



Office of General Services

DESIGN & CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242

ADDENDUM NO. 1 TO PROJECT NO. 47230

CONSTRUCTION, HVAC, PLUMBING AND ELECTRICAL WORK
RENOVATE WARD BATHROOMS, BUILDING 5
NEW YORK PSYCHIATRIC INSTITUTE
1051 RIVERSIDE DRIVE
NEW YORK, NY

August 26, 2025

<p>NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual. Acknowledge receipt of this Addendum in the space provided on the Bid Form.</p>
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CONSTRUCTION WORK - SPECIFICATIONS

1. Section 087100 FINISH HARDWARE: Discard the section bound in the Project Manual and substitute the accompanying section (Pages 087100-1 thru 087100-13) noted "Revised 8/25/2025".
2. Section 093013 CERAMIC TILE: Discard the section bound in the Project Manual and substitute the accompanying section (Pages 093013-1 thru 093013-7) noted "Revised 8/25/2025".

END OF ADDENDUM

Brady M. Sherlock, P.E.
Director, Division of Design
Design & Construction

SECTION 087100

FINISH HARDWARE

PART 1 GENERAL

1.01 REFERENCES

- A. NFPA 80 Fire Doors and Windows (2007).
- B. NFPA 101 Life Safety Code (2006).
- C. Building Code of New York State (2010).
- D. ICC/ANSI A117.1-2003 Accessible and Usable Buildings and Facilities.
- E. ANSI/BHMA Standard A156.1 Butts and Hinges (2006).
- F. ANSI/BHMA Standard A156.4 Door Controls – Closers (2008).
- G. ANSI/BHMA Standard A156.6 Architectural Door Trim (2005).
- H. ANSI/BHMA Standard A156.7 Template Hinge Dimensions (2009).
- I. ANSI/BHMA Standard A156.8 Door Controls – Overhead Stops and Holders (2005).
- J. ANSI/BHMA Standard A156.13 Mortise Locks and Latches Series 1000 (2005).
- K. ANSI/BHMA Standard A156.16 Auxiliary Hardware (2008).
- L. ANSI/BHMA Standard A156.18 Materials and Finishes (2006).
- M. ANSI/BHMA Standard A156.22 Door Gasketing Systems (2005).
- N. ANSI/BHMA Standard A156.26 Continuous Hinges (2006).
- O. DHI - Door and Hardware Institute.
- P. NAAM Standard HMMA 800-96- Hollow Metal Manufacturers Association.
- Q. NAAM Standard HMMA 831-97 Recommended Hardware Locations for Custom Hollow Metal Doors and Frames.
- R. 2010 Standards for State and Local Government Facilities: Title II.

1.02 DEFINITIONS

- A. Architectural Hardware Consultant (AHC): A Door and Hardware Institute certified expert in complex architectural openings requiring advanced knowledge of model building codes and safety standards, ADA requirements, access control knowledge and installation expertise.
- B. Architectural Hardware Distributor: A company that regularly purchases architectural hardware from manufacturers and specializes in the sale, service and support of that hardware to contractors and/or end users.
- C. Company Field Advisor(s): Hardware manufacturers' representatives who are certified in writing by manufacturer to be technically qualified in design, installation, and servicing of products.
- D. Installation Supervisor: Designated supervisor/installer, who has a minimum three years experience in finish hardware installation, and is qualified and responsible to ensure approved finish hardware is installed, adjusted, and operates properly.
- E. Benchmark: Finish hardware installed on full size door and frame assembly that is constructed on-site. Benchmarks are constructed to verify qualities of materials and execution; to review coordination between frames, doors, and architectural hardware; to show interface between partitions and frames; and to demonstrate compliance with specified installation tolerances. Benchmarks are not samples. Unless otherwise indicated, approved benchmarks establish the standard by which the Work will be judged. The approved benchmark may be incorporated into the work of this section.

1.03 SUBMITTALS

- A. Waiver of Submittals: The Waiver of Certain Submittal Requirements in Section 013300 does not apply to this Section.
- B. Re-Evaluation Fee: In accordance with the General Conditions 07213 Article 4.7.
- C. Submittal Package Cover Sheets: The Hardware Distributor shall provide a cover sheet, which identifies each package by:
 - 1. OGS project number.
 - 2. Project name.
 - 3. Facility name and location.
 - 4. Submittal Package name.
 - 5. Specification section name and number.
 - 6. Construction Contractor's company name, address, e-mail address, and telephone number.
 - 7. Finish Hardware Distributor's company name, address, e-mail address, and telephone number.
 - 8. Certified Architectural Hardware Consultant's name, company name, address, e-mail address, and telephone number.
 - 9. Submittal Date.
- D. Submittal Packages

