

SECTION 08700

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. 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.
 3. 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 “Flush Wood Doors”.
 4. Division 08 Section “Aluminum-Framed Entrances and Storefronts”.
 5. 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. FEMA P-361 2015 - Design and Construction Guidance for Community Safe Rooms.
 3. ICC 500-2014, ICC/NSSA Standard for the Design and Construction of Storm Shelters.
 4. ICC/IBC - International Building Code.
 5. NFPA 70 - National Electrical Code.
 6. NFPA 80 - Fire Doors and Windows.
 7. NFPA 101 - Life Safety Code.
 8. NFPA 105 - Installation of Smoke Door Assemblies.
 9. 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.
 - h. Warranty information for each product.
 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.
 - c. Wiring instructions for each electronic component scheduled herein.
2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.
- D. Proof of Qualification: Provide copy of manufacturer(s) Factory Trained Installer documentation indicating proof of status as a qualified installer of Windstorm assemblies.
- E. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
- F. Informational Submittals:
1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- G. 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 Procedures.

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: A minimum 5 years documented experience installing both standard and electrified door 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 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.

- D. Windstorm Assembly Installer Qualifications: Installers are to be factory trained for shop and field installation prior to project bid, and are responsible for commissioning, servicing, and warranting the installed equipment specified for the project. A pre-installation site inspection of the frame and floor conditions shall be conducted by the factory trained installer prior to any Windstorm assembly hardware applied to the opening.
- E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source 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.
- F. Severe Storm Shelter Openings: Provide complete door systems for hurricane or tornado resistant storm shelters and other areas of refuge complying and tested according to FEMA P-361 (2015), Design and Construction Guidance for Community Safe Rooms; and ICC 500 (2014), ICC/NSSA Standard for the Design and Construction of Storm Shelters.
- G. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.
- H. 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.
- I. 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
- J. 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: 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. Five years for exit hardware.
 2. Twenty five years for manual surface door closer bodies.
 3. Five years for motorized electric latch retraction exit devices.
 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.

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.
- B. 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:
1. 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.
- C. 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 and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:
 - 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:
 - 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 all out-swinging lockable doors.
 5. Manufacturers:
 - a. Bommer Industries (BO) - LB Series.
 - b. Hager Companies (HA) - CB Series.
 - c. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - TA Series.
- B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 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. Factory trim hinges to suit door height and prepare for electrical cut-outs.
1. Manufacturers:
 - a. Bommer Industries (BO).
 - b. Hager Companies (HA).
 - c. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
- C. Pin and Barrel Continuous Hinges: ANSI/BHMA A156.26 Grade 1-600 certified pin and barrel continuous hinges with minimum 14 gauge Type 304 stainless steel hinge leaves, concealed teflon coated stainless pin, and twin self-lubricated nylon bearings at each knuckle separation. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Manufacturers:
 - a. Markar Products; ASSA ABLOY Architectural Door Accessories (MR).
 - b. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).

2.3 POWER TRANSFER DEVICES

- A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish 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. Manufacturers:
 - a. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE) – EL-CEPT Series.
 - b. Securitron (SU) - EL-CEPT Series.

- B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:
 - a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Electrical Connecting Kit: QC-R001.
 - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Connector Hand Tool: QC-R003.
2. Manufacturers:
 - a. Hager Companies (HA) - Quick Connect.
 - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) – QC-C Series.

2.4 DOOR OPERATING TRIM

- A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.
 1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.

2. Furnish dust proof strikes for bottom bolts.
 3. 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.
 4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
 5. Manufacturers:
 - a. Burns Manufacturing (BU).
 - b. Door Controls International (DC).
 - c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
- B. Coordinators: ANSI/BHMA A156.3 certified door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.
1. Manufacturers:
 - a. Burns Manufacturing (BU).
 - b. Door Controls International (DC).
 - c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
- C. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified 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 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.
 5. Manufacturers:
 - a. Burns Manufacturing (BU).
 - b. Hiawatha, Inc. (HI).
 - c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).

