



State of Utah

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## Department of Administrative Services

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### Division of Facilities Construction and Management

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# ADDENDUM #1

Date: March 3, 2010

To: Contractors

From: Tim Parkinson, Project Manager, DFCM

Reference: Welding and Metals Building Remodel and Upgrades  
O/W ATC – Ogden, Utah  
Project No. 0917024

Subject: **Addendum No. 1**

Pages	<u>Addendum</u>	18 pages
	Total	18 pages

**Note:** *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

1.1 **SCHEDULE CHANGES** – There are no changes to the project schedule.

1.2 **GENERAL** – Please see attached documents.

**Utah!**  
Where ideas connect

# Ogden Weber ATC – Welding and Metals Building Remodel and Upgrade

DFCM Project # 09170240

## ADDENDUM #1

Questions:

1. Spec section 07 51 00 under the troweled mortar system talks about asphalt built up roofing and then request a roof warrantee. Please clarify if you intended us to replace the roof. **Attached is the revised Spec Section 075100 Troweled Mortar System. This one should replace the originally issued Section 075100.**
2. Do we pour the new footings on existing soils? How much base or gravel do you want under the footings? **Pour footings on undisturbed soil with NO gravel or added material under footing.**
3. Spec section 01 11 00 Section 1.11 Work restrictions tell us we can work during normal business hours except utility interruptions. At the walkthrough we were handed a schedule that dictated when the students would be in class. Please clarify when we can do demolition, painting, concrete replacement, etc. **The Owner still intends to occupy some spaces throughout construction therefore close coordination with the Owner will be required with the required notifications as indicated in the specifications. The schedule handed out at the walkthrough is for reference only. Work restrictions are still as indicated in the specifications section. Any utility outage however will have to be coordinated and accomplished during off hours of the facility as will as any other major work that cannot be coordinated with the Owner.**
4. In specification section 08 7100, 3.7 Hardware sets there is a set "01" for a door 107A. I cannot find a door 107A on the floor plan, sheet A-2. The only 2 doors that are labeled on the floor plan are 102A, which is existing-reused, and 113A, which is new. Is the 107A marked in hardware group one supposes to be 102A? **Hardware Group #1 is for door 102A, not 107A. I have attached a revised Hardware Spec Section 087100, which corrects this.**
5. There is no hardware specified in section 08 7100 for the new pair of doors 113A. What is required for these? **Hardware Group #2, for Door 113A is included in the spec on the last page. Perhaps a page was missing from the bidders printout?**

END OF ADDENDUM #1

**PART 1 - GENERAL**

**1.1 DESCRIPTION OF WORK**

- A. Furnish necessary material, labor, and equipment required to prepare designated areas and install a 1 / 4 " Standard Troweled Mortar System.

**1.2 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Project Manual, including General and Supplementary Conditions; and General Requirements, apply to work of this Section.

**1.3 SYSTEM PERFORMANCE**

- A. Work of this section shall provide a filler and patching for the damaged areas of the floor as shown on the drawings.

**1.4 QUALITY ASSURANCE**

- A. Incomplete or non-workable details shall be reported in writing to the Architect for written clarification prior to submitting a bid. Contractor shall also submit in writing for approval a workable detail that conforms to the intent of the Project Manual and (where applicable) with the manufacturer's requirements. Contractor shall notify Architect in writing of any conditions which would limit conformance to Project Manual.
- B. Contractor shall carefully examine the jobsite and all conditions affecting the work of this section prior to bidding. Contractors work shall reflect all anticipated conditions, materials, labor, etc. needed to complete the work of this section, including conditions not contained in the Project Manual but normally encountered in this type of work.
- C. Contractor Qualifications: A single company with experience, specializing in applying total roofing system specified, in conjunction with seismic work, on a minimum of five (5) other projects of similar size in the local geographic area.
- D. Contractor Certification: Contractor must be approved by primary materials manufacturer for a minimum of five (5) years.

