SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 Section "Alternates" for alternates affecting this section.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. "Hollow Metal Doors and Frames"
   b. "Flush Wood Doors"
   c. "Composite (Fiberglass) Doors"
   d. "Aluminum-Framed Entrances and Storefronts"
   e. "Special Function Doors (Sound Control Door Assemblies)"
6. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
7. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:
      1) Details of interface of electrified door hardware and building safety and security systems.
      2) Schematic diagram of systems that interface with electrified door hardware.
      3) Point-to-point wiring.
      4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
   a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.

b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
c. Indicate complete designations of each item required for each opening, include:
   1) Door Index: door number, heading number, and Architect's hardware set number.
   2) Quantity, type, style, function, size, and finish of each hardware item.
   3) Name and manufacturer of each item.
   4) Fastenings and other pertinent information.
   5) Location of each hardware set cross-referenced to indications on Drawings.
   6) Explanation of all abbreviations, symbols, and codes contained in schedule.
   7) Mounting locations for hardware.
   8) Door and frame sizes and materials.
   9) Degree of door swing and handing.
   10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:
   a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
   b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
   f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Final approved hardware schedule edited to reflect conditions as installed.
   d. Final keying schedule
   e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
   f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.
   d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware
   a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:

a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference
   a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
      1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
      2) Preliminary key system schematic diagram.
      3) Requirements for key control system.
      4) Requirements for access control.
      5) Address for delivery of keys.

2. Pre-installation Conference
   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.
   d. Review sequence of operation for each type of electrified door hardware.
   e. Review required testing, inspecting, and certifying procedures.
   f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:
   a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
    a. Warranties;
        1) Locks and Latches:
            a) Mechanical: Ten (10) years
            b) Electrical: One (1) year
        2) Exit Devices:
            a) Mechanical: Three (3) years
            b) Electrical: One (1) year
        3) Door Closers:
            a) Mechanical: Twenty-Five (25) years
            b) Electrical: Two (2) years
        4) Automatic Operators:
            a) Electrohydraulic: Two (2) years
        5) Balance of Door hardware: One(1) year

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "Owners' Standard - No Substitute".

1. Where "Owners' Standard - No Substitute" is noted, submittals and substitution requests for other products will not be considered.

B. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer’s recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with “Metal Doors and Frames”, “Flush Wood Doors”, “Stile and Rail Wood Doors” to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB1 series

2. Acceptable Manufacturers and Products:
   a. Hager BB1168/BB1279 series

b. Stanley FBB series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high
5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high
6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins
9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.04 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives
2. Acceptable Manufacturers:
   a. Select
   b. Stanley

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.

6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 ELECTRIC POWER TRANSFER

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Von Duprin EPT-10

2. Acceptable Manufacturers and Products:
   a. Securitron CEPT-10
   b. Security Door Controls PTM

B. Requirements:

1. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.06 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Requirements:

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.07 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Requirements:

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes, or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

2.08 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage L9000 series

2. Acceptable Manufacturers and Products:
   a. Sargent 8200 series
   b. Best 45H series

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-inch x 1/2 inch with 180-degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.
7. Provide motor based electrified locksets that comply with the following requirements:
   a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
   b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.
   c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.
   d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
   e. Connections – provide quick-connect Molex system standard.

8. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
   a. Lever/Rose Trim Design: Schlage - 17A

2.09 TWO-POINT LOCK

A. Manufacturer and Product:

1. Scheduled Manufacturer and Product:
   a. Schlage LM9200

2. Acceptable Manufacturers and Products:
   a. Sargent 7000 series

B. Requirements:

1. Provide concealed two-point locking system for use in pair wood door applications manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
2. Concealed Vertical Locking Devices: Vertical latch system in two-point for non-rated or fire rated wood doors up to a 45-minute rating and less bottom latch (LBL) configuration for non-rated or fire rated wood doors up to 20-minute rating.
3. Provide electrified lockset functions as scheduled in the hardware sets.
4. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses or escutcheon as scheduled and external lever spring cages. Provide escutcheon trim which does not require the use of a backer plate in wood door applications. Provide thru-bolted levers with 2-piece spindles.
   a. Lever/Rose Trim Design: Schlage - 17A

2.10 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Falcon 24/25 series

2. Acceptable Manufacturers and Products:
   a. Detex Advantex series
   b. Precision Apex series

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide flush end caps for exit devices.
7. Provide exit devices with manufacturer's approved strikes.
8. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
9. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
10. Provide cylinder or hex-key dogging as specified at non fire-rated openings.

11. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
12. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
13. Provide electrified options as scheduled.
14. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.11 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 6000 Series

2. Acceptable Manufacturers and Products:
   a. Folger Adam 300 Series
   b. HES 1006 Series

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary resistant that are tested to a minimum endurance test of 1,000,000 cycles.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.12 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage/Von Duprin PS900 Series

2. Acceptable Manufacturers and Products:
   a. Detex 800 series
   b. Precision ELR series

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
   a. 12/24 VDC Output, field selectable.
   b. Class 2 Rated power limited output.
   c. Universal 120-240 VAC input.
   d. Low voltage DC, regulated and filtered.
   e. Polarized connector for distribution boards.

f. Fused primary input.
g. AC input and DC output monitoring circuit w/LED indicators.
h. Cover mounted AC Input indication.
i. Tested and certified to meet UL294.
j. NEMA 1 enclosure.
k. Hinged cover w/lock down screws.
l. High voltage protective cover.

2.13 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Existing Sargent Signature series key system. Owned and maintained by Cleveland Vicon Co., Inc.

