



# Department of Purchasing & Contract Compliance

June 26, 2014

**Re:** #14ITB-51514K-MH  
Renovation and Expansion at the Auburn Avenue Research Library

Dear Bidders:

Attached is one (1) copy of Addendum 5, hereby made a part of the above referenced **ITB**.

Except as provided herein, all terms and conditions in the **Bid** referenced above remain unchanged and in full force and effect.

Sincerely,

*Mark Hawks*

Mark Hawks  
Assistant Purchasing Agent

Winner 2000 - 2009 Achievement of Excellence in  
Procurement Award • National Purchasing Institute



#14ITB-51514K-MH

Renovation and Expansion at the Auburn Avenue Research Library

**Addendum No. 5**

**Page Two**

This Addendum forms a part of the contract documents and **modifies** the original ITB documents as noted below:

**1. Auburn Avenue Detailed SECTION 087100 – DOOR HARDWARE**

ACKNOWLEDGEMENT OF ADDENDUM NO. 5

The undersigned proposer acknowledges receipt of this addendum by returning one (1) copy of this form with the proposal package to the Department of Purchasing & Contract Compliance, Fulton County Public Safety Building, 130 Peachtree Street, Suite 1168, Atlanta, Georgia 30303 by the ITB due date and time **July 7, 2014, 2:00 P.M.**

This is to acknowledge receipt of Addendum No. 5, \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Legal Name of Bidder

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Title

SECTION 087100 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes commercial door hardware for the following:
  - 1. Swinging doors.
  - 2. Sliding doors.
  - 3. Other doors to the extent indicated.
- B. Door hardware includes, but is not necessarily limited to, the following:
  - 1. Mechanical door hardware.
  - 2. Electromechanical door hardware, power supplies, back-ups and surge protection.
  - 3. Automatic operators.
  - 4. Cylinders specified for doors in other sections.
- C. Related Sections:
  - 1. Division 08 Section “Door Hardware Schedule”.
  - 2. Division 08 Section “Hollow Metal Doors and Frames”.
  - 3. Division 08 Section “Interior Aluminum Doors and Frames”.
  - 4. Division 08 Section “Flush Wood Doors”.
  - 5. Division 08 Section “Integrated Door Opening Assemblies”.
  - 6. Division 08 Section “Access Control Hardware”.
  - 7. Division 28 Section “Access Control”.
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
  - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
  - 2. ICC/IBC - International Building Code.
  - 3. NFPA 80 - Fire Doors and Windows.
  - 4. NFPA 101 - Life Safety Code.
  - 5. NFPA 105 - Installation of Smoke Door Assemblies.
  - 6. State Building Codes, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards:

1. ANSI/BHMA Certified Product Standards - A156 Series
2. UL10C – Positive Pressure Fire Tests of Door Assemblies

### 1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
  1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
  2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
  3. Content: Include the following information:
    - a. Type, style, function, size, label, hand, and finish of each door hardware item.
    - b. Manufacturer of each item.
    - c. Fastenings and other pertinent information.
    - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    - e. Explanation of abbreviations, symbols, and codes contained in schedule.
    - f. Mounting locations for door hardware.
    - g. Door and frame sizes and materials.
  4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the 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 Schedule.
- C. Shop Drawings: Details of electrified access control hardware indicating the following:
  1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:

- a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
  - b. Complete (risers, point-to-point) access control system block wiring diagrams.
2. Electrical Coordination: Coordinate with related Division 26 Electrical Sections the voltages and wiring details required at electrically controlled and operated hardware openings.
- D. Keying Schedule: Prepared under the supervision of the Owner, separate schedule detailing final keying instructions for locksets and cylinders in writing. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner to approve submitted keying schedule prior to the ordering of permanent cylinders.
- E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the hardware and their nearest service representatives. The final copies delivered after completion of the installation test to include "as built" modifications made during installation, checkout, and acceptance.
- F. Warranties and Maintenance: Special warranties and maintenance agreements specified in this Section.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Installer Qualifications: Installers, trained by the primary product manufacturers, with a minimum 3 years documented experience installing both standard and electrified builders hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor in good standing by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
  1. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- D. Source Limitations: Obtain each type and variety of Door Hardware specified in this Section from a single source, qualified supplier unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
  2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.
- E. Regulatory Requirements: Comply with NFPA 70, NFPA 80, NFPA 101 and ANSI A117.1 requirements and guidelines as directed in the model building code including, but not limited to, the following:
1. NFPA 70 "National Electrical Code", including electrical components, devices, and accessories listed and labeled as defined in Article 100 by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
  2. Where indicated to comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," ANSI A117.1 as follows:
    - a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
    - b. Door Closers: Comply with the following maximum opening-force requirements indicated:
      - 1) Interior Hinged Doors: 5 lbf applied perpendicular to door.
      - 2) Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
    - c. Thresholds: Not more than 1/2 inch high. Bevel raised thresholds with a slope of not more than 1:2.
  3. NFPA 101: Comply with the following for means of egress doors:
    - a. Latches, Locks, and Exit Devices: Not more than 15 lbf to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
    - b. Thresholds: Not more than 1/2 inch high.
  4. Fire-Rated Door Assemblies: Provide door hardware for 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 (neutral pressure at 40" above sill) or UL-10C.
    - a. Test Pressure: Positive pressure labeling.
- F. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

