide template-produced hinges for hinges installed on hollow steel and solid wood doors and hollow-metal frames.

Basis-of-Design Product: Subject to compliance with requirements, provide per University Standard.

Manufacturer: Standard Hinges: McKinney Full-Mortise, 5-knuckle

Manufacturer: Spring Hinges: McKinney Full-Mortise, 3-knuckle, adjustable

Material: 304 Stainless Steel

Finish: 32D, 26D

2.4 Mechanical Locks and Latches

Lock Functions: As indicated in Door Hardware Schedule

Basis-of-Design Product: Subject to compliance with requirements, provide per University Standard.

Manufacturer: Stanley Security Solutions: Best Hardware

Series: 45H Series, 7 Core Housing

Lever/Knob Style: 17 with "J" trim

Finish: 626 stain chrome

Lock Cylinders

Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver. 7-pin interchangeable core and cylinder.

2.5 Frame Silencer Bumpers

General: Round, molded brown rubber with conical insert, press fit into 1/4-inch hole in frames.

Manufacturers:

A. Stanley

B. Ives

C. PDQ Manufacturing

Color: Light grey

2.11 Half-dome Floor Stops

General: Round, molded grey rubber with concave insert with 2 1/2-inch trim ring.

Manufacturers:

A. Stanley

B. Ives

C. PDQ Manufacturing

Finish: 626 stain chrome

PART 3 - EXECUTION

3.1 Examination

Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance of the Work.

Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Preparation

Steel Doors and Frames: For surface-applied and mortised door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.

Wood Doors: Comply with door and hardware manufacturers' written instructions.

3.3 Installation

Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.

Wood Doors: DHI's "Recommended Locations for Architectural Hardware for Wood Flush Doors."

Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.

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

Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

Hinges: Install types and in quantities indicated in door hardware schedule, but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

3.4 Adjusting

Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.5 Cleaning and Protection

Clean adjacent surfaces soiled by door hardware installation.

Clean operating items as necessary to restore proper function and finish.

Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DOOR HARDWARE SCHEDULE

Sets indicated below are for criteria use. Final Hardware Sets to be prepared by Contractor's qualified Architectural Hardware Consultant, certified by the Door and Hardware Institute.

Set No. 1	Door 118B
1 1/2 Pr.	Hinges
1	Privacy lock with visual indicator
1	Floor stop
3	Silencers

END OF SECTION 087100

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 Summary: Section includes:

- a. Moisture-resistant interior gypsum board for walls and ceilings

1.2 Related Requirements:

- a. Section 092216 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.
- b. Section 093013 "Ceramic Tiling" for cementitious backer units installed as substrates for ceramic tile.

1.3 Field Conditions:

Delivery, Storage and Handling: Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

PART 2 - PRODUCTS

2.1 Gypsum Board, General: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

Manufacturer: Subject to compliance with requirements, provide product by one of the following:

- a. American Gypsum
- b. CertainTeed Corporation
- c. Georgia-Pacific Building Products
- d. National Gypsum Company
- e. USG

2.2 Mold and Moisture Resistant Interior Gypsum Wallboard: ASTM C 1396 & ASTM D 3273

- a. Core: Regular gypsum core

- b. Surface paper: Moisture and mold resistant
- c. Long Edges: Tapered
- d. Overall thickness: 5/8 inch

2.4 Trim Accessories

Interior Trim: ASTM C 1047. Galvanized or aluminum-coated steel sheet, rolled zinc.

- a. Cornerbead
- b. LC-Bead: J-shaped; exposed long flange receives joint compound
- c. L-Bead: L-shaped; exposed long flange receives joint compound

2.5 Joint Treatment Materials: Comply with ASTM C 475/C 475M.

Joint Tape:

- a. **Interior Gypsum Board:** Paper
- b. **Tile Backing Panels:** As recommended by panel manufacturer

Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.

Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.