2. Acceptable Manufacturers and Products:
   a. Owners' Standard - No Substitute.

B. Requirements:

1. Provide cylinders/cores to match Owner’s existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer’s series as indicated. Refer to “KEYING” article, herein.

2.14 KEYING

A. Scheduled System:

1. Existing system:
   a. Provide cylinders/cores keyed into Owner’s existing keying system managed by Owner’s agent, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference. Contact:
      1) Firm Name:

         Cleveland Vicon Co., Inc.
         4550 Willow Parkway
         Cleveland, OH 44125
         Contact Person: John McKnight
         Telephone: (216) 341-3300

   b. Contractor shall include all cylinders, cores, keys, masterkeying and related components as detailed in the hardware sets, from Cleveland Vicon, within the door hardware submittal package as part of the door hardware submittals. Separate submittals for cylinders, cores, keys and keying is not acceptable for this project.

B. Requirements:

1. Construction Keying:
   a. Temporary Construction Cylinder Keying.
      1) Provide construction cylinders and or temporary construction keying furnished in accordance with the following requirements.
         a) Split Key or Lost Ball Construction Keying System.

b) 3 construction control keys, and extractor tools or keys as required to void construction keying.
c) 12 construction change (day) keys.
2) Owner or Owner's Representative will void operation of temporary construction keys.
3) When temporary cylinders are used, contractor shall remove and replace all temporary cylinders with permanent cylinders under supervision of the Owner or Owners' Representative.

2. Permanent Keying:
a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
1) Master Keying system as directed by the Owner.
b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
c. Provide keys with the following features:
1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
d. Identification:
1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
2) Identification stamping provisions must be approved by the Architect and Owner.
3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
e. Quantity: Furnish in the following quantities.
1) Change (Day) Keys: 3 per cylinder/core.
2) Permanent Control Keys: 4.
3) Master Keys: 10.

2.15 KEY CONTROL SYSTEM

A. Manufacturers:

1. Scheduled Manufacturer:
a. Telkee

2. Acceptable Manufacturers:
a. HPC
b. Lund

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
b. Provide hinged-panel type cabinet for wall mounting.

2.16 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4050A series

2. Acceptable Manufacturers and Products:
   a. Sargent 351 series - Less PRV
   b. Stanley D4551 series

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.
3. Closer Body: 1-1/2-inch (38 mm) diameter with 11/16-inch (17 mm) diameter heat-treated pinion journal and full complement bearings.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and all weather requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and back check.
7. Pressure Relief Valve (PRV) Technology: Not permitted.
8. Provide stick on templates, special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.17 ELECTRO-MECHANICAL CLOSER/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. LCN 4410ME series

2. Acceptable Manufacturers:
   a. Rixson 4 PUSH series

B. Requirements:

1. Provide single-point or multi-point hold-open electro-mechanical closer/holders as specified. Coordinate voltage requirements and provide transformer if necessary.
2. Provide closer/holders that function as full rack and pinion door closer when current is interrupted or continuous hold-open is not engaged.
3. Provide door closers with fully hydraulic, full rack and pinion action with high strength cylinder and full complement bearings at shaft.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
7. Pressure Relief Valve (PRV) Technology: Not permitted.

8. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.18 ELECTRO-HYDRAULIC AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4600 series

2. Acceptable Manufacturers and Products:
   a. Norton 6060 series
   b. Besam Power Swing

B. Requirements:

1. Provide low energy automatic operator units with hydraulic closer complying with ANSI/BHMA A156.19.
2. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
3. Provide units with conventional door closer opening and closing forces unless power operator motor is activated. Provide door closer assembly with adjustable spring size, back-check, and opening and closing speed adjustment valves to control door
4. Provide units with on/off switch for manual operation, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay.
5. Provide drop plates, brackets, and adapters for arms as required for details.
6. Provide actuator switches and receivers for operation as specified.
7. Provide weather-resistant actuators at exterior applications.
8. Provide key switches with LED's, recommended and approved by manufacturer of automatic operator as required for function described in operation description of hardware group below. Cylinders: Refer to "KEYING" article, herein.
9. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
10. Provide units with vestibule inputs that allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

2.19 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.20 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.21 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a. Glynn-Johnson

2. Acceptable Manufacturers:
   a. ABH
   b. Rixson

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.
2. Provide friction type at doors without closer and positive type at doors with closer.

2.22 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.23 WEATHERSTRIP, THRESHOLDS, GASKETING, DOOR SWEEPS AND DOOR BOTTOMS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Zero International

2. Acceptable Manufacturers:
   a. National Guard
   b. Reese

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.24 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.25 MAGNETIC HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. LCN SEM series

2. Acceptable Manufacturers:
   a. ABH
   b. Rixson

B. Requirements:

1. Provide wall or floor mounted electromagnetic door release as specified with minimum of 25 pounds of holding force. Coordinate projection of holder and armature with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Connect magnetic holders on fire-rated doors into the fire control panel for fail-safe operation.