1. Quality Control Package: Do not submit balance of packages until this package is approved.
 - a. Architectural Hardware Consultant Data:
 - 1) Provide name, business address, and telephone number of DHI certified Architectural Hardware Consultant.
 - 2) Submit photocopy of Door and Hardware Institute's certificate demonstrating individual is an Architectural Hardware Consultant.
 - b. Company Field Advisor Data:
 - 1) Provide name, business address, and telephone number of Company Field Advisor(s) for continuous hinges, door bolts, locksets, overhead stops, door closers, and gaskets.
 - 2) List services and products for which company field advisor(s) is/are certified by manufacturer. Provide written certifications.
 - c. Hardware Distributor's Qualification Data:
 - 1) Provide the Finish Hardware Distributor's company name, address, e-mail address, and telephone number.
 - 2) Provide the hardware distributor's company history, including number of years in the hardware distribution business, the number of AHC's employed, and the number of employees. Describe the distributor's major market.
 - 3) Include the names and contact information of physical plant managers for 3 facilities, similar to this project, for which the distributor has furnished architectural hardware within the past 2 years.
 - d. Supervisor's/Installer's Qualification Data:
 - 1) Name of Supervisor and each installer performing Work, and employer's name, business address and telephone number.
 - 2) Names and addresses, and contact information of physical plant managers for 3 facilities, similar to this project, on which each installer has worked on during past 2 years.
2. Finish Hardware Package:
 - a. Finish Hardware Schedule: Use vertical format and indicate finish hardware items, both mechanical and electrical in one document, required to complete Work of this section. Submit Hardware Schedule that includes complete hardware sets for each door and frame shown on Door Schedule.
 - 1) Preface schedule with following:
 - a) Certified Architectural Hardware Consultant's statement of preparation of/ or certification of, Finish Hardware Schedule.
 - b) Index.
 - c) List of manufacturers.
 - d) List of finishes.
 - e) Explanation of abbreviations.
 - f) Keying instructions and key schedule.
 - 2) Create hardware groups, each group consisting of similar doors and hardware. Do not combine labeled and non-

- labeled openings. Do not combine doors and frames with dissimilar door sizes and/or materials.
- 3) For each opening include the following:
 - a) Door and frame materials and dimensions.
 - b) Fire rating.
 - c) Door number, location and handing.
 - d) Degree of opening required for closer and/or overhead stop.
 - e) Installation and detailing notes.
 - 4) Under each group heading, list hardware items in detail, required for ordering. For each hardware item include:
 - a) Type (Hinges).
 - b) Quantity (Hinges 3ea).
 - c) Manufacturers' name (Hinges 3ea Stanley).
 - d) Catalog number (Hinges 3ea Stanley FBB199).
 - e) Size (Hinges 3ea Stanley FBB199 4 ½ x 4 ½).
 - f) Options or accessories (Hinges HTFBB199 4 ½ x 4 ½ x 630).
 - g) Finish (Hinges HTFBB199 4 ½ x 4 ½ x 630).
 - h) Fasteners (Hinges HTFBB199 4 ½ x 4 ½ x 630 x torx with center security pin).
 - i) Indicate location of protection plates: Push side or pull side.
 - j) Installation Notes, as written in this section, for each hardware group.
 - 5) Use a separate hardware group in Hardware Schedule that lists attic stock hardware items, key cabinets, key control system, special tools required to install hardware, lubricants, and Operations and Maintenance Manuals.
- b. Product Data: Furnish six copies of manufacturers' catalog sheets, specifications, sizing charts, and installation instructions, for each item specified. Highlight information pertaining specifically to product (s) submitted.
 - c. Submit samples as requested.
3. Closeout Submittals Package: Submit as a complete package.
- a. Operation and Maintenance Manuals: Furnish 2 hardcover three ring binders with the project name and number displayed on the front cover and spine. Include:
 - 1) List of Manufacturers.
 - 2) Approved Finish Hardware Schedule.
 - 3) Approved Manufacturers' Product Data Sheets.
 - 4) Manufacturer's operation, installation, maintenance, and repair instructions for each type of hardware furnished.
 - 5) Templates for kind of hardware furnished.
 - 6) Parts List for each type of finish hardware furnished.
 - 7) Manufacturers' dated written warranty for each type of finish hardware furnished.
 - 8) Certifications: Written certification from Company Field Advisors that their products are installed according to manufacturers' printed installation instructions, are operating

properly, and manufacturers' written warranty will be in effect upon physical completion of the Work.

- 9) Special Tools: List of special tools required to install hardware, and their purpose.
- b. Special Tools:
 - 1) At conclusion of finish hardware installation, turn over to Director's Representative 2 of each special tool required to install hardware together with a list of these tools and their purpose.

1.04 TEMPLATES

- A. After receipt of approved submittals, furnish templates to affected trades, to enable fabricators to make provision for finish hardware without delaying the Work of the Project.