**1.5 SUBMITTALS**

- A. Submit three (3) copies of all required submittals.
- B. Any designs or dimensions for fabrication NOT shown or plans or drawings or in specifications, shall be field verified and shown on shop drawings and shall be submitted for approval by the Architect prior to commencing work.
- C. **CONTRACTOR SHALL NOT PROCEED UNTIL ALL SUBMITTALS ARE RECEIVED AND APPROVED BY THE ARCHITECT AND OWNER. WORK REJECTED, THAT DID NOT HAVE PRIOR APPROVAL, SHALL BE REPLACED AT NO COST TO THE OWNER.**

- D. Manufacturer(s) Submittals: Where not indicated on labels or in product literature, submit manufacturer's written certificate for each material used stating that products meet or exceed specified government and testing standards and requirements.

#### **1.1 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Primary system materials shall be delivered in the manufacturer's undamaged, unopened containers.
- B. Products that are not delivered in manufacturer's original containers, are wet, are damaged, do not have seals and factory labels intact bearing UL and FM markings, shall be rejected, marked and removed from the jobsite and replaced by the contractor at no cost to the owner.
- C. Store all products in dry, well ventilated weather protected environment, clear of ground and moisture.
- D. Store, and deliver materials daily in sufficient quantities to allow continuity of work.

#### **1.1 GENERAL PROJECT REQUIREMENTS**

- A. Contractor shall be responsible for the dismantling, removal, and replacement of items which are required for proper completion of the work of this Section.
- B. Coordinate work with other trades or entities whose work adjoins or penetrates work of this Section, or whose work requires men and/or equipment to traffic over work of this Section.
- C. Contractor shall notify Architect 24 hours minimum in advance of performing any work which would cover or otherwise make it difficult to inspect any portion of the work. Should any of said work be covered without proper notification having been given Architect, Contractor shall uncover that work for inspection at his own expense. Contractor shall schedule the work so that an inspector may observe and inspect a maximum part of any of the work before it is covered up.
- D. The building may remain occupied during the time of construction. The Contractor is responsible for taking all necessary precautions to protect the building, its occupants, and its contents.

#### **1.2 GUARANTEE AND WARRANTY REQUIREMENTS**

- A. General Warranty: The warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents .
- B. The contractor and the manufacturer shall furnish a standard guarantee of the 1 / 4" Standard Troweled Mortar System for a period of one year after installation. The labor and material guarantee shall include loss of bond and wear-through to the concrete substrate from normal use.

## **PART 2 - PRODUCTS**

### **2.1 APPROVED MANUFACTURER**

#### **A. System Overview**

1. General Polymers 1 / 4" Standard Troweled Mortar System Consists of 3579 Standard Primer / Binder as primer, 3561 Epoxy Resin Glaze as the binder resin, 5115 Mortar Blend Aggregate, 3744G high Performance CR Epoxy Grout as the grout coat. The seal coats are as follows:

3505 Stipple Epoxy Floor Coating  
3744 High Performance CR Epoxy  
4408 WB Polyurethane Gloss / Satin

#### Typical Physical Properties

Color	Manufacturers Full Range of colors
Hardness @ 24 hours, Shore D ASTM D 2240	80/65
Compressive Strength ASTM C 579	15,000 psi
Tensile Strength ASTM C 307	1,700 psi 6,000 psi
ASTM C 580	
Flammability	Self-extinguishing over concrete
Flexural Strength ASTM C 580	3,700 psi
Adhesion ACI 503 R	350 psi 100% concrete failure
Abrasion Resistance ASTM D 4060, CS-17 Wheel, 1,000 cycles	70 – 90 mgs lost
Impact Resistance MIL-D-3134, Sec, 4.7.3 ASTM C – Mortar System ASTM D – Resin Only	Withstands 16 ft-lbs cracking, delaminating or chipping

## **PART 3 - EXECUTION**

### **3.1 SURFACE PREPARATION**

- A. Prepare building surfaces and other work as specified by the manufacturer.

### **3.2 INSTALLATION**

- A. GENERAL – Apply each component of the 1 / 4" Standard Troweled Mortar System in

compliance with manufacturer's written installation instructions and strictly adhere to mixing and installation methods, recoat windows, cure times and environmental restrictions. The 1/4" Standard Troweled Mortar System is to be installed directly over non-moving control joints and cracks which have been treated with EPO-FLEX epoxy, and the 1 / 4" Standard Troweled Mortar System will terminate at the edge of isolation and expansion joints as designated by the Architect, Engineer, or Design Professional. Integral cove base shall be installed where specified in the drawings.

