SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 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. Cylinders specified for doors in other sections.

C. Related Sections:

1. Division 08 Section “Hollow Metal Doors and Frames”.
2. Division 08 Section “Flush Wood Doors”.

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 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. UL/ULC and CSA C22.2 - Standards for Automatic Door Operators Used on Fire and Smoke Barrier Doors and Systems of Doors.
8. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

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

3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

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. 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.

E. 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.

F. 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. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 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.

D. 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.

E. Automatic Operator Supplier Qualifications: Power operator products and accessories are required to be supplied and installed through current members of the manufacturer's "Power Operator Preferred Installer" program. Suppliers are to be factory trained, certified, and a direct purchaser of the specified power operators and be responsible for the installation and maintenance of the units and accessories indicated for the Project.

F. 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.

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. Ten years for mortise locks and latches.
2. Five years for exit hardware.
3. Twenty five years for manual overhead door closer bodies.
4. Five years for motorized electric latch retraction exit devices.
5. 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).
   b. Hager Companies (HA).
   c. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - MacPro Series.

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. Manufacturers:

    a. Hager Companies (HA) - ETW-QC (# wires) Option.
    b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - QC (# wires) Option.

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. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    c. Trimco (TC).

B. 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. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    c. 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.
1. Manufacturers:

    a. Match Existing, Field Verify.
    b. No Substitution.

B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. 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.
6. Keyway: Match Facility Restricted Keyway.

C. Permanent Cores: Match standard. Reference Division 01 "Cash Allowances" for material required under project. Installation to be included under Division 08 "Door Hardware" base bid package.

D. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "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: Field verify and key cylinders to match Owner's existing system.

E. 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).

F. Construction Keying: Provide construction master keyed cylinders.

G. 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.

2.6 MECHANICAL LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.

1. Where specified, provide status indicators with highly reflective color and wording for “locked/unlocked” or “vacant/occupied” with custom wording options if required. Indicator to be located above the cylinder with the inside thumb-turn not blocking the visibility of the indicator status. Indicator window size to be a minimum of 2.1” x 0.6” with a curved design allowing a 180 degree viewing angle with protective covering to prevent tampering.

2. Manufacturers:

a. Sargent Manufacturing (SA) - 8200 Series.
b. Schlage (SC) - L9000 Series.

2.1 INTEGRATED WIRED OUTPUT LOCKING DEVICES – MULTI-CLASS READER

A. Integrated Wired Output Multi-Class Mortise Locks: Wiegand or Open Supervised Device Protocol (OSDP) output ANSI A156.13, Grade 1, mortise lockset with

integrated card reader with or without keypad option, request-to-exit signaling, door position status switch, and latchbolt monitoring in one complete unit. Hard wired, solenoid driven locking/unlocking control of the lever handle trim, 3/4" deadlocking anti-friction latch, and 1" case-hardened steel deadbolt. Lock is U.L listed and labeled for use on up to 3 hour fire rated openings. Available with or without keyed high security cylinder override.

1. Open architecture, hard wired platform supports centralized control of locking units with new or existing Wiegand or OSDP compatible access control systems. Latchbolt monitoring and door position switch act in conjunction to report door-in-frame (DPS) and door latched (door closed and latched) conditions.
2. Integrated reader supports the following credentials:

    a. 125kHz proximity credentials: HID, AWID, Indala, and EM4102.
    b. 13.56 MHz proximity credentials: HID Secure Identity Object™ (SIO) on iCLASS Seos, HID iCLASS, HID iCLASS SE/SR, MIFARE Classic, DESFire EV1 and EV2.
    c. 2.4 GHz credentials: Secure Identity Object™ (SIO) on Mobile IDs (Bluetooth Smart)
    d. ISO14443A/B (PIV-compatible Transparent FASC-N read) available with pivCLASS variant
    e. NFC-enabled mobile phones
    f. PIN code only or PIN + credential with keypad option.

3. 12VDC external power supply required for reader and lock, with optional 24VDC lock solenoid. Fail safe or fail secure options.
4. Energy Efficient Design: Provide lock bodies which have a holding current draw of 500mA maximum, and can operate on either 12 or 24 volts. Locks are to be field configurable for fail safe or fail secure operation.
5. Support end-of-line resistors contained within the lock case.
6. Installation requires only one cable run from the lock to the access control panel without requirements for additional proprietary lock panel interface boards or modules.
7. Installation to include manufacturer's access control panel interface board or module where required for Wiegand or OSDP output protocol.