1.05 DELIVERY AND STORAGE

- A. Coordinate delivery to avoid delay.
- B. Clearly label each item for identification and installation location as it corresponds to the approved Finish Hardware Schedule and subsequent information bulletins.
- C. Deliver hardware to the jobsite in the manufacturers' original packages complete with fasteners, parts, installation instructions, and templates required for proper installation.
- D. Inventory hardware at jobsite to identify shortages or backorders. Resolve delivery shortages and damaged items prior to installing hardware.
- E. Store finish hardware where directed by Director's Representative. Provide locked, dry storage for finish hardware.

1.06 QUALITY ASSURANCE

- A. Hardware Distributor's Qualification:
 1. Hardware Distributor who has been in the business of furnishing, and/ or installing finish hardware for a minimum of three years.
 2. Hardware Distributor shall have the DHI certified Architectural Hardware Consultant prepare or certify the Finish Hardware Submittal meets specification requirements, and the schedule is written accurately and in accordance with DHI recommendations, and requirements of this specification.
- B. Company Field Advisors: Employ advisor(s) for continuous hinges, door bolts, mortise locksets, surface overhead stops, door closers, and gaskets.
- C. Installation Supervisor: Employ a qualified Installation Supervisor who will be responsible to ensure approved finished hardware is installed, adjusted and operates properly.

- D. Installers: Employ experienced finish hardware installers who have been regularly employed by a Company installing finish hardware for a minimum of 5 years.
- E. Pre-submittal Conference: Before Finish Hardware Submittals are written for submission, the Director's Representative will call a teleconference to review Finish Hardware Submittal requirements including but not limited to format, cover sheet, headings, hardware sets, level of detail, installation notes, description of operation, keying, and product data sheets. The Contractor, the Finish Hardware Distributor, the Finish Hardware Detailer, and consulting hardware designer, and OGS Designers shall attend. The OGS Finish Hardware Reviewer shall conduct the conference.
- F. On Site Pre-installation Conference: Before finish hardware installation begins, the Director's Representative will call a conference at the site to review Finish Hardware Specifications, approved Finish Hardware Submittals, and to discuss requirements for the Work including:
 - 1. Hardware delivery and storage.
 - 2. Hardware labeling by door number.
 - 3. Hardware locations.
 - 4. Potential location conflicts.
 - 5. Hardware installation sequence and responsibility.
 - 6. Required accessories and fasteners.
 - 7. Continuous hinge installation.
 - 8. Surface overhead stops and closer template and adjustments.
 - 9. Special tools and maintenance items.
 - 10. Hardware Closeout requirements.
 - 11. Hardware Warranties.
- G. Pre-installation Conference Attendance: The Construction Contractor, Company Field Advisors, authorized Finish Hardware Installers, and the Finish Hardware Distributor's Architectural Hardware Consultant shall attend the conference. OGS's Finish Hardware Reviewer conducts the meeting. OGS designers and facility personnel may attend. The Company Field Advisors will present installation instruction and advice.
- H. Pre-Benchmark-Construction Meeting: Prior to the construction of the mock-up, a meeting will be held at the site to review the requirements, and discuss the intent of the mock-up. The meeting will be scheduled by the Director's Representative and conducted by the Hardware Designer. The meeting shall be attended by the Director's Representative, the Hardware Designer, the Contractor's onsite foreman, the person supervising this phase of the Work (if different), and the person (people) who will be performing the work.
- I. Construction of Benchmark: Before installing portions of the Work requiring benchmarks, install benchmarks for each form of construction required to comply with the following requirements, using materials indicated for the completed Work.
 - 1. Build hardware benchmark in door and frame assembly, specified in section 081102, in locations as directed, and include continuous hinge, lockset, closer, surface overhead stop and gaskets.

2. Notify the Director's Representative in advance of dates and times when benchmark will be constructed.
 3. Install benchmark with supervisor oversight and workers who will be employed during the construction of the Work.
 4. Construct benchmarks using the exact materials, products, methods, and workmanship that were approved for the Work.
 5. Obtain Director's Representative's approval of benchmarks before starting work, fabrication, or construction.
 6. Maintain benchmarks during construction in an undisturbed condition as a standard for judging the completed Work.
 7. Failure to maintain this standard of quality will be cause for rejection of the Work.
 8. Benchmark may be used in the Work unless otherwise indicated.
- J. Uniformity of Hardware and Single Source Responsibility: For each kind of hardware provide product(s) of a single manufacturer.
- K. Size Variations: Manufacturers' products may vary slightly from sizes specified except where minimum size or thickness is specified.

1.07 WARRANTY

- A. Manufacturer's Warranty: Ten year minimum warranty for door closers.
- B. Manufacturer's Warranty: Three year minimum for locksets.