Fill Coat: For second coat, use setting-type, sandable topping compound.

Finish Coat: For third coat, use setting-type, sandable topping compound.

2.6 Fiberglass Reinforced Plastic (FRP) Panels : Comply with ASTM D-5319. Panels composed of fiberglass and calcium carbonate filled polyester resin. Chemical and thermal shock-resistant, USDA Certified, Class A, per ASTM E-84. Mold, mildew, and corrosion resistant.

Basis of Design: Based on conformance with requirements provide FRP system panels and accessories by a single manufacturer. Nudo FiberLite LP-FR9.

Surface: Pebble embossed.

Color: Selected by Architect from manufacturer's standard colors.

Panel Width: 48 inches.

Panel Height: Top of acrylic shower unit to ceiling.

Panel Thickness: 0.090 inch.

PART 3 - EXECUTION

3.1 Examination

Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Applying and Finishing Panels: Comply with ASTM C 840.

Attachment to Wood or Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

Fasteners: Steel drill screws

Install panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

Form control and expansion joints with space between edges of adjoining gypsum panels.

Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.

Fit gypsum panels around ducts, pipes, and conduits.

Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.

Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 Applying Fiberglass Reinforced Panels

General: Install panels vertically oriented, fully adhered to smooth-finished gypsum board substrate. Gypsum board surfaces shall be taped and filled smooth, without bumps, puckers, or irregular surfaces.

Adhesives shall be fully applied per FRP manufacturer's recommendations directions for adhesive type and coverage.

Panel trim accessories shall be fully set into continuous bed of silicone sealant.

3.4 Installing Trim Accessories

General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

3.5 Finishing Gypsum Board

General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

Prefill open joints, rounded or beveled edges, and damaged surface areas.

Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

- a. Level 1: Unexposed ceiling plenum areas, concealed areas, and where indicated
 - b. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
- Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.6 Protection

Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

Remove and replace panels that are wet, moisture damaged, and mold damaged.

Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.

Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

3.7 Cleaning – Fiberglass Reinforced Panels (FRP)

Clean FRP assemblies with a clean, damp, non-abrasive cotton cloth and a mild liquid detergent or household cleaner. Always rinse with clean water and a clean, non-abrasive cotton cloth. Dry the panels with a soft, clean, non-abrasive cotton cloth.

Do not use abrasive cleaners with bleach, cleaners with acid, alkali or sodium hypochlorite.

END OF SECTION 092900

SECTION 093013 - CERAMIC TILING

PART 1 GENERAL

1.1 Summary: Section includes:

- a. Tile and Trim and Setting Materials:
 - 1. Body-Matched Porcelain.
 - 2. Setting Materials.

1.2 Performance Requirements

- a. Dynamic Coefficient of Friction: Tile on walkway surfaces that will be wet shall provide the following values as determined by testing in conformance with DCOF BOT 3000.
 - 1. Level Surfaces: Minimum of 0.42 (Wet).

1.3 Submittals

- a. 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.
- b. Manufacturer's Certificate:
 - 1. Certify that products meet or exceed specified requirements.
 - 2. For each shipment, type and composition of tile provide a Master Grade Certificate signed by the manufacturer and the installer certifying that products meet or exceed the specified requirements of ANSI A137.1.
- c. Maintenance Data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1.4 Quality Assurance

- a. Installer Qualifications: Company specializing in performing the work of this section with minimum two years of experience.
- b. Single Source Responsibility: Obtain each type and color of tile from a single source. Obtain each type and color of mortar, adhesive and grout from the same source.

1.5 Delivery, Storage, and Handling

- a. Deliver and store products in manufacturer's unopened packaging until ready for installation.

- b. Protect adhesives and liquid additives from freezing or overheating in accordance with manufacturer's instructions.
- c. Store tile and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing or overheating.

1.6 Environmental Requirements

- a. Do not install adhesives in an unventilated environment.
- b. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during tiling and for a minimum of 7 days after completion.