8. Manufacturers:

    a. Corbin Russwin (RU) – ML2000 SN Series.
    b. Sargent Manufacturing (SA) – SN200/SN210 8200 Series.

2.2 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.
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.

2.3 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 pushbar 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. 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.

6. 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.

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 Products Directory (CPD) listed 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. Sargent Manufacturing (SA) - 80 Series.
b. Von Duprin (VD) - 35A/98 XP Series.

2.4 INTEGRATED WIRED OUTPUT EXIT DEVICES - MULTI-CLASS READER

A. Integrated Wired Output Multi-Class Exit Hardware: Wiegand output ANSI 156.3 Grade 1 rim, mortise, and vertical rod exit device hardware with integrated card reader with or without keypad option, latchbolt and touchbar monitoring, and request-to-exit signaling, in one complete unit. Hard wired, solenoid driven locking/unlocking control of the lever handle exit trim with 3/4" throw latch bolt. U.L listed and labeled for either panic or "fire exit hardware" for use on up to 3 hour fire rated openings. Available with or without keyed high security cylinder override.

1. Open architecture, hard wired platform supports centralized control of locking units with new or existing Wiegand or OSDP compatible access control systems. Inside push bar (request-to-exit) signaling and door position (open/closed status) monitoring (via separately connected DPS).
2. Integrated reader supports the following credentials:

a. 125kHz proximity credentials: HID, AWID, Indala, and EM4102.
b. 13.56 MHz proximity credentials: HID Secure Identity Object™ (SIO) on iCLASS Seos, HID iCLASS, HID iCLASS SE/SR, MIFARE Classic, DESFire EV1 and EV2.
c. 2.4 GHz credentials: Secure Identity Object™ (SIO) on Mobile IDs (Bluetooth Smart)
d. ISO14443A/B (PIV-compatible Transparent FASC-N read) available with pivCLASS variant
e. NFC-enabled mobile phones
f. PIN code only or PIN + credential with keypad option

3. 12VDC external power supply required for reader. 24VDC required for solenoid operated exit trim. Fail safe or fail secure options.
4. Installation requires only one cable run from the exit hardware to the access control panel without requirements for additional proprietary lock panel interface boards or modules.
5. Competitor Alternates Allowed Option: Installation to include manufacturer's access control panel interface board or module where required for Wiegand or OSDP output protocol.

6. Manufacturers:

   a. Corbin Russwin (RU) – ED5000 SN Series.
   b. Sargent Manufacturing (SA) – SN200/SN210 80 Series.

2.5 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.

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. 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 Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.

4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.

5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.

6. 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.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed 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. Manufacturers:

    a. Corbin Russwin Hardware (RU) - DC6000 Series.
    b. Norton Door Controls (NO) - 7500 Series.
    c. Sargent Manufacturing (SA) - 351 Series.

C. Door Closers, Surface Mounted (Commercial Duty): ANSI/BHMA 156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, institutional grade 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, closing sweep, and latch speed control valves. Provide non-handed units standard.

1. Manufacturers:

    a. Corbin Russwin Hardware (RU) - DC6000 Series.
    b. Norton Door Controls (NO) - 8500 Series.
    c. Sargent Manufacturing (SA) - 1431 Series.

2.6 ELECTROHYDRAULIC DOOR OPERATORS

A. General: Provide low energy 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. Standard: Certified ANSI/BHMA A156.19.

C. Performance Requirements:

1. 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.
2. Entrapment Protection: Not more than 15 lbf required to prevent stopped door from closing or opening.

D. Configuration: Surface mounted or in-ground as required. Door operators to control single swinging and pair of swinging doors.

E. 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.

F. 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.

G. 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.

H. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with nonferrous shims for aligning system components.

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

1. LCN Closers (LC) - 4640 Series.
2. Norton Door Controls (NO) - 6000 Series.

2.7 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. Hiawatha, Inc. (HI).
   b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
   c. Trimco (TC).

2.8 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. Hiawatha, Inc. (HI).
   b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
   c. Trimco (TC).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed 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).

2.9 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. Manufacturers:

1. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
2. Reese Enterprises, Inc. (RE).
3. Zero (ZE).