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. Manufacturers:

- a. Stanley Best (BE).
 - b. No Substitution.
- C. Cylinders: Original manufacturer cylinders complying with the following:
1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
 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: Match Facility Standard.
- 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.
1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 3. Existing System: Key locks to Owner's existing system.
- F. Key Quantity: Provide the following minimum number of keys:
1. Change Keys per Cylinder: Two (2)
 2. Master Keys (per Master Key Level/Group): Five (5).
 3. Construction Keys (where required): Ten (10).
 4. Construction Control Keys (where required): Two (2).
 5. Permanent Control Keys (where required): Two (2).
- G. Construction Keying: Provide construction master keyed cylinders.
- H. Key Registration List (Bitting List):
1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
 2. Provide transcript list in writing or electronic file as directed by the Owner.
- 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. Manufacturers:
 - a. Lund Equipment (LU).
 - b. MMF Industries (MM).
 - c. Telkee (TK).

2.6 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Multi-Point Locksets, FEMA: Three-point locking system device engineered for in-swinging and out-swinging door applications on windstorm safe shelter rooms. Extra heavy duty steel component construction securing the door to the frame at top, bottom and center latch positions. All three latching points are automatically activated when the device is locked. Multi-Point Deadlocking System shall be used only with doors, frames and associated hardware that have been engineered, tested and approved for a complete opening assembly system.
 1. Severe Storm Shelter Components: Multi-point locking system devices engineered for in-swinging and out-swinging door applications on tornado or hurricane resistant safe shelter rooms. The multi-point latching integrated device is approved for usage as part of a complete ICC 500 (2014) and FEMA P-361 (2015) door, frame and hardware assembly.
 2. ANSI-BHMA listed to A156.37 Grade 1 for multi-point locks:
 - a. Lever torque to retract all bolts less than 28 in.lb.
 - b. Cycle tested to 800,000 cycles.
 3. NFPA 80 and NFPA 101 life safety requirements.
 4. UL10B or UL10C, 3-hour fire rated openings.
 5. Latch bolt Construction:
 - a. Center Bolt to be one piece, $\frac{3}{4}$ " throw anti-friction stainless steel latch and one piece, 1" throw, hardened stainless steel deadbolt; 2- $\frac{3}{4}$ " standard backset.
 - b. Top and Bottom Bolts to be $\frac{3}{4}$ " x $\frac{3}{4}$ " stainless steel square latch bolt with $\frac{3}{4}$ " projection.
 6. Independent top and bottom bolt projection shall be field adjustable:
 - a. From the center mortise pocket.
 - b. Ability to make field adjustments while the door is in the hung position without the removal of the door.
 - c. Top and Bottom Bolts and the Center Mortise Case shall be factory installed into the door assembly.
 7. Bottom strike shall be offset and reversible to accommodate alignment issues due to rough opening tolerances.

8. Devices must be able to accommodate sectional rose and lever trim to match the design style and architectural finishes of the balance of the lockset and latches as specified.
 9. Devices must be available with electronic access control options for higher or everyday use and traceability.
 10. Devices must be available with rod-dogging indicator options:
 - a. Operated by single-point latching for non-emergency or normal use of the space.
 - b. Ability to hold rods in a retracted state.
 - c. Day-to-day operations with mortise lock only.
 - d. Indicator to show status.
 11. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - FE6600 Series.
 - b. Sargent Manufacturing (SA) - FM7300 Series.
 - c. No Substitution.
- B. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Grade 1 certified.
1. Furnish with solid cast levers, standard 2 3/4" backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latch bolt.
 2. Locks are to be non-handed and fully field reversible.
 3. Manufacturers:
 - a. Stanley Best (BE) – 9K Series.
 - b. No Substitution.