2.26 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cylinders and/or cores to secure building and areas during construction period.
2. Replace construction cylinders and/or cores with permanent cylinders and/or cores as indicated in keying section.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Connections to panel interface modules, controllers, and gateways.
6. Testing and labeling wires with Architect's opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

M. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

O. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

Q. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

S. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
2. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to 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.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

Hardware Set No. 001

For use on Door #(s):
A-001.1

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-EO 24VDC	626	FAL
1	EA	ELEC. EXIT DEVICE	LM-RX-MEL-25-R-NL-OP 24VDC	626	FAL
1	EA	RIM CYLINDER	Blocking Ring as required. Match District Existing Key System per Specifications.	626	SAR
2	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
2	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18G	689	LCN
1	EA	AUTO OPERATOR	4642 WMS ST-3420 120VAC	689	LCN
2	EA	WALL ACTUATOR	8310-853T	630	LCN
2	EA	MOUNTING BOX	8310-867F		LCN
1	EA	WEATHER GASKET	8310-801 - @ exterior actuator only.		LCN
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	MULLION GASKETING	139N PSA		ZER
1	EA	MEETING STILE	Integral Gasketing by Door Mfgr.		B/O
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	654A-E-224	A	ZER
1	EA	POWER SUPPLY	PS906 900-2RS 900-4RL 900-BBK 120VAC		VON
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	INTERFACE RELAY BOX	JB7-R2		VON
1	EA	INTERCOM / REMOTE RELEASE	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. When secure, access by presenting a valid credential to the card reader, or by key, or by being Buzzed-in by Intercom/Remote release.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Opening shall have an automatic operator for occasional handicap assistance when required. Exterior actuator shall be wired through the Latch-bolt monitor switch built into the exit device.
   A. When exit device latch-bolts are retracted during normal daytime hours, or at owners discretion, the Exterior actuator will be active, and will automatically open the door when pressed.

B. When exit device latch-bolts are latched during secure hours, the doors are secure and the Exterior actuator will not be active, and will not open the doors when pressed.
C. Vestibule side actuator shall be wired to the automatic operator in a standard configuration, and shall always be active, and shall always unlatch and open the doors when pressed.

8. Electrical Riser & Point to Point Wiring diagrams are required per Specifications 087100.1.03.B.

Hardware Set No. 002

For use on Door #(s):
A-001.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-EO 24VDC	626	FAL
2	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18G	689	LCN
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	MULLION GASKETING	139N PSA		ZER
1	EA	MEETING STILE	Integral Gasketing by Door Mfgr.		B/O
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	654A-E-224	A	ZER
1	EA	POWER SUPPLY	Shared Power Supply with Door #A-001.1.		B/O
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. Access only when door is in unlocked mode via the Head End Access Control System.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch.
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Electrical Riser & Point to Point Wiring Diagrams are required per Specifications 087100.1.03.B.

Hardware Set No. 003

For use on Door #(s):
A-001.3

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-EO 24VDC	626	FAL
1	EA	ELEC. EXIT DEVICE	LM-RX-MEL-25-R-NL-OP 24VDC	626	FAL
1	EA	RIM CYLINDER	Blocking Ring as required. Match District Existing Key System per Specifications.	626	SAR
2	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
2	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18G	689	LCN
1	EA	AUTO OPERATOR	4642 WMS ST-3420 120VAC	689	LCN
2	EA	ACTUATOR, TOUCH	8310-853T	630	LCN
2	EA	MOUNT BOX	8310-867F		LCN
1	EA	MEETING STILE	Integral Gasketing by Door Mfgr.		B/O
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	MULLION GASKETING	139N PSA		ZER
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	POWER SUPPLY	PS906 900-2RS 900-4RL 900-BBK 120VAC		VON
1	EA	INTERFACE RELAY BOX	JB7-R2		VON
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. When secure, access by presenting a valid credential to the card reader, or by key.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Opening shall have an automatic operator for occasional handicap assistance when required. Vestibule actuator shall be wired through the Latch-bolt monitor switch built into the exit device.
   A. When exit device latch-bolts are retracted during normal daytime hours, or at owners discretion, the vestibule actuator will be active, and will automatically open the door when pressed.
   B. When exit device latch-bolts are latched during secure hours, the doors are secure and the vestibule actuator will not be active, and will not open the doors when pressed.
   C. Corridor Side Actuator shall be wired to the automatic operator in a standard configuration, and shall always be active, and shall always unlatch and open the doors when pressed.
8. Electrical Riser & Point to Point Wiring diagrams are required per Specifications 087100.1.03.B.

Hardware Set No. 004

For use on Door #(s):
A-001.4

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-EO 24VDC	626	FAL
2	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
2	EA	MOUNTING PLATE	4050A-18G	689	LCN
1	EA	MEETING STILE	Integral Gasketing by Door Mfgr.		B/O
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	MULLION GASKETING	139N PSA		ZER
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	POWER SUPPLY	Shared Power Supply with Door #A-001.3.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. Access only when door is in unlocked mode via the Head End Access Control System.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Electrical Riser & Point to Point Wiring Diagrams are required per Specifications 087100.1.03.B.

Hardware Set No. 005

For use on Door #(s):
A-003 B-001 B-103

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-EO 24VDC	626	FAL
1	EA	ELEC. EXIT DEVICE	LM-RX-MEL-25-R-NL-OP 24VDC	626	FAL
1	EA	RIM CYLINDER	Blocking Ring as required. Match District Existing Key System per Specifications.	626	SAR
2	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
2	EA	MOUNTING PLATE	4050A-18G	689	LCN
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	MEETING STILE	Integral Gasketing by Door Mfgr.		B/O
1	EA	MULLION GASKETING	139N PSA		ZER
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	654A-E-224	A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 900-BBK 120VAC		VON
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. Access by presenting a valid credential to the card reader, or by key.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit Switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch.
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 006

For use on Door #(s):
A-003.1 B-105.3

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	NOTE	All Hardware by Overhead Door Mfgr.		B/O

Hardware Set No. 007

For use on Door #(s):