1.08 MAINTENANCE

- A. Special Tools: At the conclusion of finish hardware installation, turn over to Owner's Representative 2 sets of each special tools required for proper installation and adjustment of hardware, together with a list of these tools and their purpose.
- B. Lubricants: Provide manufacturer's recommended lubricants for locksets and closers sufficient for 1 year of maintenance. Turn over to Director's Representative.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with requirements herein, provide products by one of the following manufacturers for each type of hardware:
- B. Behavioral Health Hardware:
1. Behavioral Health Continuous Hinges: Kingsway Group, ABH, Select, Pemko.
 2. Behavioral Health Anti-Barricade Door Stop: Kingsway Group, Pemko.

3. Behavioral Health Locks: Accurate, BEST, Marks, Townsteel, Corbin
Russwin, Sargent.
4. Overhead Closers:
 - a. Track Arm Closers
 - b. Overhead Concealed
5. Gasketing: Pemko, NGP
6. Magnetic Hold Open: ABH LR2400

2.02 ACCESSORIES

- A. Provide brackets, plates, arms, spacers, and special templates to mount door closers in combination with overhead stops and coordinators, on narrow top rails and for special ceiling and jamb conditions.
- B. Provide curved lip strikes, with wrought boxes, specific to individual lock functions. Universal strikes that fit a variety of lock functions are not acceptable.

2.03 FASTENINGS

- A. Provide fasteners that harmonize with finish hardware material and finish.
- B. Provide torx center pin security fasteners for exposed hardware, including full mortise hinges.
- C. Provide machine screws for hardware secured to metal; and machine screws and metal expansion shields for attachment to masonry substrates. Self-tapping or self-drilling screws are not acceptable.
- D. Provide undercut shallow head torx center pin security fasteners where necessary for proper seating.
- E. Attach door closers and overhead stops with sex bolts.

2.04 LIGATURE RESISTANT LOCKSETS

- A. All ligature resistant locksets to meet the Office of Mental Health/FGI guidelines requirements with behavioral health trim.
- B. All locks to be furnished with functions as indicated in hardware sets.
- C. Furnish cylinders for all locking functions. Where institutional locks are listed, provide two cylinders for each lockset.

2.05 SURFACE DOOR CLOSERS

- A. Door closing devices shall meet ANSI/BHMA A156.4, Grade 1 requirements.
- B. Surface closers shall be fully adjustable with sweep speed, latch speed and back check position valves.
- C. Provide closers size adjusted in accordance with ANSI/BHMA A156.4; sized as required to insure closing and latching of doors.

2.06 MATERIALS AND FINISHES

- A. General: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in this section and in the Hardware Groups.
- B. Continuous Hinges

1. Full height barrel-type manufactured from 14-gauge 304 stainless steel.
2. .25" diameter stainless steel pins.
3. Provide hinges without covers.
- C. Locks, Latches and Bolts
 1. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
 2. Provide 3/4" minimum throw on other latch bolts.
 3. Provide 1" minimum throw deadbolts.
- D. Closers and Door Control Devices
 1. Closer bodies: Provide closer bodies with the same hole template pattern regardless of type or application.
 2. Closer arms: Non-handed forged steel.
 3. Closer size: Provide sized closers.
 4. Provide all-weather fluid to eliminate seasonal adjustment of closer speed.
 5. Powder coat closer body, arm, and adapter plate or pre-treat closer body, arm, and adapter plate with rust-inhibiting coating before painted finish is applied.

2.07 FINISHES

- A. Provide hardware in finishes as indicated in hardware set or as noted below:
- B. Interior hardware finish to be 630.
- C. Finish for Thresholds and Surface Door Bottoms shall be Alum.
- D. Closers shall be Powder Coated 689 or Metal Cover
- E. Adhesive Gasketing shall be Black.
- F. Areas where hardware may be prone to corrosion, 32D-316 metal finish or Clear Powder Coat Finish.
- G. Interior and Exterior Aluminum Framed Openings: Finish to be selected by Architect.

2.08 FINISH HARDWARE

Set: 1.0

Doors: 4B121, 4B129, 4B135, 4B136, 4D033, 4D039, 4D054, 4D055, 4D062, 4D063, 4D064, 4D065, 5D033, 5D039, 5D054, 5D055, 5D062, 5D063, 5D066, 5D067

1 Continuous Hinge	AC500 HT x door height	ABH
1 Behavioral Health Passage Set	8215 BHW	Sargent
1 Surface Closer	4510T	LCN
1 Stop	1841	ABH
1 Head Gasketing	2891AV x opening width	Pemko
1 Jamb Gasketing	290AV x opening height	Pemko

Set: EX

Doors: 4B134, 4D040, 5D040

Notes: Existing Doors and Hardware to remain. Inspect for proper functioning. Repair or replace as necessary.