2.7 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 latch bolts, 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.
 4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- 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 A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.8 ELECTRIC STRIKES

- A. Standard Electric Strikes: Heavy duty, cylindrical and mortise lock electric strikes conforming to ANSI/BHMA A156.31, Grade 1, UL listed for both Burglary Resistance and for use on fire rated door assemblies. Stainless steel construction with dual interlocking plunger design tested to exceed 3000 lbs. of static strength and 350 ft-lbs. of dynamic strength. Strikes tested for a minimum 1 million operating cycles. Provide strikes with 12 or 24 VDC capability and supplied standard as fail-secure unless otherwise specified. Provide latch bolt and latch bolt strike monitoring indicating both the position of the latch bolt and locked condition of the strike where specified.
1. Manufacturers:
 - a. Folger Adam EDC (FO).
 - b. HES (HS).
 - c. Security Door Controls (SD).
 - B. Provide electric strikes with in-line power controller and surge suppressor by the same manufacturer as the strike with the combined products having a five year warranty.

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.
 3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the push bar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
 4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.

5. Electromechanical Options: Subject to same compliance standards and requirements as mechanical exit devices, electrified devices to be of type and design as specified in hardware sets. Include any specific controllers when conventional power supplies are not sufficient to provide the proper inrush current.
 6. Motorized Electric Latch Retraction: Devices with an electric latch retraction feature must use motors which have a maximum current draw of 600mA. Solenoid driven latch retraction is not acceptable.
 7. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with 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.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
 8. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
 9. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2” wide stiles.
 10. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
 11. Extended cycle test: Devices to have been cycle tested in ordinance with ANSI/BHMA 156.3 requirements to 9 million cycles.
 12. Rail Sizing: Provide exit device rails factory sized for proper door width application.
 13. 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. Exit device latch to be stainless steel, pullman type, with deadlock feature.
1. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
 - b. Sargent Manufacturing (SA) - 80 Series.
- C. Multi-Point Exit Devices for Severe Storm Shelter Openings: Multi-point exit devices specifically engineered for out-swinging door applications on tornado or hurricane resistant safe shelter rooms. Extra heavy duty steel component construction with each of the latching points automatically activated when the device is locked. The multi-point exit device is approved for usage as part of a complete ICC 500 (2014) and FEMA P-361 (2015) door, frame and hardware assembly.
1. Manufacturers:

- a. Sargent Manufacturing (SA) - FM8700 Series.
 - b. No Substitution.
- D. Tube Steel Removable Mullions: ANSI/BHMA A156.3 removable steel mullions with malleable-iron top and bottom retainers and a primed paint finish.
1. Provide keyed removable feature where specified in the Hardware Sets.
 2. Provide stabilizers and mounting brackets as required.
 3. Provide electrical quick connection wiring options as specified in the hardware sets.
 4. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - 700/900 Series.
 - b. Sargent Manufacturing (SA) - 980S Series.

2.10 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 for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 3. Cycle Testing: Provide closers which have surpassed 15 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.
 6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.
 8. Hurricane and Tornado Resistance Compliance: Door closers to be U.L. listed for windstorm assemblies where applicable. Provide the appropriate hurricane or tornado

resistant products that have been independent third party tested, certified, and labeled to meet state and local windstorm building codes applicable to project.

- B. Door Closers, Surface Mounted (Large Body Cast Iron): 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 body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.

1. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - DC8000 Series.
 - b. Norton Door Controls (NO) – 9500 Series.
 - c. Sargent Manufacturing (SA) - 281 Series.

2.11 SURFACE MOUNTED CLOSER HOLDERS

- A. Electromagnetic Door Holders: Certified ANSI A156.15 electromagnetic door holder/releases with a minimum 20 to 40 pounds holding power and single coil construction able to accommodate 12VDC, 24VAC, 24VDC and 120VAC. Coils to be independently wound, employing an integral fuse and armatures to include a positive release button.

1. Manufacturers:
 - a. Rixson (RF) - 980/990 Series.
 - b. Sargent Manufacturing (SA) - 1560 Series.

2.12 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. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, 050-inch thick.

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:
 - a. Burns Manufacturing (BU).
 - b. Hager Companies (HA).
 - c. Hiawatha, Inc. (HI).
 - d. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).