2.10 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. Manufacturers:

a. Sargent Manufacturing (SA) - 3280 Series.
b. Securitron (SU) - DPS Series.

B. Wiegand Test Unit: Test unit verifies proper Wiegand output integrated card reader lock installation in the field by testing for proper wiring, card reader data integrity, and lock functionality including lock/unlock, door position, and request-to-exit status. 12 or 24VDC voltage adjustable operating as Fail Safe or Fail Secure.

1. Manufacturers:

a. Corbin Russwin Hardware (RU) - WT2 Wiegand Test Unit.
b. Sargent Manufacturing (SA) - WT2 Wiegand Test Unit.

C. Switching Power Supplies: Provide power supplies with either single or dual voltage configurations at 12 or 24VDC. Power supplies shall have battery backup function with an integrated battery charging circuit and shall provide capability for power distribution, direct lock control and Fire Alarm Interface (FAI) through add on modules. Power supplies shall be expandable up to 16 individually protected outputs. Output modules shall provide individually protected, continuous outputs and/or individually protected, relay controlled outputs.

1. Manufacturers:

a. Securitron (SU) - AQD Series.

2.11 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.

2.12 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 Report): Reference Division 01 Sections “Closeout Procedures”. Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.
2. Submit documentation of incomplete items in the following formats:

    a. PDF electronic file.
    b. Electronic formatted file integrated with the Openings Studio™ door opening management software platform.

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 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.

1. Quantities listed are for each pair of doors, or for each single door.

2. The supplier is responsible for handing and sizing all products.

3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

B. Manufacturer’s Abbreviations:

1. MK - McKinney
2. RO - Rockwood
3. SA - SARGENT
4. SC - Schlage
5. RU - Corbin Russwin
6. RF - Rixson
7. NO - Norton
8. PE - Pemko
9. MC - Medeco
10. SU - Securitron
11. LU - Lund Equipment Co
12. OT - Other

Hardware Sets

Set: 1.0

Doors: 155

2	Hinge (heavy weight)	MPB99 (NRP and size as required)	US32D	MK
1	Electric Hinge, Hvy Wt	MPB99-QCx (# of Wires and Size as Required)	US32D	MK
1	Rim Exit Device (EL Trim F.SEC, RX, ELR, CD)	16 56-SN200 8876 (24v) (BIPS) ETP (Cyl. Dogging)	US32D	SA
2	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
2	LFIC Mortise Cylinder Housing	Size and Cam as required	US32D	SA
1	Automatic Opener	6011/21 (As Required)	689	NO
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Threshold	273x224AFGT x Length Required x MSES25SS		PE
1	Gasketing	303AS (Head & Jambs)		PE
1	Rain Guard	346C x Width of Frame Head		PE
1	Sweep	3452CNB x Length Required		PE
1	Harness Adaptor	52-2946		SA
1	ElectroLynx Harness	QC-C**** x Length Required		MK
1	ElectroLynx Harness	QC-C3000P		MK
2	Auto Operator Actuator Switch	505		NO
1	Position Switch	DPS2 - M / W-BK		SU

1	Power Supply	AQD (Size and Options as required)	SU
1	Wiring Diagram	Elevation and Point to Point	OT

Notes: Operation:
• Doors are normally closed and secure.
• When there is an authorized card read on the secured side of the door, the exit device latch will retract and the auto operator actuator button will become active. Pressing the auto operator actuator button (after authorized card read) will signal the auto operator to open the door to allow entry.
• On the unsecured side of the opening, pressing the auto operator actuator button will signal exit latch to retract and the auto operator to open the door to allow egress.
• Manual egress is always available by pushing on the exit device push bar.
• Exit device is fail secure and will remain latched in the event of a fire alarm or power outage.

Set: 2.0

Doors: 131E

3	Hinge (heavy weight)	MPB99 (NRP and size as required)	US32D	MK
1	Rim Exit Device (EO)	LD 8810 EO (Less Dogging)	US32D	SA
1	Surface Closer	351 CPS (PA SPG SPT Arm)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Threshold	273x224AFGT x Length Required x MSES25SS		PE
1	Gasketing	303AS (Head & Jambs)		PE
1	Rain Guard	346C x Width of Frame Head		PE
1	Sweep	3452CNB x Length Required		PE
1	Position Switch	DPS2 - M / W-BK		SU

Notes: System Operational Narrative:
• Door normally closed and secure.
• Door position switch provides open/closed monitoring to both access control system and intrusion alarm service.