2.09 KEYING

- A. Continue existing Best A2 key system established for Facility.
 - 1. Stamp key symbol on one side of key, and “Do Not Duplicate” on other side of key.
 - 2. Furnish one copy of factory bitting list to facility.
 - 3. Factory key cylinders.
 - 4. Furnish 3 cut keys for each master key.
 - 5. Furnish 7 cut keys for each keyed lockset.
 - 6. These cut key quantities are for bidding purposes only. Actual number of cut keys required will be determined at keying meeting.
 - 7. When lockset and cylinder are by different manufacturers, identify and furnish correct cylinder cam to operate lockset.
 - 8. Provide compression rings and spacers to achieve proper spacing relationship between cylinder and face of door.
- B. Keying Conference
 - 1. Immediately following contract award, Director’s Representative will schedule a keying conference to develop a written key schedule that reflects Facility’s specific keying requirements. Facility Representative(s), Hardware Distributor, Consulting Hardware Designer, and OGS’s Hardware Designer will attend.
 - 2. Incorporate this schedule in Finish Hardware Submittals for approval.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine doors and frames and related items for conditions such as, but not limited to, incorrect handing, hardware preparation, misaligned lock and strike preparations, that would prevent proper application of finish hardware. Do not proceed until defects are corrected.
- B. Report conditions or hardware applications that are incorrect to the Director’s Representative.

3.02 INSTALLATION

- A. Do not proceed with installation of finish hardware prior to attending referenced pre-installation conference.
- A. Steel doors shall be factory prepared for hardware per ANSI/BHMA A156.115.
- B. Wood doors shall be factory prepared for hardware per ANSI/BHMA A156.115W.
- C. Installation shall be in accordance with DHI A115.IG.

- D. Hardware for fire door assemblies shall be installed conforming with NFPA 80, and all other applicable building codes and regulations.
- E. Hardware for smoke door assemblies shall be installed conforming with NFPA 105, and all other applicable building codes and regulations.
- F. Install each door hardware item according to manufacturer's printed instructions, utilizing templates and proper fasteners provided by manufacturer.
- G. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
- H. 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 specified in other Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- I. Install each door hardware item to comply with manufacturer's written instructions. Install overhead surface closers for maximum degree of opening obtainable. Place on room side of corridor doors, stair side of stair doors, secondary corridor side of doors between corridors. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be finished, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- J. All wall stops shall be installed with reinforced blocking in wallboard construction. Drywall anchors are not an acceptable means of reinforcement/blocking. Provide intermediate steel plates or channel reinforcement backing at wall stops mounted in wallboard construction.
- K. Do not install permanent key cylinders in locks until the time of preliminary acceptance by the Owner. At the time of preliminary acceptance, and in the presence of the Owner's representative, permanent key all lock cylinders. Record and file all keys in the key control system specified, and turn system over to Owner for sole possession and control.
- L. Key control storage system shall be installed where directed by the Owner.
- M. Thresholds shall be secured with a minimum of 3 fasteners per single door width and 6 fasteners per double door width with a maximum spacing of 12 inches; with a minimum of 1 inch thread engagement into the floor or anchoring device used. Thresholds over 6 inches in width shall be secured with a double row of fasteners.
- N. Exterior thresholds shall be installed in a bed of sealant with combination expansion anchors and stainless steel machine screws, except that bronze or anodized bronze thresholds shall be installed with expansion anchors with brass screws.

3.03 CONTINUOUS HINGES

- A. Prevent conflicts with other installed hardware mounted in the same location.
- B. Coordinate continuous hinge lengths to prevent conflicts with other door hardware such as door sweeps and door bottoms. Door bottoms shall be installed full width of door to create a full seal.

3.04 DOOR CLOSING DEVICES

- A. Surface closers on doors opening to or from halls and corridors shall be mounted on the room side of the door.
- B. Surface closers on doors opening into stairs or stair vestibules shall be mounted on the stair or stair vestibule side of the door.
- C. Surface closers on exterior doors shall be mounted on the interior side of building utilizing regular arm, or parallel arm mounting as required.
- D. Door closing devices with adjustable spring power shall be adjusted for proper door operation, and compliance with all applicable codes and regulations.
- E. Cutting of gasketing or weatherstripping to accommodate closer installation is not acceptable.