2.13 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. Manufacturers:
 - a. Burns Manufacturing (BU).
 - b. Hager Companies (HA).
 - c. Hiawatha, Inc. (HI).
 - d. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
- 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. Manufacturers:
 - a. Rixson Door Controls (RF).
 - b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
 - c. Sargent Manufacturing (SA).

2.14 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 NPFA 252, Standard Methods of 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.
- 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. Hurricane and Tornado Resistance Compliance: Architectural seals to be U.L. listed for windstorm assemblies where applicable. Provide the appropriate hurricane or tornado resistant products that have been independent third party tested, certified, and labeled to meet state and local windstorm building codes applicable to project.
- G. Manufacturers:
 - 1. National Guard Products (NG).
 - 2. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
 - 3. Reese Enterprises, Inc. (RE).

2.15 ELECTRONIC ACCESSORIES

- A. Request-to-Exit Motion Sensor: Request-to-Exit Sensors motion detectors specifically designed for detecting exiting through a door from the secure area to a non-secure area. Include built-in timers (up to 60 second adjustable timing), door monitor with sounder alert, internal vertical pointability coverage, 12VDC or 24VDC power and selectable relay trigger with fail safe/fail secure modes.
 - 1. Manufacturers:
 - a. Alarm Controls (AK) - SREX Series.
 - b. Security Door Controls (SD) - MD-31D Series.
 - c. Securitron (SU) - XMS Series.
- B. 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. Manufacturers:

- a. Sargent Manufacturing (SA) – 3280 Series.
- b. Security Door Controls (SD) - DPS Series.
- c. Securitron (SU) - DPS Series.

- C. 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. Manufacturers:

- a. Alarm Controls (AK) - APS Series.
- b. Corbin Russwin Hardware (RU) - BPS Series.
- c. Sargent Manufacturing (SA) - 3500 Series.
- d. Securitron (SU) - BPS Series.

2.16 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.

2.17 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 (Punch-Out Report): Reference Division 01 Section "Closeout Procedures". Final inspect installed door hardware and state in report whether work complies with or deviates from specification 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. 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 SETS

- 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
- B. 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.
- C. The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.
- D. Manufacturer’s Abbreviations:
 - 1. MK - McKinney
 - 2. PE - Pemko
 - 3. MR - Markar
 - 4. RO - Rockwood
 - 5. SA - SARGENT
 - 6. BE - dormakaba Best
 - 7. RU - Corbin Russwin
 - 8. HS - HES
 - 9. RF - Rixson
 - 10. SU - Securitron

Hardware Sets

Set: 1.0

Doors: 211a, 212a, 300b
 Description: Exterior

2 Continuous Hinge	CFMSLF-HD1 PT or CFMSLI-HD1 PT	PE	
1 Removable Mullion	L980S	PC	SA
1 Shim Kit	601		SA
1 Exit Device (storeroom)	LC 16 55 56 8804 PSB	US32D	SA ⚡
1 Exit Device (exit only)	LC 16 55 8810 PTB	US32D	SA ⚡
4 Cylinder	Housing to match existing	US26D	BE
4 Perm. Core	Match Owners Existing Keying	US26D	BE
4 Construction Core	To fit Housing	US26D	BE
2 Door Closer	281 CPS	EN	SA
2 Drop Plate	281D	EN	SA
2 Kit	581-2	EN	SA
2 Door Stop	462	US2C	RO
1 Threshold	279x292AFGPK x Opening Width		PE
1 Gasketing	5110BL x Mullion Height		PE

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2 Sweep	345ANB x Door Width	PE
2 Astragal	305CN x Door Height	PE
2 Electric Power Transfer	EL-CEPT	SU ⚡
2 ElectroLynx Harness	QC-C1500P	MK ⚡
2 ElectroLynx Harness	QC-C Length Required	MK ⚡
2 Position Switch	DPS-M-BK	SU ⚡
1 Power Supply	BPS-24-1	SU ⚡

Notes: Card reader furnished by Owner.

Weatherstripping furnished by Aluminum Door Supplier.