1.7 Extra Materials

- a. Provide for Owner's use a minimum of 2 percent of the primary sizes and colors of tile specified, boxed and clearly labeled. Tiles will vary from lot to lot and material may not match upon reorder.

PART 2 PRODUCTS

2.1 Manufacturers

- a. Basis-of-Design Manufacturer: As indicated in Finish Schedule
- b. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 Tile

- a. General: Provide tile that complies with ANSI A137.1 for types, compositions and other characteristics indicated. Provide tile in the locations and of the types, colors and pattern indicated on the Drawings and identified in the Finish Schedule on Drawings. Tile shall also be provided in accordance with the following:
 - 1. Factory Blending: For tile exhibiting color variations within the ranges selected under Submittal of samples, blend tile in the factory and package so tile taken from one package shows the same range of colors as those taken from other packages in the same caliber and shade.
- b. BodyMatch Porcelain Tile:
 - 1. Product: As indicated in Finish Schedule
 - 2. Water Absorption: Less than .5 percent to less than 20 percent.

3. Sizes: As indicated in Finish Schedule
4. Edge Detail: Rectified
5. Surface Finish: Honed satin
6. Colors: As indicated in Finish Schedule
7. Pattern: As indicated on the Drawings.

2.3 Trim Accessories

- a. Aluminum trim extrusions by Schluter or similar as approved by Architect

1. Edge Trim – Jolly. Top of wall base tile.

2.4 Setting Materials

- a. Organic Adhesive: ANSI A136.1, thinset bond type; use Type I in areas subject to prolonged moisture exposure.
- b. Epoxy Adhesive: ANSI A118.3, thinset bond type.
- c. Mortar Bond Coat Materials:
 1. Dry-Set Portland Cement type: ANSI A118.1.
 2. Latex-Portland Cement type: ANSI A118.4.
 3. Epoxy: ANSI A118.3, 100 percent solids.
- d. Standard Grout: Cement grout, sanded or unsanded, as specified in ANSI A118.6; color as selected.
- e. Polymer modified cement grout, sanded or unsanded, as specified in ANSI A118.7; color as selected.
- f. Epoxy Grout: ANSI A118.8, 100 percent solids epoxy grout; color as selected.
- g. Cleavage Membrane:
 1. No. 15 (6.9 kg) asphalt saturated felt, ASTM D226, Type 1.
 2. Polyethylene film, ASTM D4397, 4.0 mil thickness.

PART 3 EXECUTION

3.1 Examination

- a. Verify that wall surfaces are free of substances which would impair bonding of setting materials, smooth and flat within tolerances specified in ANSI A137.1, and are ready to receive tile.
- b. Verify that sub-floor surfaces are dust-free, and free of substances which would impair bonding of setting materials to sub-floor surfaces, and are smooth and flat within tolerances specified in ANSI A137.1.
- c. Verify that concrete or wood sub-floor surfaces are ready for tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer.
- d. Verify that required floor-mounted utilities are in correct location.

3.2 Preparation

- a. Protect surrounding work from damage.
- b. Remove any curing compounds or other contaminants.
- c. Vacuum clean surfaces and damp clean.
- d. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- e. Install cementitious backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of dry-set mortar to a feather edge.
- f. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.3 Installation - General

- a. Install tile and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and TCA Handbook recommendations.
- b. Lay tile to pattern indicated. Arrange pattern so that a full tile or joint is centered on each wall and that no tile less than 1/2 width is used. Do not interrupt tile pattern through openings.

- c. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- d. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
- e. Form internal angles square.
- f. Install non-ceramic trim in accordance with manufacturer's instructions.
- g. Sound tile after setting. Replace hollow sounding units.
- h. Keep expansion joints free of adhesive or grout. Apply sealant to joints.
- i. Allow tile to set for a minimum of 48 hours prior to grouting.
- j. Grout tile joints. Use standard grout unless otherwise indicated.
- k. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.4 Installation - Floors - Thin-Set Mortar Methods

- a. Over interior wood substrates install in accordance with TCNA Handbook Method for commercial applications, latex-portland cement bond coat, with standard grout. Consult Architect for underpayment method once demolition to subfloor is accomplished and conditions are considered.