3.05 HARDWARE LOCATIONS

- A. Unless otherwise indicated install hardware as follows or as local codes require:
 - 1. Bottom Hinge: 10 inches from door bottom to bottom of hinge.
 - 2. Top Hinge: 5 inches from door top to top of hinge.
 - 3. Center Hinge(s) or Pivot(s): Spaced equidistantly between top and bottom hinges/ pivots.
 - 4. Lockset / Latchset: 38 inches from finished floor to center of lever.
 - 5. Hospital Push-Pull Latchset/ Lockset: 42 inches from finished floor to center of latch.
 - 6. Exit Device: 38 inches from finished floor to device centerline.
 - 7. Deadlock: 42 inches from finished floor to center key cylinder / thumb turn.
 - 8. Push Plate/ Pull Plate: 42 inches from finished floor to center of pull.
 - 9. Wall Bumper: Centered at point on wall where lever, or other operating trim, first makes contact with wall.
 - 10. Floor Stop: Adjacent to wall; not to exceed 4 inches from face of wall; located 3 inches from latch edge of door; in any case never more than 50 percent of door width from latch edge of door.

3.06 ADJUSTING

- A. 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.
- B. Engage a factory-authorized service representative to adjust door closing devices, compensating for final operation of heating and ventilating equipment, and to comply with referenced accessibility requirements.
- C. Follow-up Adjustment: Approximately 6 months after date of Substantial Completion, Installer shall perform the following:
 - 1. Examine and readjust each item of door hardware as necessary to ensure function of door hardware.

2. Consult with and instruct Owner's personnel on recommended maintenance procedures.
 3. Replace door hardware items that have deteriorated or failed due to faulty design, materials, or installation of door hardware units.
- D. Where door closers are provided, adjust sweep speed so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.
- E. LOCATIONS
- A. Locate hardware as follows:
1. Door Closers: Template for maximum door swing allowed by wall placement and jamb conditions. Where overhead stop prevents door from swinging to wall, template the closer to exceed degree of opening allowed by overhead stop.
 2. Protection Plates: 1/8 inch from door bottom.
 3. Wall Stops: Centerline of bumper to match centerline of locking trim.

3.07 FIELD QUALITY CONTROL

- A. Post Installation Review: After hardware is adjusted for proper operation, Director's Representative will hold a Post-Installation Review with the Contractor, Hardware Designer, Company Field Advisors, Hardware Distributor and Hardware Installers.
1. Physically inspect to verify proper application, installation, adjustment and operation of finish hardware, and in particular that:
 - a. Latches engage freely without binding. Filing of strike plates to relieve latch bind is not acceptable.
 - b. Closers are adjusted for proper spring power; sweep speed, latching speed; and hydraulic back check.
 - c. Locations and proper attachment of installed protective hardware are as specified.
 - d. There is no field modification of fasteners.
 - e. Damaged fasteners are replaced.
 2. Defective hardware is repaired or replaced.
 3. Hardware is to be left clean and free from disfigurement.
- B. Turn referenced Operations and Maintenance Manuals over to Facility through Director's Representative.

3.08 COMPLETION

- A. When complete all hardware shall be properly secured in place and all exposed surfaces shall be clean and free from scratches, paint, and other defects and damages.
- B. Contractor shall demonstrate that all keys properly operate the locks as identified in the approved Keying Schedule.

END OF SECTION

SJA

SECTION 093013

CERAMIC TILE

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Tile Backer Board: Section 092813.
- B. Quarry Tile: Section 093016.

1.02 REFERENCES

- A. Tile Manufacturing Standard: Comply with the requirements of ANSI “American National Standard Specifications for Ceramic Tile” (ANSI A137.1)
- B. Installation Standards: Comply with the requirements of ANSI “American Standard Specifications for the Installation of Ceramic Tile” (ANSI A108, A118 and A136), and correlating Tile Council of America (TCA) details except as shown or specified otherwise.

1.03 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, and installation instructions for each of the following:
 - 1. Tile and trim units.
 - 2. Setting materials, except reinforcement, membrane, and primer.
 - 3. Grouting materials.
 - 4. Marble door thresholds.
- B. Samples:
 - 1. Tile and Grout: Each type and color required; 12 x 12 inch samples with tile mounted on braced cement backer board and grouted.
 - 2. Trim Units: Each type and shape required.
 - 3. Color Samples:
 - a. Tile manufacturer’s standard range of colors and textures for each tile type required.
 - b. Grout manufacturer’s standard range of colors for each grout type required.
 - 4. Marble thresholds in 6 inch lengths.
 - 5. Metal edge strips in 6 inch lengths.
- C. Quality Control Submittals:
 - 1. Tile Grade Certificates: Furnish tile manufacturer’s Master Grade Certificate bearing the manufacturer’s certification for each shipment, type and composition of tile.
 - 3. Installers’ Qualification Data:

- a. Name of each person who will be performing the work and their employer's name, business address, and telephone number.
 - b. Names and addresses of 3 similar projects that each person has worked on during the past 5 years.
- D. Contract Closeout Submittals:
 - 1. Maintenance Data: Tile and grout manufacturer's recommended cleaning and stain removal methods and materials.