A-005 A-201 A-205 C-002

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
2	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-V-L-NL-LBR-QUA 24VDC	626	FAL
2	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	DOOR CLOSER	4050A EDA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE SAFETY HOLD OPEN MAGNET	SEM7850 12V/24V/120V	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	MEETING STILE	8217SBK PSA	BK	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 900-BBK 120VAC		VON
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	INTERFACE RELAY BOX	JB7-R2		VON
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION: (NON RATED - EMERGENCY LOCK DOWN DOORS)

1. Doors shall be held open by Fire Life Safety Wall Magnets.
2. Hold Open Wall Magnets shall be wired to, and take power from the building Security and Access Control System/Emergency Lock Down System. Verify and match voltage of the wall magnets to the voltage being provided by the building security and access control / emergency lock down system. All connections shall be provided by the Security and Access Control Contractor.
   A. When the building Emergency Lock Down system is activated, power to the wall magnets is terminated. Doors will automatically close and lock from the Pull Side of the opening only.
   B. When the building Emergency Lock Down System is reset, power to the wall magnets is automatically restored. Doors can be placed back into the hold open position, and resume normal function.

During Emergency Lockdown:

1. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
2. Access by presenting a valid credential to the card reader, or by key.
3. Opening shall have an electric exit device with built-in Request to Exit (RX) Switch, as well as Electric Latch Retraction (QEL), and a separate Door Position Switch.
4. Power Failure: Upon power failure, door shall automatically close and lock from the secure side.
5. Free egress maintained at all times by depressing exit device push bar.
6. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 008

For use on Door #(s):
A-007.1 C-003 C-005.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112HD EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-NL-OP-1439 24VDC	626	FAL
1	EA	RIM CYLINDER	Blocking Ring as required. Match District Existing Key System per Specifications.	626	SAR
1	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
1	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18	689	LCN
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	654A-E-224	A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 900-BBK 120VAC		VON
1	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. Access by presenting a valid credential to the card reader, or by key.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit Switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch.
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 009

For use on Door #(s):

A-007.2 A-207

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	FIRE RATED KEYED REM. MULLION	KRF4023	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	ELEC FIRE EXIT DEVICE	FSA-F-25-R-L-QUA-499F 24VDC	626	FAL
2	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE SAFETY HOLD OPEN MAGNET	SEM7850 12V/24V/120V	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	MEETING STILE	8217SBK PSA	BK	ZER
1	EA	POWER SUPPLY	PS902 900-FA 900-BBK 120VAC		VON
1	EA	MULLION GASKETING	139N PSA		ZER
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION: (FIRE RATED STAIRWELL - EMERGENCY LOCK DOWN DOORS)

1. Normally opened, access controlled opening.
2. Doors shall normally be held open by Fire Life Safety Wall Magnets.
3. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
4. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Normal Daytime Use:

1. Doors shall be held open by Fire Life Safety Hold Open Wall Magnets.
2. Wall Magnets shall be wired to, and take power from the building Emergency Lock Down System with Fire Alarm tie-in. Verify and match voltage of wall magnets to the voltage provided by the building fire alarm system. Fire alarm contacts and connections shall be provided by the Fire Alarm Contractor.
3. Opening shall have exit devices with Fail Safe (FSA) electric lever trim and access controls.

Fire Alarm Activation

1. When the building fire alarm system is activated, power to the Wall Magnets and Fail Safe (FSA) Lever Trim shall be terminated. The doors shall automatically close and latch, but not lock.
2. Free egress/ingress is maintained in either direction.
3. When the building fire alarm system is reset, power to the Wall Magnets and Fail Safe (FSA) Lever

Trim shall be automatically restored. The doors can be placed back into the hold open position and resume normal function.

Emergency Lock Down Activation:

1. When the building Emergency Lock Down System is activated, power to the Wall Magnets shall be terminated. Power to the Fail Safe (FSA) Lever Trim shall remain. The doors shall automatically close and lock from the stairwell side of the opening.
2. When closed and secure, access by presenting a valid credential to the card reader, or by key.
3. Free egress maintained at all times by depressing exit device push bar.
4. When the building Emergency Lock Down System is reset, power to the Wall Magnets is and Fail Safe (FSA) Lever Trim shall be automatically restored. The doors can be placed back into the hold open position and resume normal function.

Power Failure:

1. Power Failure: Upon complete power failure, doors shall automatically close and latch, but not lock.
2. Free egress/ingress is maintained in either direction.

Hardware Set No. 010

For use on Door #(s):
A-009.1

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-EO 24VDC	626	FAL
1	EA	ELEC. EXIT DEVICE	LM-RX-MEL-25-R-NL-OP 24VDC	626	FAL
1	EA	RIM CYLINDER	Blocking Ring as required. Match District Existing Key System per Specifications.	626	SAR
2	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
2	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18G	689	LCN
1	EA	AUTO OPERATOR	4642 WMS ST-3420 120VAC	689	LCN
2	EA	ACTUATOR, TOUCH	8310-853T	630	LCN
2	EA	MOUNT BOX	8310-867F		LCN
1	EA	WEATHER GASKET	8310-801 - @ exterior actuator only.		LCN
1	EA	MEETING STILE	Integral Gasketing by Door Mfgr.		B/O
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	MULLION GASKETING	139N PSA		ZER
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	654A-E-224	A	ZER
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	POWER SUPPLY	PS902 900-2RS 900-BBK 120VAC		VON
1	EA	INTERFACE RELAY BOX	JB7-R2		VON
1	EA	INTERCOM / REMOTE RELEASE	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. When secure, access by presenting a valid credential to the card reader, or by key, or by being Buzzed-in by Intercom/Remote release.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Opening shall have an automatic operator for occasional handicap assistance when required. Exterior actuator shall be wired through the Latch-bolt monitor switch built into the exit device.
   A. When exit device latch-bolts are retracted during normal daytime hours, or at owners discretion, the Exterior actuator will be active, and will automatically open the door when pressed.