Operation: Doors are normally closed and locked. When a valid credential is presented to the wall mounted card reader the latch on one leaf of the exit devices will retract and you can pull the door open. When the door comes back closed the latch will project and the door will be locked. There will be a REX or request to exit switch built into the push pad on both of the exit devices. You can always exit out of the space by pushing on the push pad on the exit device and exiting out of the space.

Set: 2.0

Doors: 509b

Description: Exterior

1 Continuous Hinge	CFMHD1 x Door Height	PE
1 Rim Exit Device, Storeroom	LC 8804 ETL	US32D SA
1 Cylinder	Housing to match existing	US26D BE
1 Perm. Core	Match Owners Existing Keying	US26D BE
1 Construction Core	To fit Housing	US26D BE
1 Door Closer	TB 281 CPS	EN SA
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D RO
1 Door Stop	462	US2C RO
1 Threshold	279x292AFGPK x Opening Width	PE
1 Gasketing	S773D (Head & Jambs)	PE
1 Rain Guard	347A x Door Width	PE
1 Rain Guard	68AR x Door Width	PE
1 Sweep	345ANB x Door Width	PE
1 Position Switch	DPS-M-BK	SU ⚡

Set: 3.0

Doors: 305b

Description: Exterior

2 Continuous Hinge	CFMHD1 x Door Height	PE
1 Removable Mullion	L980S	PC SA
1 Exit Device (storeroom)	LC 16 8804 PSB	US32D SA
1 Exit Device (exit only)	LC 16 8810 PTB	US32D SA
4 Cylinder	Housing to match existing	US26D BE
4 Perm. Core	Match Owners Existing Keying	US26D BE
4 Construction Core	To fit Housing	US26D BE
2 Door Closer	TB 281 CPS	EN SA
2 Kick Plate	K1050 10" x 1" LDW CSK BEV	US32D RO

Door Hardware

Hanney & Associates Architects

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2 Door Stop	462	US2C	RO
1 Threshold	279x292AFGPK x Opening Width		PE
1 Gasketing	S773D (Head & Jamb)		PE
1 Gasketing	5110BL x Mullion Height		PE
2 Rain Guard	347A x Door Width		PE
2 Rain Guard	68AR x Door Width		PE
2 Sweep	345ANB x Door Width		PE
2 Astragal	305CN x Door Height		PE
2 Position Switch	DPS-M-BK		SU ⚡

Set: 4.0

Doors: 305c
Description: Exterior

Notes: All hardware furnished by Overhead Door Supplier.

Set: 5.0

Doors: 305e, 318a
Description: Exterior

1 Continuous Hinge	CFMSLF-HD1 PT or CFMSLI-HD1 PT		PE
1 Exit Device (storeroom)	LC 16 55 56 8804 PSB	US32D	SA ⚡
2 Cylinder	Housing to match existing	US26D	BE
2 Perm. Core	Match Owners Existing Keying	US26D	BE
2 Construction Core	To fit Housing	US26D	BE
1 Door Closer	281 CPS	EN	SA
1 Drop Plate	281D	EN	SA
1 Kit	581-2	EN	SA
1 Door Stop	462	US2C	RO
1 Threshold	279x292AFGPK x Opening Width		PE
1 Sweep	345ANB x Door Width		PE
1 Electric Power Transfer	EL-CEPT		SU ⚡
1 ElectroLynx Harness	QC-C1500P		MK ⚡
1 ElectroLynx Harness	QC-C Length Required		MK ⚡
1 Position Switch	DPS-M-BK		SU ⚡
1 Power Supply	BPS-24-1		SU ⚡

Notes: Card reader furnished by Owner.

Weatherstripping furnished by Aluminum Door Supplier.

Operation: Door is normally closed and locked. When a valid credential is presented to the wall mounted card reader the latch on the exit devices will retract and you can pull the door open. When the door comes back closed the latch will project and the door will be locked. There will be a REX or request to exit switch built into the push pad on the exit device. You can always exit out of the space by pushing on the push pad on the exit device and exiting out of the space.