- G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
1. Function of building, purpose of each area and degree of security required.
  2. Plans for existing and future key system expansion.
  3. Requirements for key control storage and software.
  4. Installation of permanent keys, cylinder cores and software.
  5. Address and requirements for delivery of keys.
- H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
  2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
  3. Review sequence of operation narratives for each unique access controlled opening.
  4. Review and finalize construction schedule and verify availability of materials.
  5. Review the required inspecting, testing, commissioning, and demonstration procedures
- I. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

#### 1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check

Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

- B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.
- C. Door and Frame Preparation: Related Division 08 Sections (Steel, Aluminum and Wood) doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

#### 1.7 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
  - 1. Structural failures including excessive deflection, cracking, or breakage.
  - 2. Faulty operation of the hardware.
  - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
  - 4. Electrical component defects and failures within the systems operation.
- C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.
- D. Special Warranty Periods:
  - 1. Ten years for mortise locks and latches.
  - 2. Five years for exit hardware.
  - 3. Twenty five years for manual surface door closers.
  - 4. Two years for electromechanical door hardware.

#### 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. Continuing Service: Beginning at Substantial Completion, and running concurrent with the specified warranty period, provide continuous (6) months full maintenance including repair and

replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door opening operation. Provide parts and supplies as used in the manufacture and installation of original products.

## PART 2 - PRODUCTS

### 2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
1. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
    - a. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
  - B. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

### 2.2 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.
1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
    - a. Two Hinges: For doors with heights up to 60 inches.
    - b. Three Hinges: For doors with heights 61 to 90 inches.
    - c. Four Hinges: For doors with heights 91 to 120 inches.
    - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
  2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
    - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
    - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
  3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

- a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
  - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
4. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:
- a. Non-removable 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 the following applications:
    - 1) Out-swinging exterior doors.
    - 2) Out-swinging access controlled doors.
    - 3) Out-swinging lockable doors.
5. Acceptable Manufacturers:
- a. Bommer Industries (BO).
  - b. Hager Companies (HA).
  - c. McKinney Products (MK).
- B. Continuous Geared Hinges: ANSI/BHMA A156.26 certified continuous geared hinge with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Provide concealed flush mount (with or without inset), full surface, or half surface, in standard and heavy duty models, as specified in the Hardware Sets. Concealed continuous hinges to be U.L. listed for use on up to and including 90 minute rated door installations and U.L. listed for windstorm components where applicable. Factory cut hinges for door size and provide with removable service power transfer panel where indicated at electrified openings.
1. Acceptable Manufacturers:
- a. McKinney Products (MK).
  - b. Pemko Manufacturing (PE).

## 2.3 POWER TRANSFER DEVICES

- A. Electrified Quick Connect Transfer Hinges: Provide electrified transfer hinges with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.
1. Acceptable Manufacturers:
- a. Hager Companies (HA) - ETW-QC (# wires) Option.
  - b. McKinney Products (MK) - QC (# wires) Option.

## 2.4 DOOR OPERATING TRIM

- A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified automatic, self-latching, and manual flush bolts and surface bolts. Manual flush bolts to be furnished with top rod of sufficient length to allow bolt location approximately six feet from the floor. Furnish dust proof strikes for bottom bolts. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
1. Acceptable Manufacturers:
    - a. Door Controls International (DC).
    - b. Rockwood Manufacturing (RO).
    - c. Trimco (TC).
- B. Coordinators: ANSI/BHMA A156.3 certified door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Coordinators fabricated from steel with nylon-coated strike plates and built-in adjustable safety release.
1. Acceptable Manufacturers:
    - a. Door Controls International (DC).
    - b. Rockwood Manufacturing (RO).
- C. Door Push Plates and Pulls: ANS/BHMA A156.6 certified door pushes and pulls of type and design specified below or in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with square corners and beveled edges, secured with exposed screws unless otherwise indicated.
  2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
  3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
  4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
    - a. Acceptable Manufacturers:
      - 1) Rockwood Manufacturing (RO).
      - 2) Trimco (TC).