1.04 QUALITY ASSURANCE

- A. Manufacturer:
 - 1. Obtain each color, grade, finish, type, composition, and variety of tile from one source with resources to provide products from the same production run for each contiguous area of consistent quality in appearance and physical properties without delaying the Work.
 - 2. Obtain ingredients of a uniform quality for each mortar, waterproof membrane, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.
- B. Certifications:
 - 1. Tile manufacturer's Master Grade Certification for each shipment of tile.
- C. Installers' Qualifications: The persons installing the work of this Section and their Supervisor shall be personally experienced in ceramic tile installation and shall have been regularly employed by a Company installing ceramic tile for a minimum of 5 years.
- D. Pre-installation Conference: Before the work of this Section is scheduled to begin, a conference will be called by the Director's Representative at the site for the purpose of reviewing the Drawing and the Specifications and discussing requirements for the Work. The conference shall be attended by the Contractor, the ceramic tile installers, and if needed the ceramic tile distributor.
- E. Performance Criteria:
 - 1. The following criteria are required for products included in this section:
 - a. All ceramic flooring must be certified as compliant with the FloorScore standard by an independent third-party.
 - b. Tile setting adhesives and grout must not exceed the volatile organic compound (VOC) content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1168.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement of ANSI A137.1 for labeling sealed tile packages.
- B. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements: Do not install tile until construction in spaces is completed. Set and grout tile when ambient temperature is 50 degrees F (10 degrees C) or higher and humidity conditions are being maintained. Substrate must be free of ice. All work to meet material manufacturer's recommendations.

1.07 MAINTENANCE

- A. Extra Materials: Furnish extra tile, equal to 3 percent of the tile installed, of each type, composition, pattern, size and color of tile required. Also furnish a proportionate number of trim units. Place extra materials packaged with protective covering in storage at the site where directed.

PART 2 PRODUCTS

2.01 TILE

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. American Olean; a division of Dal-Tile Corporation.
 - b. Daltile.
 - c. Seneca Tiles, Inc.
 - d. Approved equivalent.
- B. Unglazed Porcelain Mosaic Tile: Factory mounted flat tile complying with Section 5.1, ANSI A 137.1; Standard Grade, and the following requirements:
 - 1. Composition: Porcelain.
 - 2. Module Size: 1 by 1 inch.
 - 3. Nominal Thickness: 1/4 inch.
 - 4. Face: Plain with cushion edges.
- C. Glazed Porcelain Wall Tile: Complying with Section 6.1, ANSI A 137.1; Standard Grade, and the following requirements:
 - 1. Module Size: to be selected from manufacturer's full range of options
 - 2. Thickness: 5/16 inch.
 - 3. Face: Plain with modified square edges or cushion edges.
 - 4. Finish: Bright glaze.
 - 5. Mounting: Factory back-mounted.
- D. Trim Units: Furnish necessary trim shapes of same material, grade, type, and finish as flat tile unless otherwise indicated. Furnish trim for head, jambs and sills of openings, external corners, and the following:
 - 1. Base for Portland Cement Mortar Installations: Coved.
 - 2. Base for Thin-Set Mortar Installations: Straight.
 - 3. External Corners for Portland Cement Mortar Installations: Bullnose shape with a radius of at least 3/4 inch, unless otherwise indicated.
 - 4. External Corners for Thin-Set Mortar Installations: Surface bullnose.

5. Internal Corners: Field-buttet square corners, except with coved base and cap angle pieces designed to member with stretcher shapes.
 6. Tapered Transition Tile: Shape designed to effect transition between thickness of tile floor and adjoining floor finishes of different thickness, tapered to provide a reduction in thickness from 1/2 to 1/4 inch across nominal 4-inch dimension.
 7. Accessories for Glazed Wall Tile: Provide vitreous china accessories of type and size indicated and in color and finish to match adjoining glazed wall tile.
- E. Colors: Tile colors shall be as indicated on the Drawings, or if not indicated, as selected by the Director from tile manufacturer's full range of colors.
- F. Waterproofing for Thin Set Tile: Comply with ANSI A118.10 and manufacturer's recommendations.

2.02 SETTING MATERIALS

- A. Epoxy Mortar: Complying with ANSI A 118.3, chemical resistant, and water cleanable before setting.
- B. Epoxy Adhesive: Complying with ANSI A 118.3, and water cleanable before setting.
- C. Primer: As recommended by the mortar/adhesive manufacturer.

2.03 GROUTING MATERIALS

- A. Epoxy Grout: Two or three component epoxy resin and hardener, filler, formulated for chemical resistance, factory blended for the type of tile to be grouted, and complying with ANSI A 118.3.
- B. Colors:
1. As selected by the Director from grout manufacturer's full range of colors.

2.04 WATERPROOFING

- A. Waterproofing: Polyethylene sheet waterproofing system at all bathing room floors, shower walls and floors, and wall base conditions receiving tile.
1. Basis of Design: Schluter Systems KERDI
 - a. Or approved equal.