Set: 3.0

Doors: 131C, 137

5	Hinge (heavy weight)	MPB99 (NRP and size as required)	US32D	MK
1	Electric Hinge, Hvy Wt	MPB99-QCx (# of Wires and Size as Required)	US32D	MK
1	Self Latching Flush Bolt Set	2845 / 2945 (as required)	US26D	RO
1	Dust Proof Strike	570	US26D	RO
1	Access Control Lock	SN200 82271 (24v) (BIPS) LNP	US26D	SA

1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Primus Cylinder Core	Keyed to Owners Existing System	626	SC
2	Conc Overhead Stop	1-X36 (Size as Required)	630	RF
2	Surface Closer (Tri-Pack)	351 UO (Reg or PA Arm as Required)	EN	SA
2	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Threshold	172A x Length Required x MSES25SS		PE
1	Gasketing	303AS (Head & Jambs)		PE
1	Rain Guard	346C x Width of Frame Head		PE
2	Sweep	3452CNB x Length Required		PE
2	Astragal	29324CNB x Door Height		PE
1	ElectroLynx Harness	QC-C**** x Length Required		MK
1	ElectroLynx Harness	QC-C3000P		MK
2	Position Switch	DPS2 - M / W-BK		SU
1	Power Supply	AQD (Size and Options as required)		SU
1	Wiring Diagram	Elevation and Point to Point		OT

Notes: System Operational Narrative:
• Doors normally closed and secure.
• Access by valid credential presentation releasing the lockset lever for a pre-determined time limit and then relocking.
• Egress always free for immediate exit. Request-to-Exit sensors allows exit without alarm condition.
• Door position switches provide open/closed monitoring to both access control system and intrusion alarm service.
• Lever remain locked (fail secure) in event of power loss. Key override cylinder for emergency access.

Set: 4.0

Doors: 157

3	Hinge (heavy weight)	MPB99 (NRP and size as required)	US32D	MK
1	Storeroom/Closet Lock	LC 8204 LSP	US32D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Primus Cylinder Core	Keyed to Owners Existing System	626	SC
1	Surface Closer (Tri-Pack)	351 UO (Reg or PA Arm as Required)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Wall Stop	403 (or) 441CU (As Required)	US26D	RO

1	Threshold	273x224AFGT x Length Required x MSES25SS	PE
1	Gasketing	303AS (Head & Jambs)	PE
1	Rain Guard	346C x Width of Frame Head	PE
1	Sweep	3452CNB x Length Required	PE
1	Position Switch	DPS2 - M / W-BK	SU

Notes: System Operational Narrative:
• Door normally closed and secure.
• Door position switch provides open/closed monitoring to both access control system and intrusion alarm service.

Set: 5.0

Doors: 115

2	Hinge, Full Mortise, Hvy Wt	MPB68 (NRP and Size as required)	US26D	MK
1	Hinge (heavy weight)	MPB68 QCx (# of Wires as Required)	US26D	MK
1	Rim Exit Device (EL Trim F.SEC, RX, ELR, CD)	16 56-SN200 8876 (24v) (BIPS) ETP (Cyl. Dogging)	US32D	SA
2	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
2	LFIC Mortise Cylinder Housing	Size and Cam as required	US32D	SA
1	Automatic Opener	6011/21 (As Required)	689	NO
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Wall Stop	403 (or) 441CU (As Required)	US26D	RO
1	Harness Adaptor	52-2946		SA
1	ElectroLynx Harness	QC-C**** x Length Required		MK
1	ElectroLynx Harness	QC-C3000P		MK
2	Auto Operator Actuator Switch	505		NO
1	Position Switch	DPS2 - M / W-BK		SU
1	Power Supply	AQD (Size and Options as required)		SU
1	Wiring Diagram	Elevation and Point to Point		OT

Notes: Operation:
• Doors are normally closed and secure.
• When there is an authorized card read on the secured side of the door, the exit device latch will retract and the auto operator actuator button will become active. Pressing the auto operator actuator button (after authorized card read) will signal the auto operator to open the door to allow entry.
• On the unsecured side of the opening, pressing the auto operator actuator button will signal exit latch to retract and the auto operator to open the door to allow egress.