3.5 Cleaning

- a. Clean tile and grout surfaces.

3.6 Protection of Finished Work

- a. Do not permit traffic over finished floor surface for 72 hours after installation.
- b. Cover floors with kraft paper and protect from dirt and residue from other trades.
- c. Where floor will be exposed for prolonged periods cover with plywood or other similar type walkways.

END OF SECTION 093013

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 Summary

Section includes surface preparation and the application of paint systems on interior substrates.

- a. Steel and iron.
- b. Wood.
- c. Gypsum board.

1.2 Quality Assurance

Field Samples (Mock-ups): As directed, apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

Architect will select one surface to represent surfaces and conditions for application of each paint system.

Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.

Final approval of color selections will be based on mockups.

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.3 Delivery, Storage, and Handling

Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

- a. Maintain containers in clean condition, free of foreign materials and residue.
- b. Remove rags and waste from storage areas daily.

1.4 Field Conditions

Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 Manufacturers: Subject to compliance with requirements, provide products by one of the following:

Basis-of-Design Product: Paints shall match the color and sheen of selections indicated field samples (mock-ups), and are subject to review and acceptance based on Sherwin-Williams color samples.

Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

- a. Benjamin Moore & Co.
- b. PPG Architectural Finishes, Inc.
- c. Sherwin-Williams Company

2.2 VOC Content: For field applications that are inside the weatherproofing system, paints and coatings shall provide materials that comply with VOC limits of authorities having jurisdiction and for interior paints and coatings applied at Project site, the following VOC limits exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

- a. Flat Paints and Coatings: 50 g/L.
- b. Nonflat Paints and Coatings: 150 g/L.
- c. Primers, Sealers, and Undercoaters: 200 g/L.
- d. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.

2.3 Products: See finish schedule on drawings for paint colors and finish.

- a. Walls and ceilings and gypsum board surfaces with semigloss finish:

Primer: Sherwin-Williams ProMar 200 Zero-VOC Interior Latex Primer

2 coats: Sherwin-Williams HP ProMar 200 Zero VOC Acrylic Latex Semi-gloss

b. Ferrous metal door frames and accessories:

Primer: Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer

2 coats: Sherwin-Williams Pro Industrial Acrylic Semi-Gloss

c. Flush wood doors:

Primer: Sherwin-Williams ProMar 200 Zero-VOC Interior Latex Primer

2 Coats: Sherwin-Williams Pro Industrial Pre-Catalyzed Waterbased Epoxy Semi-Gloss

PART 3 - EXECUTION

3.1 Examination

Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.

Proceed with coating application only after unsatisfactory conditions have been corrected.

Application of coating indicates acceptance of surfaces and conditions.

3.2 Preparation

Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

Sand previously painted gloss and semi-gloss surfaces for improved adhesion of new primer coating.

After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

3.3 Application

Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."

Use applicators and techniques suited for paint and substrate indicated.

Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.

Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.

Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

- a. Paint the following work where exposed in occupied spaces:
 1. Equipment, including panelboards.
 2. Uninsulated metal piping.
 3. Uninsulated plastic piping.
 4. Pipe hangers and supports.
 5. Metal conduit.
 6. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 7. Other items as directed by Architect.
- b. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 Field Quality Control

Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

- a. Contractor shall touch up and restore painted surfaces damaged by testing.
- b. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 Cleaning and Protection

At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

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

END OF SECTION 099123

SECTION 102800 – TOILET ACCESSORIES

PART 1 GENERAL

1.1 Section includes Toilet and Washroom Accessories:

- a. Mirrors
- b. Toilet Paper Holders
- c. Towel Bars
- d. Robe Hooks

1.2 Related Requirements

- a. Section 092900 - Gypsum Board, coordination with blocking.