B. When exit device latch-bolts are latched during secure hours, the doors are secure and the Exterior actuator will not be active, and will not open the doors when pressed.
C. Vestibule side actuator shall be wired to the automatic operator in a standard configuration, and shall always be active, and shall always unlatch and open the doors when pressed.

8. Electrical Riser & Point to Point Wiring diagrams are required per Specifications 087100.1.03.B.

Hardware Set No. 011

For use on Door #(s):
A-009.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-EO 24VDC	626	FAL
1	EA	ELEC. EXIT DEVICE	LM-RX-MEL-25-R-NL-OP 24VDC	626	FAL
1	EA	RIM CYLINDER	Blocking Ring as required. Match District Existing Key System per Specifications.	626	SAR
2	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
2	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18G	689	LCN
1	EA	AUTO OPERATOR	4642 WMS ST-3420 120VAC	689	LCN
2	EA	ACTUATOR, TOUCH	8310-853T	630	LCN
2	EA	MOUNT BOX	8310-867F		LCN
1	EA	GASKETING	Integral Gasketing by Aluminum Door/Frame Mfgr.		B/O
1	EA	MEETING STILE	Integral Meeting Stile Gasketing by Aluminum door mfgr.		B/O
1	EA	POWER SUPPLY	PS902 900-2RS 900-BBK 120VAC		VON
1	EA	INTERCOM / REMOTE RELEASE	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. When secure, access by presenting a valid credential to the card reader, or by key.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Opening shall have an automatic operator for occasional handicap assistance when required. Vestibule actuator shall be wired through the Latch-bolt monitor switch built into the exit device.
   A. When exit device latch-bolts are retracted during normal daytime hours, or at owners discretion, the vestibule actuator will be active, and will automatically open the door when pressed.
   B. When exit device latch-bolts are latched during secure hours, the doors are secure and the vestibule actuator will not be active, and will not open the doors when pressed.
   C. Corridor Side Actuator shall be wired to the automatic operator in a standard configuration, and shall always be active, and shall always unlatch and open the doors when pressed.
8. Electrical Riser & Point to Point Wiring diagrams are required per Specifications 087100.1.03.B.

Hardware Set No. 012

For use on Door #(s):

A-101	**A-102**	**A-103**	**A-104**	**A-105**	**A-107**
A-109	**A-135**	**A-137**	**A-211**	**A-212**	**A-213**
A-214	**A-215**	**A-217**	**A-219**	**C-101**	**C-102**
C-104	**C-106**	**C-109**	**C-110**	**C-112**	**C-113**
C-114	**C-115**	**C-116**	**C-212**	**C-214**	**C-215**
C-217	**C-219**	**C-220**			

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	WALL STOP/HOLDER	WS40	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 013

For use on Door #(s):

A-106	**A-125**	**A-216**	**A-236**

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	WALL STOP/HOLDER	WS40	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 014

For use on Door #(s):

A-108 A-218 A-238 B-125B C-107

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	OFFICE LOCK	L9056L 17A 09-544	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 015

For use on Door #(s):

A-108A A-126M A-126N A-218A B-105A B-121

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK WITH INDICATOR	L9040 17A 09-544 L283-722	626	SCH
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 016

For use on Door #(s):

A-108B A-126S A-218B C-107B C-210

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 017

For use on Door #(s):

A-110 A-112 A-220 A-222 C-216 C-218

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	WALL STOP/HOLDER	WS40	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 018

For use on Door #(s):

A-118 A-120 A-230

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 019

For use on Door #(s):
A-122 A-126L A-126T B-115

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC. LOCK	L9092LEU 17A RX 12/24VDC	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	POWER SUPPLY	PS902 900-BBK 120VAC		VON
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. Access by presenting a valid credential to the card reader, or by key.
4. Opening shall have an electric lockset with built-in Request to Exit (RX) Switch, as well as: Electric Unlocking (EU), and a separate Door Position Switch.
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by rotating the inside lever handle.
7. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 020

For use on Door #(s):
A-124 C-103

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	ARMOR PLATE	8400 34" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP/HOLDER	WS40	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 021

For use on Door #(s):
A-126.1

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC. LOCK	L9092LEU 17A RX 12/24VDC	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR CLOSER	4050A REG ST-5203 - Pull Side Mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	POWER SUPPLY	PS902 900-BBK 120VAC		VON
1	EA	INTERCOM / REMOTE RELEASE	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. Access by presenting a valid credential to the card reader, or by key, or by being Buzzed-in by Intercom/Remote release.
4. Opening shall have an electric lockset with built-in Request to Exit (RX) Switch, as well as: Electric Unlocking (EU), and a separate Door Position Switch.
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by rotating the inside lever handle.
7. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 022

For use on Door #(s):
A-126.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	CLSSRM SEC. LOCK	L9071L 17A LLL - Less Inside Trim except cylinder.	626	SCH
2	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	ELECTRIC STRIKE	6211 FS 24VDC	630	VON
1	EA	OFFSET DOOR PULL	8190EZHD 18" - Type "O" Mounting	630	IVE
1	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR CLOSER	4050A REG ST-5203 - Pull side mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	POWER SUPPLY	PS902 900-FA 900-BBK 120VAC		VON
1	EA	INTERCOM / REMOTE RELEASE	Specified & Furnished Under Division 28.		B/O
2	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

NOTES:

1. The "FA" Terminals in the power supply shall be connected to the Fire Alarm panel through a set of Normally-Closed (NC) Dry Contacts.
2. The fire alarm connection shall be performed by the fire alarm contractor.
3. A card reader shall be located on both sides of the opening.
4. The remote release button shall be located at the receptionists desk.
5. The card reader contacts and the remote release button shall be wired in series with the Fail-Safe electric strike.
6. Electrical Riser and Point to Point wiring diagrams required per specifications 087100,1.4.B.