## 2.5 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

- B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
1. Acceptable Manufacturers:
    - a. Corbin Russwin Hardware (RU).
    - b. Sargent Manufacturing (SA).
    - c. Schlage (SC).
- C. Cylinders: Original manufacturer cylinders complying with the following:
1. Mortise Type: Threaded cylinders with rings and straight- or clover-type cam.
  2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
  3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
  4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
  5. Keyway:
- D. Permanent Cores: Manufacturer's standard; finish face to match lockset; complying with the following:
1. Interchangeable Cores: Core insert, removable by use of a special key; usable with other manufacturers' cylinders.
- E. Keying System: Each type of lock and cylinders to be factory keyed. Conduct specified "Keying Conference" to define and document keying system instructions and requirements. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner. Incorporate decisions made in keying conference, and as follows:
1. Master Key System: Cylinders are operated by a change key and a master key.
  2. Grand Master Key System: Cylinders are operated by a change key, a master key, and a grand master key.
  3. Great-Grand Master Key System: Cylinders are operated by a change key, a master key, a grand master key, and a great-grand master key.
  4. Existing System: Master key or grand master key locks to Owner's existing system.
  5. Keyed Alike: Key all cylinders to same change key.
- F. Key Quantity: Provide the following minimum number of keys:
1. Top Master Key: One (1)
  2. Change Keys per Cylinder: Two (2)
  3. Master Keys (per Master Key Group): Two (2)
  4. Grand Master Keys (per Grand Master Key Group): Two (2)
  5. Construction Keys (where required): Ten (10)
  6. Construction Control Keys (where required): Two (2)
  7. Permanent Control Keys (where required): Two (2)
- G. Construction Keying: Provide construction master keyed cylinders or temporary keyed construction cores where specified. Provide construction master keys in quantity as required by

project Contractor. Replace construction cores with permanent cores. Furnish permanent cores for installation as directed under specified "Keying Conference".

- H. Key Registration List: Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
- I. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.
  - 1. Acceptable Manufacturers:
    - a. Lund Equipment (LU).
    - b. MMF Industries (MM).
    - c. Telkee (TK).

## 2.6 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified mortise locksets furnished in the functions as specified in the Hardware Sets. Locksets to be manufactured with a corrosion resistant, stamped 12 gauge minimum formed steel case and be field-reversible for handing without disassembly of the lock body. Lockset trim (including knobs, levers, escutcheons, roses) to be the product of a single manufacturer. Furnish with standard 2 3/4" backset, 3/4" throw anti-friction stainless steel latchbolt, and a full 1" throw stainless steel bolt for deadbolt functions.
  - 1. Acceptable Manufacturers:
    - a. Corbin Russwin Hardware (RU) – ML2000 Series.
    - b. Sargent Manufacturing (SA) – 8200 Series.
    - c. Schlage (SC) – L9000 Series.
- B. Lock Trim Design: As specified in Hardware Sets.

## 2.7 ELECTROMECHANICAL LOCKING DEVICES

- A. Electromechanical Mortise Locksets, Grade 1 (Heavy Duty): Subject to same compliance standards and requirements as mechanical mortise locksets, electrified locksets to be of type and design as specified below.
  - 1. Electrified Lock Options: Where indicated in the Hardware Sets, provide electrified options including: outside door lock/unlock trim control, latchbolt and lock/unlock status monitoring, and request-to-exit signaling. Unless otherwise indicated, provide electrified locksets standard as fail secure.
  - 2. Acceptable Manufacturers:
    - a. Corbin Russwin Hardware (RU) - ML20900 Series.
    - b. Sargent Manufacturing (SA) - 8200 Series.

- c. Schlage (SC) - L9000 EL/EU/RX Series.

## 2.8 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
  - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
  - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
  - 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
- B. Standards: Comply with the following:
  - 1. Strikes for Mortise Locks and Latches: BHMA A156.13.
  - 2. Strikes for Bored Locks and Latches: BHMA A156.2.
  - 3. Strikes for Auxiliary Deadlocks: BHMA A156.5.
  - 4. Dustproof Strikes: BHMA A156.16.

## 2.9 CONVENTIONAL EXIT DEVICES

- A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
  - 1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
  - 2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
    - a. Fire Exit Removable Mullions: Provide keyed removable mullions for use with fire exit devices complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252. Mullions to be used only with exit devices for which they have been tested.
  - 3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.