• Manual egress is always available by pushing on the exit device push bar.
• Exit device is fail secure and will remain latched in the event of a fire alarm or power outage.

Set: 6.0

Doors: 134

5	Hinge, Full Mortise, Hvy Wt	MPB68 (NRP and Size as required)	US26D	MK
1	Hinge (heavy weight)	MPB68 QCx (# of Wires as Required)	US26D	MK
1	Self Latching Flush Bolt Set	2845 / 2945 (as required)	US26D	RO
1	Dust Proof Strike	570	US26D	RO
1	Access Control Lock	SN200 82271 (24v) (BIPS) LNP	US26D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Primus Cylinder Core	Keyed to Owners Existing System	626	SC
2	Surf Overhead Stop	10-X36	630	RF
2	Surface Closer (Tri Pack)	1431 UO (Reg or PA Arm as Required)	EN	SA
2	Kick Plate	K1050 10" high BEV CSK	US32D	RO
2	Silencer	608		RO
1	ElectroLynx Harness	QC-C**** x Length Required		MK
1	ElectroLynx Harness	QC-C3000P		MK
2	Position Switch	DPS2 - M / W-BK		SU
1	Power Supply	AQD (Size and Options as required)		SU
1	Wiring Diagram	Elevation and Point to Point		OT

Notes: System Operational Narrative:
• Doors normally closed and secure.
• Access by valid credential presentation releasing the lockset lever for a pre-determined time limit and then relocking.
• Egress always free for immediate exit. Request-to-Exit sensors allows exit without alarm condition.
• Door position switches provide open/closed monitoring to both access control system and intrusion alarm service.
• Lever remain locked (fail secure) in event of power loss. Key override cylinder for emergency access.

Set: 7.0

Not used

Set: 8.0

Doors: 143A, 158

2	Hinge, Full Mortise, Hvy Wt	MPB68 (NRP and Size as required)	US26D	MK
1	Hinge (heavy weight)	MPB68 QCx (# of Wires as Required)	US26D	MK
1	Access Control Lock	SN200 82271 (24v) (BIPS) LNP	US26D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Surface Closer (Tri Pack)	1431 UO (Reg or PA Arm as Required)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Wall Stop	403 (or) 441CU (As Required)	US26D	RO
1	Silencer	608		RO
1	ElectroLynx Harness	QC-C**** x Length Required		MK
1	ElectroLynx Harness	QC-C3000P		MK
1	Power Supply	AQD (Size and Options as required)		SU
1	Wiring Diagram	Elevation and Point to Point		OT

Notes:
System Operational Narrative:
- Door normally closed and secure.
- Access by valid credential presentation unlocking lever trim for a pre-determined time limit and then relocking.
- Egress always free for immediate exit. Request-to-Exit sensor allows exit without alarm condition.
- Door position switch provides open/closed monitoring to both access control system and intrusion alarm service.
- Outside lever trim remains locked (fail secure) in event of power loss. Key override cylinder for emergency access.

Set: 9.0

Doors: 123, 125, 150, 156

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Storeroom/Closet Lock	LC 8204 LSP	US32D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Surface Closer (Tri Pack)	1431 UO (Reg or PA Arm as Required)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Wall Stop	403 (or) 441CU (As Required)	US26D	RO
3	Silencer	608		RO

Set: 10.0

Doors: 126, 138

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Storeroom/Closet Lock	LC 8204 LSP	US32D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Conc Overhead Stop	1-X36 (Size as Required)	630	RF
1	Surface Closer (Tri Pack)	1431 UO (Reg or PA Arm as Required)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
3	Silencer	608		RO

Set: 11.0

Doors: 113, 122, 124, 127, 145, 146, 147, 148, 149, 152, 153, 154

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Office/Entry Lock	LC 8205 LSP	US32D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Wall Stop	403 (or) 441CU (As Required)	US26D	RO
1	Silencer	608		RO

Set: 12.0

Doors: 133

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Office/Entry Lock	LC 8205 LSP	US32D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Primus Cylinder Core	Keyed to Owners Existing System	626	SC
1	Surface Closer (Tri Pack)	1431 UO (Reg or PA Arm as Required)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Wall Stop	403 (or) 441CU (As Required)	US26D	RO
1	Gasketing	S88D (Head & Jambs)		PE