1.3 Submittals

- a. Product Data: Submit manufacturer's data sheets for each product specified, including the following:
 - 1. Installation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Cleaning and maintenance instructions.
 - 4. Replacement parts information.

1.4 Quality Assurance

- a. Manufacturer: Provide products manufactured by a company with a minimum of 10 years successful experience manufacturing similar products.
- b. Single Source Requirements: To the greatest extent possible provide products from a single manufacturer.
- c. Accessibility Requirements: Comply with requirements applicable in the jurisdiction of the project, including but not limited to ADA and ICC/ANSI A117.1 requirements as applicable.

1.5 Delivery, Storage, and Handling

- a. Deliver, store and handle materials and products in strict compliance with

manufacturer's instructions and recommendations. Protect from damage.

1.6 Warranty

- a. Manufacturer's Warranty for Toilet and Washroom Accessories: Manufacturer's standard 1 year warranty for materials and workmanship.
- b. Manufacturer's Warranty for Electric Hand Dryers: Manufacturer's standard 5 year warranty for materials and workmanship.

PART 2 PRODUCTS

2.1 Manufacturer

- a. Basis of Design: Bobrick Toilet and Washroom Equipment, Inc. ASI comparable.

2.2 Mirrors

- A. Framed mirror units with concealed fastenings and mounts
 1. Basis of Design: Bobrick Series 165-1836
 - a. 18: w x 36" h
- B. Channel frame: 1/2-inch x 1/2-inch x 3/8-inch, 430 stainless steel with bright polished finish and mitered corners
 1. Glass: No. 1 quality, 1/4-inch thick.
 2. Warranty: 15 years against silver spoilage

2.3 Toilet Paper Holders

- a. Basis of Design: Bobrick B-685
 1. Surface mounted with concealed wall plates
 2. Capacity: Single roll
 3. Construction: Type 304, heavy gauge, polished stainless steel with chrome-plated plastic spindle.
 4. Mounting Brackets: 16 gauge stainless steel

2.4 Towel Bars

- a. Basis of Design: Bobrick Model B-674
 - 1. Surface mounted with concealed wall plates.
 - 2. Construction Type: 18-8, Type 304, 22 gauge, polished stainless steel.
 - 3. Mounting Brackets: 16 gauge stainless steel
 - 4. Towel Bar: 18-8, Type 304, polished stainless steel. 3/4" diameter.
 - 5. Lengths – See drawings for locations indicated
 - A. B-674 x 18 – 18" long
 - B. B-674 x 24 – 24" long

2.5 Robe Hooks

- a. Basis of Design: Bobrick Model B-7671
 - 1. Surface mounted with concealed wall plate.
 - 2. Construction Type: 18-8, Type 304, 22 gauge, polished stainless steel.
 - 3. Mounting Brackets: 18 gauge stainless steel

PART 3 EXECUTION

3.1 Installation

- a. Install products in strict compliance with manufacturer's written instructions and recommendations, including the following:
 - 1. Verify blocking has been installed properly.
 - 2. Verify location does not interfere with door swings or use of fixtures.
 - 3. Comply with manufacturer's recommendations for backing and proper support.

4. Use fasteners and anchors suitable for substrate and project conditions. Screw fasteners shall be length to provide minimum 3/4" embed into solid wood blocking or door.
5. Install units rigid, straight, plumb, and level, in accordance with manufacturer's installation instructions and approved shop drawings.
6. Conceal evidence of drilling, cutting, and fitting to room finish.
7. Test for proper operation.

3.2 Cleaning and Protection

- a. Clean exposed surfaces of compartments, hardware, and fittings.
- b. Touch-up, repair or replace damaged products until Substantial Completion.

END OF SECTION 102800