4. Flush End Caps: Provide heavy weight impact resistant flush end caps made of architectural metal in the same finish as the devices as in the Hardware Sets. Plastic end caps will not be acceptable.
  5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty trim with cold forged escutcheons, beveled edges, and four threaded studs for thru-bolts.
    - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets. Provided free-wheeling type trim where indicated.
    - b. Where function of exit device requires a cylinder, provide an interchangeable core type keyed cylinder (Rim or Mortise) as specified in Hardware Sets.
  6. Vertical Rod Exit Devices: Provide and install interior surface and concealed vertical rod exit devices as Less Bottom Rod (LBR) unless otherwise indicated.
  7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
  8. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
  9. Rail Sizing: Provide exit device rails factory sized for proper door width application.
  10. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
- B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Mounting rails to be formed from smooth stainless steel, brass or bronze architectural materials no less than 0.072" thick, with push rails a minimum of 0.062" thickness. Painted or aluminum metal rails are not acceptable. Exit device latch to be investment cast stainless steel, pullman type, with deadlock feature.
1. Acceptable Manufacturers:
    - a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    - b. Sargent Manufacturing (SA) - 80 Series.
    - c. Yale Locks and Hardware (YA) - 7000 Series.

## 2.10 ELECTROMECHANICAL CONVENTIONAL EXIT DEVICES

- A. Electrified Conventional Push Rail Devices (Heavy Duty): Subject to same compliance standards and requirements as mechanical exit devices, electrified devices to be of type and design as specified below.
1. Acceptable Manufacturers:
    - a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    - b. Sargent Manufacturing (SA) - 80 Series.

c. Yale Locks and Hardware (YA) - 7000 Series.

B. Electrified Options: As indicated in hardware sets, provide electrified exit device options including: electric latch retraction , electric dogging, outside door trim control, exit alarm, delayed egress, latchbolt monitoring, lock/unlock status monitoring, touchbar monitoring and request-to-exit signaling. Unless otherwise indicated, provide electrified exit devices standard as fail secure.

## 2.11 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
2. Standards: Closers to comply with UL-10C and UBC 7-2 for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Cycle Testing: Provide closers which have surpassed 10 million cycles in a test witnessed and verified by UL.
4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
  - a. Where closers are indicated to have mechanical dead-stop, provide heavy duty arms and brackets with an integral positive stop.
  - b. Where closers are indicated to have mechanical hold open, provide heavy duty units with an additional built-in mechanical holder assembly designed to hold open against normal wind and traffic conditions. Holder to be manually selectable to on-off position.
  - c. Where closers are indicated to have a cushion-type stop, provide heavy duty arms and brackets with spring stop mechanism to cushion door when opened to maximum degree.
  - d. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics. Provide drop plates or other accessories as required for proper mounting.
6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates, and through-bolt or security type fasteners as specified in the door Hardware Sets.

- B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Acceptable Manufacturers:
  - a. Corbin Russwin Hardware (RU) - DC8000 Series.
  - b. Sargent Manufacturing (SA) - 351 Series.
  - c. Norton Door Controls (NO) - 7500 Series.
  - d. Yale Locks and Hardware (YA) - 4400 Series.

## 2.12 AUTOMATIC DOOR OPERATORS

- A. General: Provide operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for compliance with UL 325. Coordinate operator mechanisms with door operation, hinges, and activation devices.
1. Fire-Rated Doors: Provide door operators for fire-rated door assemblies that comply with NFPA 80 for fire-rated door components and are listed and labeled by a qualified testing agency.
- B. Electromechanical Door Operators: Self-contained units powered by permanent magnet DC motor, with closing speed controlled mechanically by gear train, connections for power, activation and safety device wiring, and manual operation including spring closing when power is off.
- C. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with nonferrous shims for aligning system components.
- D. Standard: Certified ANSI/BHMA A156.19.
1. Performance Requirements:
    - a. Opening Force if Power Fails: Not more than 15 lbf required to release a latch if provided, not more than 30 lbf required to manually set door in motion, and not more than 15 lbf required to fully open door.
    - b. Entrapment Protection: Not more than 15 lbf required to prevent stopped door from closing or opening.
- E. Configuration: Surface mounted. Door operators to control single swinging and pair of swinging doors.
- F. Operation: Power opening and spring closing operation capable of meeting ANSI A117.1 accessibility guideline. Provide time delay for door to remain open before initiating closing cycle as required by ANSI/BHMA A156.19. When not in automatic mode, door operator to

function as manual door closer with fully adjustable opening and closing forces, with or without electrical power.