Set: 13.0

Doors: 142

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Office/Entry Lock	LC 8205 LSP	US32D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Surface Closer (Tri Pack)	1431 UO (Reg or PA Arm as Required)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Smooth Threshold	151A MSES25SS		PE
1	Gasketing	S88D (Head & Jambs)		PE
1	Perimeter Acoustic Gasket	S773BL		PE
1	Acoustic Corner Pads	ACP112BL/2		PE
1	Acoustic Auto Door Bottom	STC411APK 48"		PE

Notes: Confirm with Door/Frame manufacturer and architect for required STC Rating and Sound Gaskets.

Set: 14.0

Doors: 128

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Classroom Lock	LC 8237 LSP	US32D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Primus Cylinder Core	Keyed to Owners Existing System	626	SC
1	Surface Closer (Tri Pack)	1431 UO (Reg or PA Arm as Required)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Wall Stop	403 (or) 441CU (As Required)	US26D	RO
1	Silencer	608		RO

Set: 14.1

Doors: 114

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Classroom Lock	LC 8237 LSP	US32D	SA
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Primus Cylinder Core	Keyed to Owners Existing System	626	SC
1	Surface Closer	1431 CPS	EN	SA

1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
3	Silencer	608		RO

Set: 15.0

Doors: 139, 140, 141

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Privacy Lock w/OCC IND	V21 8265 LNP	US32D	SA
1	Surface Closer (Tri Pack)	1431 UO (Reg or PA Arm as Required)	EN	SA
1	Kick Plate	K1050 10" high BEV CSK	US32D	RO
1	Wall Stop	403 (or) 441CU (As Required)	US26D	RO
3	Silencer	608		RO
1	Coat Hook	RM801	US26D	RO

Set: 16.0

Doors: 109, 110

3	Hinge, Full Mortise	MPB79 (NRP and size as required)	US26D	MK
1	Passage Latch	8215 LSP	US32D	SA
1	Surf Overhead Stop	10-X36	630	RF
3	Silencer	608		RO

Set: 17.0

Doors: 129A, 131B, 131E

1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	626	SC
1	Primus Cylinder Core	Keyed to Owners Existing System	626	SC
1	LFIC Cylinder	type as required	626	RU
1		All Hardware Provided By Door Supplier		

Set: 18.0

Doors: Misc

1	Software	KW-SS1		SA
1	Repair Kit	QC-R001		MK
1	Crimp Tool	QC-R003		MK
1	Test Unit	WT2		SA

1	Key Management System	EA-100117		MC
1	Key Cabinet	1200 Series (capacity as required)		LU

Set: 19.0

Doors: 32

1	Heavy Duty Exterior Rim Exit Device (NL, LD)	10XW X03Z X 630/630 X 99		DE
1	Mounting Plate for Gate Rim Exit Device	GATE PLATE by Gate Manufacturer		OT
1	Mounting Plate for Gate Rim Exit Strike	Strike Mounting Plate		OT
1	Gate Hardware by Gate Manufacturer	Gate mounting Hardware by Gate Manufacturer		OT

Set: 20.0

Doors: 33

1	Heavy Duty Exterior Rim Exit Device-Fail Sec. (NL, RX, ELR)	10xW X 03Z X 630/630 X ER EX W X LD X 99 X EC1 X FC10W		DE
1	Rim or Mortised Cylinder Housing	Size and Cam or Tailpeice as required	.626	SC
1	Primus Cylinder Core	Keyed to Owners Existing System	.626	SC
1	Card Reader	By Security Supplier		
1	Power Supply	Detex Power Supply		DE
1	Mounting Plate for Gate Rim Exit Device	GATE PLATE by Gate Manufacturer		OT
1	Mounting Plate for Gate Rim Exit Strike	Strike Mounting Plate		OT
1	Gate Hardware by Gate Manufacturer	Gate mounting Hardware by Gate Manufacturer		OT

Notes: Operation:
• The Gate normally closed and secure.
• When there is an authorized card read on the secured side of the gate, the exit device latch will retract to allow entry.
• Manual egress is always available by pushing on the exit device push bar. Request to Exit Switch will allow authorized egress without alarm.
• Exit device is fail secure and will remain latched in the event of a fire alarm or power outage.

END OF SECTION 080671