Set: 6.0

Doors: 319b
Description: Exterior

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1 Continuous Hinge	CFMHD1 PT x Door Height		PE	
1 Exit Device (storeroom)	LC 16 55 56 8804 PSB	US32D	SA	⚡
2 Cylinder	Housing to match existing	US26D	BE	
2 Perm. Core	Match Owners Existing Keying	US26D	BE	
1 Construction Core	To fit Housing	US26D	BE	
1 Door Closer	TB 281 CPS	EN	SA	
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO	
1 Door Stop	462	US2C	RO	
1 Threshold	279x292AFGPK x Opening Width		PE	
1 Gasketing	S773D (Head & Jamb)		PE	
1 Rain Guard	347A x Door Width		PE	
1 Rain Guard	68AR x Door Width		PE	
1 Sweep	345ANB x Door Width		PE	
1 Electric Power Transfer	EL-CEPT		SU	⚡
1 ElectroLynx Harness	QC-C1500P		MK	⚡
1 ElectroLynx Harness	QC-C Length Required		MK	⚡
1 Position Switch	DPS-M-BK		SU	⚡
1 Power Supply	BPS-24-1		SU	⚡

Notes: Card reader furnished by Owner.

Operation: Door is normally closed and locked. When a valid credential is presented to the wall mounted card reader the latch on the exit devices will retract and you can pull the door open. When the door comes back closed the latch will project and the door will be locked. There will be a REX or request to exit switch built into the push pad on the exit device. You can always exit out of the space by pushing on the push pad on the exit device and exiting out of the space.

Set: 7.0

Doors: 323a

Description: Exterior

1 Continuous Hinge	CFMHD1 x Door Height		PE	
1 Exit Device (storeroom)	LC 16 8804 PSB	US32D	SA	
2 Cylinder	Housing to match existing	US26D	BE	
2 Perm. Core	Match Owners Existing Keying	US26D	BE	
2 Construction Core	To fit Housing	US26D	BE	
1 Door Closer	TB 281 CPS	EN	SA	
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO	
1 Door Stop	462	US2C	RO	
1 Threshold	279x292AFGPK x Opening Width		PE	
1 Gasketing	S773D (Head & Jamb)		PE	
1 Rain Guard	347A x Door Width		PE	
1 Rain Guard	68AR x Door Width		PE	
1 Sweep	345ANB x Door Width		PE	
1 Position Switch	DPS-M-BK		SU	⚡

Set: 8.0

Doors: 101a

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Description: Office (Rated)

4 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (storeroom)	9K37D 15D S3	626	BE
1 Electric Strike	1500C	630	HS ⚡
1 SMART Pac Bridge Rectifier	2005M3		HS ⚡
1 Door Closer	TB 281 CPS	EN	SA
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO
1 Gasketing	S88D (Head & Jambs)		PE
1 Motion Sensor	XMS		SU ⚡
1 Position Switch	DPS-M-BK		SU ⚡
1 Power Supply	BPS-24-1		SU ⚡

Notes: Card reader furnished by Owner.

Operation: Door is normally closed and locked. When a valid credential is presented to the wall mounted card reader the electric strike will release and you can pull or push the door open. When the door comes back closed the electric strike will relock. The XMS motion sensor will be used as the REX or request to exit switch for the access control system. You can always turn the inside lever and exit the space.

Set: 9.0

Doors: 134a, 136a, 325a
Description: Officials, Office

3 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (entry)	9K37B 15D S3	626	BE
1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

Set: 10.0

Doors: 135a, 137a
Description: Toilet

3 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (privacy)	9K30L 15D S3	626	BE
1 Surf Overhead Stop	9 Series	652	RF
3 Silencer	608		RO

Set: 11.0

Doors: 201a, 209a, 304a, 304b
Description: Vestibule, Hallway, Wood Shop (Rated)

3 Hinge	T4A4786 or T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Rim Exit Device	12 LC 49 8816 ETL	US32D	SA
1 Cylinder	Housing to match existing	US26D	BE
1 Perm. Core	Match Owners Existing Keying	US26D	BE
1 Construction Core	To fit Housing	US26D	BE
1 Thumbturn Cylinder	CR3300-200-	630	RU
1 Door Closer	TB 281 P10	EN	SA