1. On-off switch to control power to be key switch operated.
- G. Features: Operator units to have full feature adjustments for door opening and closing force and speed, backcheck, motor assist acceleration from 0 to 30 seconds, time delay, vestibule interface delay, obstruction recycle, and hold open time from 0 up to 30 seconds.
- H. Provide outputs and relays on board the operator to allow for coordination of exit device latch retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified auxiliary contacts.
- I. Activation Devices: Provide activation devices in accordance with ANSI/BHMA A156.19 standard, for condition of exposure indicated and for long term, maintenance free operation under normal traffic load operation. Coordinate activation control with electrified hardware and access control interfaces. Activation switches are standard SPST, with optional DPDT availability.
- J. Signage: As required by cited ANSI/BHMA A156.19 standard for the type of operator.
1. Acceptable Manufacturers:
    - a. Besam Automated Entrance Systems (BE) - SW100 Series.
    - b. Norton Door Controls (NO) - 5700 LEO Series.

## 2.13 ARCHITECTURAL TRIM

### A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Metal Protection Plates: ANSI/BHMA A156.6 certified metal protection plates (kick, armor, or mop), beveled on four edges (B4E), fabricated from the following.
  - a. Stainless Steel: 050-inch thick, with countersunk screw holes (CSK).
  - b. Brass or Bronze: 050-inch thick, with countersunk screw holes (CSK).
  - c. Laminate Plastic or Acrylic: 1/8-inch thick, with countersunk screw holes (CSK).
4. Fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets.

5. Metal Door Edging: Door protection edging fabricated from a minimum .050-inch thick metal sheet, formed into an angle or "U" cap shapes, surface or mortised mounted onto edge of door. Provide appropriate leg overlap to account for protection plates as required. Height to be as specified in the Hardware Sets.
6. Acceptable Manufacturers:
  - a. Rockwood Manufacturing (RO).

#### 2.14 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
  1. Acceptable Manufacturers:
    - a. Rockwood Manufacturing (RO).
    - b. Trimco (TC).
- C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
  1. Acceptable Manufacturers:
    - a. Rixson Door Controls (RF).
    - b. Rockwood Manufacturing (RO).
    - c. Sargent Manufacturing (SA).

#### 2.15 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: 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 UL-10C.
  1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and UBC 7-2, Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated, based on testing according to ASTM E 1408.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Acceptable Manufacturers:
  1. Pemko Manufacturing (PE).
  2. Reese Enterprises, Inc. (RS).
  3. Zero International (ZE).

## 2.16 ELECTRONIC ACCESSORIES

- A. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.
  1. Acceptable Manufacturers:
    - a. Sargent Manufacturing (SA) – 3280 Series.
    - b. Securitron (SU) - DPS Series.
- B. Power Supplies: Provide Nationally Recognized Testing Laboratory Listed 12VDC or 24VDC (field selectable) filtered and regulated power supplies. Include battery backup option with integral battery charging capability in addition to operating the DC load in event of line voltage failure. Provide the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.
  1. Acceptable Manufacturers:
    - a. Sargent Manufacturing (SA) – 3500 Series.
    - b. Securitron (SU) - BPS Series.

## 2.17 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

## 2.18 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. 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.
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine scheduled openings, 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. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

### 3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

### 3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
  - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically 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. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
  - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
  - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and 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 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

### 3.4 FIELD QUALITY CONTROL

- A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

### 3.5 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.

### 3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.

- C. Clean operating items as necessary to restore proper finish. and provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

### 3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

### 3.8 DOOR HARDWARE SCHEDULE

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
- B. Refer to Section 080671, Door Hardware Schedule, for hardware sets.
- C. Manufacturer's Abbreviations:

- 1. MK - McKinney
- 2. PE - Pemko
- 3. RO - Rockwood
- 4. SA - Sargent
- 5. RF - Rixson
- 6. NO - Norton
- 7. RU - Corbin Russwin
- 8. SU - Securitron

#### **Hardware Schedule**

##### **Set: 1.0**

Doors: 100.1, C103.2

Description: Exterior Storefront Pair - DPS

2 Continuous Hinge	CFM83SLF-HD1		PE
2 Exit Device	737P AD8410 106 x 862	US32D	SA
1 Interchangeable Core	7P-7300B	US15	SA
2 Automatic Operator	5930	689	NO
1 Switch (DPS)	3287		SA
2 Door Switch	661		NO

Notes: Operation: exit devices to be dogged during hours of occupancy, wall mounted door switch to signal automatic operators to open doors.

Balance of hardware: threshold, door seals, mounting brackets furnished by storefront door manufacturer.