### **3.1 SUBSTRATE EXAMINATION AND PREPARATION**

- A. Contractor shall examine condition of substrate surface and verify that substrate is dry, clean, smooth, free of depressions or projections, with no defects or deterioration.

**END OF SECTION 07 51 0**

## SECTION 08 71 00 - DOOR HARDWARE

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Commercial door hardware for the following:
    - a. Swinging doors.
    - b. Fire-rated swinging doors.
    - c. Other doors to the extent indicated.
  - 2. Cylinders for doors specified in other Sections.
- B. Related Sections include the following:
  - 1. Division 08 Section "Hollow Metal Doors and Frames"
  - 2. Division 08 Section "Sectional Door" for door hardware.
- C. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section..

#### 1.3 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Verification: For exposed door hardware of each type, in specified finish, full size. Tag with full description for coordination with the door hardware sets. Submit Samples before, or concurrent with, submission of the final door hardware sets, if requested.
  - 1. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- C. Qualification Data: For Installer.

- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for locks, latches, and closers as requested.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.
- F. Warranty: Special warranty specified in this Section.
- G. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
  - 1. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
  - 2. Content: Include the following information:
    - a. Identification number, location, hand, fire rating, and material of each door and frame.
    - b. Type, style, function, size, quantity, and finish of each door hardware item.
    - c. Complete designations of every item required for each door or opening including name and manufacturer.
    - d. Fastenings and other pertinent information.
    - e. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    - f. Explanation of abbreviations, symbols, and codes contained in schedule.
    - g. Mounting locations for door hardware.
    - h. Door and frame sizes and materials.
    - i. Description of each electrified door hardware function, including location, sequence of operation, and interface with other building control systems.
      - 1) Sequence of Operation: Include description of component functions that occur in the following situations: authorized person wants to enter; authorized person wants to exit; unauthorized person wants to enter; unauthorized person wants to exit.
    - j. List of related door devices specified in other Sections for each door and frame.
  - 3. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.
- H. Keying Schedule: Prepared by or under the supervision of Architectural Hardware Consultant, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.

1. Installer's responsibilities include supplying and installing door hardware and providing a qualified Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
  2. Installer shall have warehousing facilities in Project's vicinity.
  3. Scheduling Responsibility: Preparation of door hardware and keying schedules.
  4. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
- D. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252 and UBC Standard 7-2.
1. Test Pressure: After 5 minutes into the test, neutral pressure level in furnace shall be established at 40 inches (1016 mm) or less above the sill.
- E. Keying Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." In addition to Owner, Construction Manager, Contractor, and Architect, conference participants shall also include Installer's Architectural Hardware Consultant and Owner's Security Consultant. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:
1. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
  2. Preliminary key system schematic diagram.
  3. Requirements for key control system.
  4. Address for delivery of keys.
- F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
  - B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
  - C. Deliver keys to Owner's Representative by registered mail or overnight package service.

## 1.6 COORDINATION

- A. Coordinate layout and installation of recessed hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.
- B. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

## 1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Structural failures including excessive deflection, cracking, or breakage.
    - b. Faulty operation of operators and door hardware.
    - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
  - 2. Warranty Period: Three (3) years from date of Substantial Completion, except as follows:
    - a. Manual Closers: Ten (10) years from date of Substantial Completion.

## 1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide six (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Products:

- a. Finish: Shall be US26D, unless otherwise noted.
- b. Manufacture Standard:
  - 1) Butts: Hager, McKinney, Stanley, Ives\*
  - 2) Locksets: Sargent \*
  - 3) Cylinders: RA Keyway
  - 4) Closers: LCN\*
  - 5) Trim: BBW, Rockwood, Hager, Ives\*
  - 6) Weatherstrip: Pemko, Hager, National Guard\*

B. Substitution requests will be made in accordance with Division 01 requirements.

2.2 SCHEDULED HARDWARE

A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Schedule" at the end of this Section. Products are identified by using hardware designation numbers of the following:

- 1. Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.
- 2. ANSI/BHMA designations used elsewhere in this Section or in schedules to describe hardware items or to define quality or function are derived from the following standards. Provide products complying with these standards and requirements specified elsewhere in this Section.
  - a. Butts and Hinges: ANSI A156.1.
  - b. Bored and Preassembled Locks and Latches: ANSI/BHMA A156.2.
  - c. Exit Devices: ANSI A156.3.
  - d. Door Controls - Closers: ANSI A156.4. 180 degree swing only!
  - e. Auxiliary Locks and Associated Products: ANSI/BHMA A156.5.
  - f. Architectural Door Trim: ANSI A156.6.
  - g. Template Hinge Dimensions: ANSI A156.7.
  - h. Door Controls - Overhead Holders: ANSI A156.8.
  - i. Mortise Locks and Latches: ANSI A156.13.
  - j. Closer Holder Release Devices: ANSI A156.15.
  - k. Auxiliary Hardware: ANSI A156.16.
  - l. Self-Closing Hinges and Pivots: ANSI A156.17.
  - m. Materials and Finishes: ANSI A156.18.

## 2.3 MATERIALS AND FABRICATION

- A. Base Metals: Produce hardware units of basic metal and forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI/BHMA A156 series standards for each type of hardware item and with ANSI/BHMA A156.18 for finish designations indicated. Do not furnish "optional" materials or forming methods for those indicated, except as otherwise specified.
- B. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.
- C. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
- D. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless their use is the only means of reinforcing the work adequately to fasten the hardware securely. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

## 2.4 HINGES, GENERAL

- A. Quantity: Provide the following, unless otherwise indicated:
  - 1. Two Hinges: For doors with heights up to 60 inches.
  - 2. Three Hinges: For doors with heights 61 to 90 inches.
- B. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- C. Hinge Weight: As indicated in hardware sets.
- D. Hinge Base Metal: Unless otherwise indicated, provide the following:
  - 1. Exterior Hinges: Stainless steel with stainless-steel pin.
  - 2. Interior Hinges: Steel with steel pin.
  - 3. Hinges for Fire-Rated Assemblies: Steel with steel pin.
- E. Hinge Options: Where indicated in door hardware sets or on Drawings:
  - 1. Safety Stud: Designed for stud in one leaf to engage hole in opposing leaf.
  - 2. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for outswinging doors.
  - 3. Corners: Square.
- F. Fasteners: Comply with the following:

1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
2. Wood Screws: For wood doors and frames.
3. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.

## 2.5 LOCKS, LATCHES, AND BOLTS

- A. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set, unless otherwise indicated.
- B. Lock Throw: Provide 5/8-inch (16-mm) minimum throw of latch on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
- C. Flush Bolt Heads: Minimum of 1/2-inch- (13-mm-) diameter rods of brass, bronze, or stainless steel with minimum 12-inch- (300-mm-) long rod for doors up to 84 inches (2100 mm) in height. Provide longer rods as necessary for doors exceeding 84 inches (2100 mm) in height.
- D. Cylindrical Locks - ANSI A156.2 Series 4000, Grade 1 Strength and Operational requirements. Meets A117.1 Accessibility Codes. Latch bolts shall be steel with minimum 1/2" throw, deadlocking on keyed and exterior functions. 3/4" throw anti-friction latchbolt on pairs of fire doors.

## 2.6 KEYING REQUIREMENTS

- A. General: Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.
- B. Review the keying system with the Owner and provide a master, grandmaster or great-grandmaster integrated with Owner's existing system. If key pinning charts are required, owner to furnish charts to hardware supplier.
- C. Furnish temporary keyed cores for the construction period, and remove these when directed. The construction cores remain property of the supplier and shall be returned to the supplier when they are removed. Contractor shall install the permanent cores in the presence of the owner's representative.
- D. Permanent Keys: Secured shipment direct from point of origination to Owner's Representative
  1. For estimate: 2 keys per change combination, 5 master keys per group, 5 grand-master keys, 3 control keys.

## 2.7 PUSH/PULL UNITS

- A. Exposed Fasteners: Provide manufacturer's standard exposed fasteners for installation, thru-bolted.