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1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D (Head & Jambs)		PE

Set: 12.0

Doors: 201b
Description: Locker

3 Hinge	T4A4786 or T4A3786 4-1/2" x 4-1/2"	US26D	MK
1 Push Plate	70C-RKW	US32D	RO
1 Pull Plate	BF 107x70C	US32D	RO
1 Door Closer	TB 281 P10	EN	SA
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO
1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

Set: 13.0

Doors: 205a
Description: Janitor (Rated)

3 Hinge	TA2714 NRP 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (storeroom)	9K37D 15D S3	626	BE
1 Electric Strike	1500C	630	HS ⚡
1 SMART Pac Bridge Rectifier	2005M3		HS ⚡
1 Door Closer	TB 281 P10	EN	SA
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D (Head & Jambs)		PE
1 Motion Sensor	XMS		SU ⚡
1 Position Switch	DPS-W-BK		SU ⚡
1 Power Supply	BPS-24-1		SU ⚡

Notes: Card reader furnished by Owner.

Operation: Door is normally closed and locked. When a valid credential is presented to the wall mounted card reader the electric strike will release and you can pull or push the door open. When the door comes back closed the electric strike will relock. The XMS motion sensor will be used as the REX or request to exit switch for the access control system. You can always turn the inside lever and exit the space.

Set: 14.0

Doors: 300a, 300c
Description: Corridor (Rated)

6 Hinge	T4A4786 or T4A3786 4-1/2" x 4-1/2"	US26D	MK
2 Exit Device (classroom)	12 LC NB8713 ETL	US32D	SA
2 Cylinder	Housing to match existing	US26D	BE
2 Perm. Core	Match Owners Existing Keying	US26D	BE
2 Construction Core	To fit Housing	US26D	BE
2 Door Closer	TB 281 P9	EN	SA

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2 Kick Plate	K1050 10" x 1" LDW CSK BEV	US32D	RO
2 Electromagnetic Holder	998M	689	RF ⚡
1 Gasketing	S88D (Head & Jambs)		PE
2 Astragal	18041CNB x Door Height		PE

Notes: Frame to be set so one leaf can swing 180 degrees.

Set: 15.0

Doors: 305a

Description: Metal Shop (Rated)

3 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (entry)	9K37B 15D S3	626	BE
1 Door Closer	TB 281 CPS	EN	SA
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO
1 Gasketing	S88D (Head & Jambs)		PE

Set: 16.0

Doors: 305d

Description: Wood Shop

Notes: All hardware is existing and will remain.

Set: 17.0

Doors: 313a, 327a

Description: Toilet

3 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (privacy)	9K30L 15D S3	626	BE
1 Wall Stop	409	US32D	RO
3 Silencer	608		RO

Set: 18.0

Doors: 319a, 326a

Description: Classroom (Rated)

3 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (entry)	9K37B 15D S3	626	BE
1 Door Closer	TB 281 P10	EN	SA
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D (Head & Jambs)		PE

Set: 19.0

Doors: 319c

Description: Classroom

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6 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
2 Flush Bolt	555	US26D	RO
1 Dust Proof Strike	570	US26D	RO
1 Cylindrical Lock (classroom)	9K37R 15D S3	626	BE
2 Wall Stop	409	US32D	RO
2 Silencer	608		RO

Notes: Metal overlapping astragal furnished by Hollow Metal Door Supplier.

Set: 20.0

Doors: 323b, 323c
Description: Hallway

Notes: Doors and hardware to be removed.

Set: 21.0

Doors: 326b
Description: Classroom

Notes: All hardware furnished by Door Supplier.