**Set: 2.0**

Doors: 118.3

Description: Exterior Exit (EO - DPS)

3 Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	US32D	MK
1 Exit Device (exit only)	LD 8810	US32D	SA
1 Door Closer	SRI 351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Threshold (Saddle)	271A		PE
1 Door Bottom	315CN		PE
1 Rain Guard	346C		PE
1 Gasketing	303AV		PE
1 Switch (DPS)	3287		SA

**Set: 3.0**

Doors: C101.1

Description: Exterior Single Exit - DPS

3 Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	US32D	MK
1 Exit Device	LD 737P 8804 ETB	US32D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	SRI 351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Threshold (Saddle)	271A		PE
1 Rain Guard	346C		PE
1 Gasketing	303AV		PE
1 Switch (DPS)	3287		SA

**Set: 4.0**

Doors: ST-2.1.2, ST-4.1

Description: Exterior Stair (Exit Only)

3 Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	US32D	MK
1 Exit Device (exit only)	LD 8810	US32D	SA
1 Door Closer	SRI 351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Threshold (Bumper)	2005AV		PE
1 Door Bottom	315CN		PE
1 Rain Guard	346C		PE
1 Gasketing	303AV		PE

**Set: 5.0**

Doors: 501

Description: Exterior Mechanical (Roof)

3 Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	US32D	MK
1 Storeroom Lock	737P 76 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA

1 Door Closer	351 UO	EN	SA
1 Threshold (Saddle)	271A		PE
1 Door Bottom	315CN		PE
1 Rain Guard	346C		PE
1 Gasketing	303AV		PE

**Set: 6.0**

Doors: ST-2.1.1, ST-2.2, ST-2.3, ST-2.4, ST-3.1.2, ST-3.2, ST-4.2, ST-4.3, ST-4.4

Description: Stair

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Exit Device	12 8815 ETB	US32D	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE

**Set: 7.0**

Doors: ST-3.3.1, ST-3.3.2

Description: Stair (Card Reader (DPS))

2 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Hinge (heavy weight)	T4A3786 QC-12 4-1/2" x 4-1/2"	US26D	MK
1 Electric Exit Device	12 55 737P 8875-24v ETB	US32D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Gasketing	S88D		PE
1 ElectroLynx Harness 38"	QC-C300		MK
1 ElectroLynx Harness 15'2"	QC-C1500		MK
1 Card Reader	4303		SA
1 W&D	Wiring and Riser Diagram		RU
1 Power Supply	BPS-12/24-1		SU

Notes: Presentation of authorized credential thru wall mounted reader to signal electronic exit lever to release and allow entry. Egress by exit push pad. Access by key at all times. Exit device to unlock (fail safe) if power fails.

Frame supplier to install conduit in frame from hinge to head. Coordinate with electrical contractor.

Wiring and riser diagrams to be supplied by hardware distributor. Coordinate with electrical contractor.

**Set: 8.0**

Doors: 110, 112, 114, 115, 202.1, 202.2, 203, 203.2, 204.1, 302, 302.1, 303.1, 304, 305, 305.1, 306, 306.1, 306.2, 402.1, 404, 404.3

Description: Card Reader - DPS

2 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Hinge (heavy weight)	T4A3786 QC-12 4-1/2" x 4-1/2"	US26D	MK
1 Fail Secure Electric Lock	RX 737P 8271-24V LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA

1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Switch (DPS)	3287		SA
1 ElectroLynx Harness 38"	QC-C300		MK
1 ElectroLynx Harness 15'2"	QC-C1500		MK
1 Card Reader	4303		SA
1 W&D	Wiring and Riser Diagram		RU
1 Power Supply	BPS-12/24-1		SU

Notes: Presentation of authorized credential thru wall mounted reader to signal electronic lock to release and allow entry. Egress by lock lever. Access by key at all times. Lock to remain locked (fail secure) if power fails.

Frame supplier to install conduit in frame from hinge to head. Coordinate with electrical contractor.

Wiring and riser diagrams to be supplied by hardware distributor. Coordinate with electrical contractor.

**Set: 9.0**

Doors: 111

Description: Card Reader Pair - DPS

7 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Hinge (heavy weight)	T4A3786 QC-12 4-1/2" x 4-1/2"	US26D	MK
1 Dust Proof Strike	570	US26D	RO
1 Flush Bolt Set	1845	US26	RO
1 Fail Secure Electric Lock	RX 737P 8271-24V LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
2 Door Closer	351 UO	EN	SA
2 Kick Plate	K1050 10" x L.A.R.	US32D	RO
2 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE
2 Astragal(Paired)	303AVTST		PE
2 Switch (DPS)	3287		SA
1 ElectroLynx Harness 38"	QC-C300		MK
1 ElectroLynx Harness 15'2"	QC-C1500		MK
1 Card Reader	4303		SA
1 W&D	Wiring and Riser Diagram		RU
1 Power Supply	BPS-12/24-1		SU

Notes: Presentation of authorized credential thru wall mounted reader to signal electronic lock to release and allow entry. Egress by lock lever. Access by key at all times. Lock to remain locked (fail secure) if power fails.