## 2.8 CLOSERS

- A. Accessibility Requirements: Where handles, pulls, latches, locks and other operating devices are indicated to comply with accessibility requirements, comply with the U.S. Architectural Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."
1. Comply with the following maximum opening-force requirements:
    - a. Interior, Non-fire-rated Hinged Doors: 5 lbf applied perpendicular to door.
    - b. Fire Doors: Minimum opening force allowable by Authorities Having Jurisdiction (AHJ).
- B. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 30 lbf to set door in motion and not more than 15lbf to open door to minimum required width.
- C. Cylinder: Shall be of high strength cast iron construction. All door exterior closers shall be tested to ANSI/BHMA A156.4 test requirements by a BHMA certified independent testing laboratory. A written certification showing successful completion of a minimum of 10,000,000 cycles for all exterior door closers must be provided. Cylinder shall have been manufactured and in the marketplace for a minimum of 10 years
- D. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory sized closers, adjustable to meet field conditions and requirements for opening force.
- E. Surface Closers: BHMA A156.4 Grade 1. Provide type of arm required for closer to be located on non-public side of door, unless otherwise indicated.
1. Full rack-and-pinion type cylinder with removable non-ferrous cover and cast iron body. Double heat-treated pinion shaft, single piece forged piston, chrome silicon steel spring.
  2. ISO 2000 certified. Units stamped with date-of-manufacture code.
  3. Independent lab-tested 10,000,000 cycles.
  4. Thru-bolts at wood doors unless doors are provided with closer blocking. Non-sized, non-handed, and adjustable. Place closer inside building, stairs, and rooms.
  5. Plates, brackets and special templating when needed for interface with particular header, door and wall conditions and neighboring hardware.
  6. Opening pressure: Exterior doors 8.5 lb., interior doors 5 lb., labeled fire doors 15 lb.
  7. Separate adjusting valves for closing speed, latching speed and backcheck, fourth valve for delayed action where scheduled.
  8. Extra-duty arms (EDA) at exterior doors scheduled with parallel arm units.
  9. Exterior doors do not require seasonal adjustments in temperatures from 120 degrees F to -30 degrees F, furnish data on request.
  10. Non-flaming fluid will not fuel door or floor covering fires.
  11. Pressure relief valves are not allowed.

## 2.9 TRIM AND STOPS

- A. Kick plates, mop plates, and armor plates, shall be .050 gauge with 32D finish. Kick plates to be 10" high, mop plates to be 5" high. All plates shall be two (2) inches less full width of door.
- B. Push plates, pull plates, door pulls, and miscellaneous door trim shall be shown in the hardware schedule.
- C. Doorstops shall be furnished for all doors to prevent damage to doors or hardware from striking adjacent walls or fixtures. Wall stops are preferred. Floor stops are used only where noted in hardware schedule. Where conditions prohibit the use wall type stops, furnish overhead stops either surface mounted or concealed as noted in hardware sets.

## 2.10 WEATHERSTRIPPING AND SEALS

- A. General: Provide continuous weatherstripping on exterior doors and smoke, light, or sound seals on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

## 2.11 THRESHOLDS

- A. General: Except as otherwise indicated, provide standard metal threshold unit of type, size, and profile as shown or scheduled.

## 2.12 ELECTRICAL HARDWARE

- A. Furnish wiring diagrams to electrical contractor for use in installing electrical hardware products.
- B. Electrical contractor to run all wiring and make all final connections for electrified hardware. Hardware supplier shall be responsible to furnish all wiring diagrams to operate electrified hardware. Access control material and electrified hardware to interface at junction boxes.

## 2.13 HARDWARE FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and locksets (or push-pull units if no latch or lock sets).
- B. Provide finishes that match those established by BHMA or, if none established, match the Architect's sample.
- C. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- D. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
  - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.

### 3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated, as follows, unless otherwise indicated or required to comply with governing regulations.
  - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
  - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
- B. 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 specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
  - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
  - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

### 3.4 ADJUSTING

- A. 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.
  - 1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

### 3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

### 3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

### 3.7 DOOR HARDWARE SETS

HW SET: 01  
DOOR NUMBER  
**102A**

3	EA.		5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA.	CLASSROOM LOCK	10-28-10G37 PL RA KEYWAY	626	SAR
1	EA.	SURFACE CLOSER	4041 HEDA	689	MED
1	EA.	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA.	WALL STOP	WS407CCV	630	IVE
3	EA.	SILENCER	SR64	GRY	IVE

HW SET: 02  
DOOR NUMBER  
113A

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	SET	AUTO FLUSH BOLT	FB32	630	IVE
1	EA	CLASSROOM LOCK	10-28-10G37 PL RA KEYWAY	626	SAR
1	EA	COORDINATOR	3092	600	TRI
1	EA	SURFACE CLOSER	4041 EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	2525B	BRN	NGP

END OF SECTION 08 71 00