OPERATIONAL DESCRIPTION:

1. The door shall be normally closed and locked. This opening is not a means of egress and free egress shall be restricted under normal building conditions.

DAYTIME OPERATION:

1. An authorized individual shall unlock the outside lever by use of mechanical key in either the inside and or outside cylinder.
2. When the outside lever is on lucked, students and staff will be able to enter the office from the corridor without presenting a valid credential to the outside card reader.
3. Pushing the remote release button or presenting a valid credential to the inside card reader will allow students or staff to re-enter the school corridor.

AFTER HOURS OPERATION:

1. An authorized person will relock the outside lever handle by use of mechanical key in the inside and or outside cylinder.
2. Presenting a valid credential to either card reader and or pushing the remote release button shall momentarily unlock the electric strike to allow free egress through the opening.

EMERGENCY LOCK-DOWN:

1. In the event of an emergency, the corridor lever handle can be locked by mechanical key by the inside cylinder.

FIRE ALARM ACTIVATION:

1. Upon activation of the Fire Alarm, power to the electric strike is terminated, unlocking the door and allowing immediate access through the opening in either direction.

Hardware Set No. 023

For use on Door #(s):

A-126A	**A-126B**	**A-126C**	**A-126D**	**A-126E**	**A-126G**
A-126J	**A-129**	**A-131**	**B-105C**	**B-123**	

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	OFFICE LOCK	L9056L 17A 09-544	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 024

For use on Door #(s):

A-126F

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	L9070L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 025

For use on Door #(s):
A-126H A-235A A-235B B-117AB

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 026

For use on Door #(s):
A-126K

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	HOSPITAL PRIVACY LOCK WITH INDICATOR	L9044 17A 09-544 L283-722	626	SCH
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 027

For use on Door #(s):
A-126P A-127

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Set No. 028

For use on Door #(s):
A-133 **B-107**

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	KEYED PRIVACY LOCK WITH INDICATOR	L9456L 17A 09-544 L283-722	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 029

For use on Door #(s):
A-232 **A-235C**

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC. LOCK	L9092LEU 17A RX 12/24VDC	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A EDA	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	POWER SUPPLY	PS902 900-BBK 120VAC		VON
1	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. Access by presenting a valid credential to the card reader, or by key.
4. Opening shall have an electric lockset with built-in Request to Exit (RX) Switch, as well as: Electric Unlocking (EU), and a separate Door Position Switch.
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by rotating the inside lever handle.
7. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 030

For use on Door #(s):
A-234

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A EDA	689	LCN
1	EA	ARMOR PLATE	8400 34" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP/HOLDER	WS40	626	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 031

For use on Door #(s):
A-235.1 A-235.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	SET	AUTO FLUSH BOLT	FB31P/FB41P - as approved by door mfgr.	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	DOOR CLOSER	4050A SHCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	ASTRAGAL	Overlapping Metal Astragal by HM Door Mfgr.	PRI	B/O
2	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 032

For use on Door #(s):
A-238A **C-107A**

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK WITH INDICATOR	L9040 17A 09-544 L283-722	626	SCH
1	EA	DOOR CLOSER	4050A SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 033

For use on Door #(s): **B-002.1**

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD	628	IVE
1	EA	AUTO FLUSH BOLT	FB31P/FB41P - as approved by door mfgr.	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
2	EA	ARMOR PLATE	8402 34" X 1" LDW B-CS	630	IVE
2	SET	ASTRAGAL	326AA (2pcs. 86")	AA	ZER
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Set No. 034

For use on Door #(s):

B-002.2 B-117.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112HD EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC EXIT DEVICE	LM-RX-MEL-25-R-NL-OP-1439 24VDC	626	FAL
1	EA	FLUSH PULL	ADA Approved Flush Pull Provided by FRP Door Mfgr.	630	B/O
1	EA	RIM CYLINDER	Blocking Ring as required. Match District Existing Key System per Specifications.	626	SAR
1	EA	DOOR CLOSER	4050A SCUSH	689	LCN
1	EA	CUSH SHOE SUPPORT	4050A-30	689	LCN
1	EA	BLADE STOP SPACER	4050A-61	689	LCN
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	654A-E-224	A	ZER
1	EA	POWER SUPPLY	PS902 900-2RS 900-BBK 120VAC		VON
1	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION

1. Normally Secure, Access Controlled Opening.
2. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
3. Access by presenting a valid credential to the card reader, or by key.
4. Opening shall have electric exit devices with built-in Latch-bolt Monitor and Request to Exit Switches (LM-RX), with Electric Latch Retraction (MEL), and a separate Door Position Switch.
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 035