2.05 MISCELLANEOUS MATERIALS

- A. Metal Edge Strips: White zinc-alloy terrazzo strips, 1/8 inch wide at top edge with integral provision for anchorage to mortar bed or substrate, unless otherwise indicated.

- B. Trowelable Underlayments and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

2.06 MARBLE DOOR THRESHOLDS

- A. Marble: Sound Group A marble equal to any of the following varieties and color ranges:
 - 1. Vermont Champlain Black or Highland Danby (Gray).
 - 2. Missouri Ozark (Gray) or Georgia Solar Gray.
 - 3. Tennessee Edward Pink, Marmor (Pink), Craig Pink, or Cedar Tavernelle (Red-Reddish Brown).
- B. Fabricate thresholds to equal width of door jambs, with true planes, edges straight, and free of chipped or broken arises and corners.
 - 1. Raised Thresholds: Depth shall be as required to finish 1/2 inch above finished tile floor and have a minimum thickness of 1-1/4 inches, unless otherwise shown. Bevel exposed edge arises 1/4 by 1/4 inch.
 - 2. Flush Thresholds: 7/8 inch thick, unless otherwise shown.
 - 3. Finish: Honed finish on exposed faces and edges.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Provide concrete substrates for tile floors installed with dry-set or latex-portland cement mortars that comply with flatness tolerances specified in referenced ANSI A 108 series of tile installation standards for installations indicated.
 - 1. Use trowelable leveling and patching compounds per tile-setting material manufacturer's written instructions to fill cracks, holes, and depressions.
 - 2. Remove protrusions, bumps, and ridges by sanding or grinding.
- B. Protection: Protect adjacent surfaces before tilework begins.
- C. Cleaning: Clean substrate surfaces in accordance with applicable reference standards and manufacturer's installation instructions.

3.03 INSTALLATION

- A. Install ceramic tile in accordance with ANSI A 108.1 thru ANSI A 108.7, as applicable for type of tile and method of installation, and in accordance with the printed installation instructions of the tile and setting material manufacturers.
 - 1. Neutralize and seal substrate as required by the mortar/adhesive manufacturer's instructions.
 - 2. Mix and apply proprietary setting and grouting materials in compliance with the manufacturer's instructions.
- B. Setting Beds:
 - 1. Walls: Epoxy adhesive.
 - 8. Floors: Epoxy mortar.
- C. Joint Pattern: Install tile in grid pattern with 1/16 inch joint width, unless otherwise indicated.
- D. Layout tilework on principal walls, with tilework field centered in both directions on the floor and lengthwise on walls in each space, so that no tile less than one-half full size will occur, unless otherwise approved to suit the features of the space. Align joints when adjoining tiles are the same size. Maintain uniform joint width.
- E. Extend tilework into recesses and under equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate tilework neatly at obstructions, edges, and corners without disruption of pattern or joint alignments.
- F. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- G. Expansion and Control Joints: Comply with preparation, joint depths and widths, and installation requirements in the ANSI installation specifications. Keep expansion and control joints free of setting and grouting materials. Do not saw-cut joints after installing tiles.
 - 1. Install continuous expansion joint at perimeter of floor/wall juncture.
 - 2. Install sealants in accordance with manufacturer's printed instructions.
- H. Edge Strips: Install metal edge strips at edge of tile meeting other types of flooring, unless otherwise indicated.
- I. Grouting: Comply with ANSI A 108.10 or 108.6, as applicable for type of grout, and manufacturer's installation instructions. Make joints watertight, and without voids, cracks and excess grout. Damp cure in accordance with reference standards and manufacturer's instructions when applicable.
- K. Install waterproofing to comply with waterproofing manufacturer's written instructions to produce a waterproof membrane of uniform thickness bonded securely to substrate.
 - 1. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.

- L. Marble Door Thresholds: Set marble thresholds in a full bed of the same type of setting material specified for adjoining tilework, unless otherwise indicated.

3.05 ADJUSTING

- A. Check the tilework installation. Remove defective tile and retile. Leave finished installation free of cracked, chipped, broken, unbonded, and otherwise defective tilework.

3.06 CLEANING

- A. On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter. Comply with grouting specifications and with grout manufacturer's printed instructions for materials and method.
 - 1. Remove latex-portland cement grout residue from tile as soon as possible.
 - 2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
- B. Clean and polish marble door thresholds. Remove stains and other defacement.

3.07 PROTECTION

- A. Apply heavy kraft paper, or other approved heavy protective covering, masked in place over tilework to prevent staining, damage, and wear.
- B. Prohibit foot and wheel traffic on newly tiled areas for seven days after completion of installation unless otherwise approved by the Director's Representative.
- C. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

END OF SECTION