Set: 22.0

Doors: 404a, 405a
Description: Toilet (Rated)

3 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (privacy)	9K30L 15D S3	626	BE
1 Door Closer	TB 281 CPS	EN	SA
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO
1 Gasketing	S88D (Head & Jamb)		PE

Set: 23.0

Doors: 500a, 500b, 504a
Description: Exterior

1 Exit Device (storeroom)	LC 16 8804 PSB	US32D	SA
1 Exit Device (exit only)	LC 16 8810 PTB	US32D	SA
3 Cylinder	Housing to match existing	US26D	BE
3 Perm. Core	Match Owners Existing Keying	US26D	BE
3 Construction Core	To fit Housing	US26D	BE
2 SMART Pac Bridge Rectifier	2005M3		HS ⚡
2 Electric Strike	9600	630	HS ⚡
1 Gasketing	S773D (Head, Jamb & Sill)		PE
2 Sweep	345ANB x Door Width		PE
2 Astragal	305CN x Door Height		PE
1 Motion Sensor	XMS		SU ⚡
1 Power Supply	BPS-24-1		SU ⚡

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Notes: Balance of hardware is existing.
 Card reader furnished by Owner.

Operation: Doors are normally closed and locked. When a valid credential is presented to the wall mounted card reader the electric strike will release and you can pull the door open. When the door comes back closed the electric strike will relock. The XMS motion sensor will be used as the REX or request to exit switch. You can always push the push pad on the exit device and exit out of the space.

Set: 24.0

Doors: 502a, 517a, 519A, 520a
 Description: Janitor, Storage (Rated)

3 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Cylindrical Lock (storeroom)	9K37D 15D S3	626	BE
1 Door Closer	TB 281 P10	EN	SA
1 Kick Plate	K1050 10" x 2" LDW CSK	US32D	RO
1 Wall Stop	409	US32D	RO
1 Gasketing	S88D (Head & Jambs)		PE

Set: 25.0

Doors: 509A
 Description: Boiler

Notes: All hardware is existing and will remain.

Set: 26.0

Doors: 521a
 Description: Storage

6 Hinge	TA2714 4-1/2" x 4-1/2"	US26D	MK
1 Dust Proof Strike	570	US26D	RO
1 Set Auto Flush Bolts	2942	US26D	RO
1 Cylindrical Lock (storeroom)	9K37D 15D S3	626	BE
1 Coordinator	2672	Black	RO
2 Mounting Bracket	2601	Black	RO
2 Door Closer	TB 281 P10	EN	SA
2 Kick Plate	K1050 10" x 1" LDW CSK BEV	US32D	RO
2 Wall Stop	409	US32D	RO
1 Gasketing	S88D (Head & Jambs)		PE
2 Astragal	18041CNB x Door Height		PE

Set: 27.0

Doors: F200a, F200f, F200g
 Description: Corridor (Rated), (Shelter)

2 Continuous Hinge	HG305 WT10 x Door Height	630	MR
2 Multipoint Exit Device	LC 12 FM8713 ETL	US32D	SA

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2 Cylinder	Housing to match existing	US26D	BE
2 Perm. Core	Match Owners Existing Keying	US26D	BE
2 Construction Core	To fit Housing	US26D	BE
2 Door Closer	TB 281 P9	EN	SA
2 Latch Cover Kick Plate	BFLG1050 10" 36"	US32D	RO
2 Electromagnetic Holder	998M	689	RF ⚡
1 Threshold	1715A x Opening Width		PE
1 Gasketing	S773D (Head & Jambs)		PE
2 Astragal	18041CNB x Door Height		PE

Notes: Cutout threshold so bottom strike can be mounted directly to the concrete floor and not to the threshold.

Set: 28.0

Doors: F200e

Description: Shutter (Rated), (Shelter)

8 Wide Throw Hinge	SP3786 5" x ?	US26D	MK
2 Surface Bolt	988	Bright Zinc	SA
1 Multi-Point Lock	FM7301 OL	US26D	SA
1 Coordinator	2672	Black	RO
2 Mounting Bracket	2601	Black	RO
2 Door Closer	TB 281 P9	EN	SA
2 Electromagnetic Holder	998M	689	RF ⚡
1 Gasketing	S88D (Head & Jambs)		PE

Notes: Metal overlapping astragal furnished by Hollow Metal Door Supplier.
Hardware supplier to determine width of wide throw hinges.

END OF SECTION 087100