For use on Door #(s):
B-101.1

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112HD	628	IVE
1	EA	EXIT DEVICE	LD-25-R-L-NL-QUA-1439	626	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	OVERHEAD STOP	100S	630	GLY
1	EA	DOOR CLOSER	4050A REG - Top Jamb Mount	689	LCN
1	EA	MOUNTING PLATE	4050A-18G	689	LCN
1	EA	GASKETING	Integral Gasketing by Aluminum Door/Frame Mfgr.		B/O

Hardware Set No. 036

For use on Door #(s):
B-101.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CYLINDER	Verify and Match Owners' Existing System Per Specifications.	626	SAR
1	EA	NOTE	Balance of Door Hardware by Nanna Wall Mfgr.		B/O

Hardware Set No. 037

For use on Door #(s):
B-102

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	EXIT DEVICE	LD-25-V-L-NL-LBR-QUA	626	FAL
2	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	DOOR CLOSER	4050A SHCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	SET	ASTRAGAL	326AA (2PCS. 86")	AA	ZER
2	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 038

For use on Door #(s):
B-102A **B-104A**

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	L9070L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 039

For use on Door #(s):
B-104

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
2	EA	EXIT DEVICE	LD-25-V-L-NL-LBR-QUA	626	FAL
2	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	DOOR CLOSER	4050A SHCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	SET	ASTRAGAL	326AA (2 pcs. 86")	AA	ZER
2	EA	GASKETING	488SBK PSA	BK	ZER
2	EA	ACOUSTICAL DOOR BOTTOM	369AA-Z49-PULL-OUT	AA	ZER
1	EA	THRESHOLD	568A-E-224	A	ZER

Hardware Set No. 040

For use on Door #(s):
B-105.1

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	OFFICE/ENTRY LOCK	L9456L 17A 09-544 L283-711	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	FIRE/LIFE SAFETY HOLD OPEN MAGNET	SEM7850 12V/24V/120V	689	LCN
1	EA	GASKETING	488SBK PSA	BK	ZER

OPERATIONAL DESCRIPTION:

1. Doors shall be held open by Fire Life Safety Wall Magnets.
2. Wall Magnets shall be wired to, and take power from the building fire alarm system. Verify and match voltage of wall magnets to the voltage provided by the building fire alarm system. Fire alarm contacts and connections shall be provided by the Fire Alarm Contractor.
   A. When the building fire alarm system is activated, power to the wall magnets is terminated. Doors will automatically close and latch .
   B. When the building fire alarm system is reset, power to the wall magnets is automatically restored. Doors can be placed back into the hold open position and resume normal function.
3. Power Failure: Upon power failure, door shall automatically close and latch.
4. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 041

For use on Door #(s):
B-105.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD	628	IVE
1	EA	TWO PT EXIT LOCK	LM9225 17A LBL	626	SCH
1	EA	TWO PT ENTRY LOCK	LM9256L 17A LBL L283-711 L583-363	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
2	EA	ARMOR PLATE	8400 34" X 1" LDW B-CS	630	IVE
2	EA	FIRE/LIFE SAFETY HOLD OPEN MAGNET	SEM7850 12V/24V/120V	689	LCN
2	SET	ASTRAGAL	326AA (2pcs. 86")	AA	ZER
1	EA	GASKETING	488SBK PSA	BK	ZER
2	EA	DOOR BOTTOM	355AA	AA	ZER
1	EA	THRESHOLD	545A-E-224	A	ZER

OPERATIONAL DESCRIPTION:

1. Doors shall be held open by Fire Life Safety Wall Magnets.
2. Wall Magnets shall be wired to, and take power from the building fire alarm system. Verify and match voltage of wall magnets to the voltage provided by the building fire alarm system. Fire alarm contacts and connections shall be provided by the Fire Alarm Contractor.
   A. When the building fire alarm system is activated, power to the wall magnets is terminated. Doors will automatically close and latch .
   B. When the building fire alarm system is reset, power to the wall magnets is automatically restored. Doors can be placed back into the hold open position and resume normal function.
3. Power Failure: Upon power failure, door shall automatically close and latch.
4. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 042

For use on Door #(s):
B-105B

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	DEAD LOCK	L9460L 09-544 L283-711	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	PUSH PLATE	8200 6" X 16"	630	IVE
1	EA	PULL PLATE	8303 10" 4" X 16"	630	IVE
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 043

For use on Door #(s):
B-105D

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224HD	628	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	ARMOR PLATE	8400 34" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 044

For use on Door #(s):
B-109

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD	628	IVE
1	SET	CONSTANT LATCHING FLUSH BOLTS	FB51P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
2	EA	DOOR CLOSER	4050A EDA	689	LCN
2	EA	ARMOR PLATE	8400 34" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP/HOLDER	WS40	626	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 045

For use on Door #(s):
B-110.1 B-110.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	EXIT DEVICE	LD-25-R-L-2-QUA	626	FAL
2	EA	RIM CYLINDER	Blocking Ring as required. Match District Existing Key System per Specifications.	626	SAR
2	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	DOOR CLOSER	4050A EDA	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP/HOLDER	WS40	626	IVE
1	EA	MULLION GASKETING	139N PSA		ZER
1	SET	ASTRAGAL	326AA (2 pcs. 86")	AA	ZER
1	EA	GASKETING	488SBK PSA	BK	ZER

Hardware Set No. 046

For use on Door #(s):
B-110.3

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112HD	628	IVE
1	EA	KEYED REM. MULLION	KR4023 STAB	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	EXIT DEVICE	LD-25-R-EO	605	FAL
2	EA	DOOR CLOSER	4050A SCUSH	689	LCN
2	EA	CUSH SHOE SUPPORT	4050A-30	689	LCN
2	EA	BLADE STOP SPACER	4050A-61	689	LCN
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	MULLION GASKETING	139N PSA		ZER
1	EA	MEETING STILE	Integral Gasketing by Door Mfgr.		B/O
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	654A-E-224	A	ZER
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O