Frame supplier to install conduit in frame from hinge to head. Coordinate with electrical contractor.

Wiring and riser diagrams to be supplied by hardware distributor. Coordinate with electrical contractor.

**Set: 10.0**

Doors: C103.1

Description: Corridor (Integrated Door)

2 Electromagnetic Holder	998	689	RF
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1 HBO All Hardware by door manufacturer CO

Notes: Magnetic door holders to release with fire alarm activation.

**Set: 11.0**

Doors: C102.1

Description: Corridor (Passage)

4 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Passage Set	8215 LNB	US26D	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO

**Set: 12.0**

Doors: C104, C201, C202, C301, C302, C402

Description: Corridor (Exit)

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Exit Device	12 8815 ETB	US32D	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE

**Set: 13.0**

Doors: 103.2, C101.2

Description: Corridor (Exit) Card Reader - DPS

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Hinge (heavy weight)	T4A3786 QC-12 4-1/2" x 4-1/2"	US26D	MK
1 Electric Exit Device	12 55 737P 8874-24v ETB	US32D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Gasketing	S88D		PE
1 ElectroLynx Harness 38"	QC-C300		MK
1 ElectroLynx Harness 15'2"	QC-C1500		MK
1 Card Reader	4303		SA
1 W&D	Wiring and Riser Diagram		RU
1 Power Supply	BPS-12/24-1		SU

Notes: Presentation of authorized credential thru wall mounted reader to signal electronic exit lever to release and allow entry. Egress by exit push pad. Access by key at all times. Exit device to remain locked (fail secure) if power fails.

Frame supplier to install conduit in frame from hinge to head. Coordinate with electrical contractor.

Wiring and riser diagrams to be supplied by hardware distributor. Coordinate with electrical contractor.

**Set: 14.0**

Doors: C102.2

Description: Corridor Pair

8 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Dust Proof Strike	570	US26D	RO
1 Flush Bolt Set	1845	US26	RO
1 Passage Set	8215 LNB	US26D	SA
1 Coordinator	1672	US28	RO
2 Door Closer	351 UO	EN	SA
2 Kick Plate	K1050 10" x L.A.R.	US32D	RO
2 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE
2 Astragal(Paired)	303AVTST		PE

**Set: 15.0**

Doors: 118.1, 118.2, **118.4**

Description: Auditorium ~~Pair~~

<b>4</b> Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Exit Device	<b>737P 8813 ETB</b>	US32D	SA
1 Interchangeable Core	7P-7300B	US15	SA
<b>1</b> Door Closer	351 CPSH	EN	SA
<b>1</b> Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Gasketing	S773BL		PE
<del>2 Astragal(Paired)</del>	<del>303AVTST</del>		<del>PE</del>

**Set: 16.0**

Doors: 206

Description: Auditorium Balcony

8 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
4 Pull	RM3402-60 Mtg-Type 16 MP	US32	RO
2 Door Closer	351 CPS	EN	SA
2 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Gasketing	S773BL		PE
2 Astragal(Paired)	303AVTST		PE

**Set: 17.0**

Doors: 103.1

Description: Gallery Pair

8 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Flush Bolt	555	US26D	RO
1 Dust Proof Strike	570	US26D	RO
1 Flush Bolt	555 36"	US26D	RO
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
2 Wall Stop	409	US32D	RO

2 Silencer 608 RO

**Set: 18.0**

Doors: 205

Description: Small Gallery

4 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Gasketing	S773BL		PE

**Set: 19.0**

Doors: 204, 205.1

Description: Stacks

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE

**Set: 19.1**

Doors: 200.1, 200.2, 300.1, 300.2

Description: Lobby - Reading

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
2 Pull	RM3402-60 Mtg-Type 16 MP	US32	RO
1 Door Closer	351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
3 Silencer	608		RO

**Set: 19.2**

Doors: 200.3, 300.3

Description: Lobby - Reading (Operator)

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
2 Pull	RM3402-60 Mtg-Type 16 MP	US32	RO
1 Automatic Operator	5930	689	NO
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
3 Silencer	608		RO
2 Door Switch	661		NO

**Set: 20.0**

Doors: 201.1, 201.2, 201.3, 301.1, 301.2, 301.3

Description: Reading - Study

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Passage Set	8215 LNB	US26D	SA
1 Wall Stop	409	US32D	RO
1 Gasketing	S773BL		PE

**Set: 21.0**

Doors: 404.11

Description: Cold Storage

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	737P 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Threshold (Saddle)	271A		PE
1 Door Bottom	315CN		PE
1 Gasketing	S88D		PE

**Set: 22.0**

Doors: 404.1

Description: Acclimation Zone

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Gasketing	S88D		PE

**Set: 23.0**

Doors: 117, 122.1

Description: Mechanical

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	737P 76 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE

Notes: Knurled lever outside

**Set: 23.1**

Doors: 122.2, 207.1

Description: Mechanical (Exit Latch)

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Exit Latch	8213 LNB	US26D	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE

Notes: Note: 4 hinges on opening 207.1

**Set: 24.0**

Doors: 121, 207, 307.1, 407

Description: Existing Mechanical Pair

6 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
2 Flush Bolt	555	US26D	RO
1 Dust Proof Strike	570	US26D	RO
1 Storeroom Lock	737P 76 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
2 Door Closer	351 UO	EN	SA
2 Kick Plate	K1050 10" x L.A.R.	US32D	RO
2 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE
2 Astragal(Paired)	303AVTST		PE

Notes: Knurled lever outside

**Set: 25.0**

Doors: 113, 125, 210, 310, 410

Description: Janitor

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	737P 76 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 UO	EN	SA
1 Mop Plate	K1050 4" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE

**Set: 26.0**

Doors: 107, 107.1, 108, 303.2, 403

Description: Office

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Office Lock	737P 8205 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA

1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

**Set: 27.0**

Doors: 105.1, 105.3, 202  
Description: Office (Closer)

4 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Office Lock	737P 8205 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

**Set: 28.0**

Doors: 401  
Description: Conference

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Wall Stop	409	US32D	RO
1 Gasketing	S773BL		PE

**Set: 29.0**

Doors: 107.2  
Description: Editing

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE

**Set: 30.0**

Doors: 402  
Description: Lounge

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Passage Set	8215 LNB	US26D	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Mop Plate	K1050 4" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S773BL		PE

**Set: 31.0**

Doors: 104.2

Description: Lounge 7'10"

4 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Passage Set	8215 LNB	US26D	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Mop Plate	K1050 4" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S773BL		PE

**Set: 32.0**

Doors: 104.1

Description: Lounge Pair

8 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Flush Bolt	555	US26D	RO
1 Dust Proof Strike	570	US26D	RO
1 Flush Bolt	555 24"	US26D	RO
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
2 Surface Overhead Stop	9-X36	630	RF
1 Gasketing	S773BL		PE
1 Astragal(Paired)	303AVTST		PE

**Set: 33.0**

Doors: 123, 405

Description: Storage

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	737P 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

**Set: 34.0**

Doors: 130

Description: Storage (OH)

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	737P 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Surface Overhead Stop	9-X36	630	RF
3 Silencer	608		RO

**Set: 35.0**

Doors: 105.2, 106

Description: Storage (Closer)

4 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	737P 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

**Set: 36.0**

Doors: 404.2

Description: Storage (Closer - OH)

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Storeroom Lock	737P 8204 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
3 Silencer	608		RO

**Set: 37.0**

Doors: 109.1

Description: Loading - Trash -Recycle

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 CPS	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Gasketing	S88D		PE

**Set: 38.0**

Doors: ST-3.1.1

Description: Loading (Stairwell)

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Classroom Lock	737P 8237 LNB	US26D	SA
1 Interchangeable Core	7P-7300B	US15	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D		PE

**Set: 39.0**

Doors: ~~119.2, 119.3~~, 208, 209, 308, 309, 408, 409

Description: Men - Women

4 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Push Plate	70C	US32D	RO
1 Pull Plate	110x70C	US32D	RO
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Mop Plate	K1050 4" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

**Set: 39.1**

Doors: 119.2, 119.3

Description: Men – Women (Lockable)

4 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Push Plate	70C	US32D	RO
1 Pull Plate	110x70C	US32D	RO
1 Deadlock	4877	US26D	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Mop Plate	K1050 4" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

**Set: 40.0**

Doors: 107.3, 203.1, 304.1

Description: Toilet (WS)

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Privacy Set	8265 LNB	US26D	SA
1 Mop Plate	K1050 4" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S773BL		PE

**Set: 41.0**

Doors: 116

Description: Toilet (Closer - WS)

3 Hinge (heavy weight)	T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Privacy Set	8265 LNB	US26D	SA
1 Door Closer	351 UO	EN	SA
1 Kick Plate	K1050 10" x L.A.R.	US32D	RO
1 Mop Plate	K1050 4" x L.A.R.	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S773BL		PE
1 Coat Hook	802	US26D	RO

**Set: 42.0**

Doors: 109.2

Description: Overhead

1 Exist	Existing Hardware to be re-used	CO
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**Set: 43.0**

Description: Existing

1 Exist	Existing Hardware to be re-used	CO
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Notes: Verify existing hardware in good working order. Adjust - replace if necessary.

END OF SECTION 087100