Hardware Set No. 047

For use on Door #(s):
B-110A

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD	628	IVE
1	SET	CONSTANT LATCHING FLUSH BOLTS	FB51P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec’s.	626	SAR
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	ARMOR PLATE	8400 34" X 1" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 048

For use on Door #(s):
B-113

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD	628	IVE
1	SET	CONSTANT LATCHING FLUSH BOLTS	FB51P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec’s.	626	SAR
2	EA	OH STOP & HOLDER	100F	630	GLY
2	EA	ARMOR PLATE	8400 34" X 1" LDW B-CS	630	IVE
1	EA	ASTRAGAL	Overlapping Metal Astragal by HM Door Mfgr.	PRI	B/O
2	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 049

For use on Door #(s):
B-117.1

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	SET	CONSTANT LATCHING FLUSH BOLTS	FB51P	630	IVE
1	EA	DUST PROOF STRIKE	DP1	626	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	DOOR CLOSER	4050A SCUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	MEETING STILE	8217SBK PSA	BK	ZER
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	ASTRAGAL	Overlapping Metal Astragal by HM Door Mfgr.	PRI	B/O
2	EA	DOOR SWEEP	8192AA	AA	ZER
1	EA	THRESHOLD	545A-E-224	A	ZER

Hardware Set No. 050

For use on Door #(s):
B-117A.1

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	EXIT DEVICE	LD-25-R-L-NL-QUA	626	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A SCUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 051

For use on Door #(s):
B-117A.2

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112HD	628	IVE
1	EA	EXIT DEVICE	LD-25-R-NL-OP-1439	626	FAL
1	EA	FLUSH PULL	ADA Approved Flush Pull by FRP Door Mfgr.		
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A SCUSH	689	LCN
1	EA	CUSH SHOE SUPPORT	4050A-30	689	LCN
1	EA	BLADE STOP SPACER	4050A-61	689	LCN
1	EA	WEATHERSTRIP	Integral Weatherstrip by Door/Frame Mfgr.		B/O
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	654A-E-224	A	ZER
1	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION:

1. Opening is always closed and secure. No access control at this location.
2. Opening shall be monitored by Head End access control system.
3. Access by Key only.
4. Opening shall have Door Position Switch for monitoring by Head End Access Control System.
5. Power Failure: Upon power failure, door shall remain closed and locked from the secure side.
6. Free egress maintained at all times by depressing exit device push bar.
7. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Hardware Set No. 052

For use on Door #(s):
B-117B.1

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	DOOR CLOSER	4050A REG - Pull Side Mount	689	LCN
1	EA	WEATHERSTRIP	188SBK PSA	BK	ZER
1	EA	DOOR SWEEP	8192AA	AA	ZER
1	EA	THRESHOLD	655A-E-224	A	ZER

Hardware Set No. 053

For use on Door #(s):
B-117B.2 B-119

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	NOTE	Balance of Door Hardware by Overhead Door Mfgr.		B/O

Hardware Set No. 054

For use on Door #(s):
C-005.1 C-205

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	FIRE RATED KEYED REM. MULLION	KRF4023	689	FAL
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	ELEC FIRE EXIT DEVICE	FSA-F-25-R-L-QUA-499F 24 VDC	626	FAL
2	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
2	EA	OVERHEAD STOP	100S	630	GLY
2	EA	FIRE/LIFE CLOSER	4414ME B80G 24VDC	689	LCN
1	EA	MOUNTING PLATE	4410ME-18G WMS	689	LCN
1	EA	TRANSFORMER	4410ME-3210 - as required.		LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	MULLION GASKETING	139N PSA		ZER
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	MEETING STILE	8217SBK PSA	BK	ZER
1	EA	POWER SUPPLY	PS902 900-FA 900-BBK 120VAC		VON
2	EA	DOOR POS. SWITCH	Specified & Furnished Under Division 28.		B/O
1	EA	CARD READER	Specified & Furnished Under Division 28.		B/O

OPERATIONAL DESCRIPTION: (FIRE RATED STAIRWELL - EMERGENCY LOCK DOWN DOORS)

1. Normally opened, access controlled opening.
2. Doors shall normally be held open by Fire Life Safety Wall Magnets.
3. Opening is controlled (Locked/Unlocked) by Head End Access Control System, and can be programmed and or scheduled to be locked/unlocked at owners discretion.
4. Electrical Riser and Point to Point Wiring Diagrams required per Specifications 087100.1.03.B.

Normal Daytime Use:

1. Doors shall be held open by Fire Life Safety Hold Open Wall Magnets.
2. Wall Magnets shall be wired to, and take power from the building Emergency Lock Down System with Fire Alarm tie-in. Verify and match voltage of wall magnets to the voltage provided by the building fire

alarm system. Fire alarm contacts and connections shall be provided by the Fire Alarm Contractor.
3. Opening shall have exit devices with Fail Safe (FSA) electric lever trim and access controls.

Fire Alarm Activation:

1. When the building fire alarm system is activated, power to the Wall Magnets and Fail Safe (FSA) Lever Trim shall be terminated. The doors shall automatically close and latch, but not lock.
2. Free egress/ingress is maintained in either direction.
3. When the building fire alarm system is reset, power to the Wall Magnets and Fail Safe (FSA) Lever Trim shall be automatically restored. The doors can be placed back into the hold open position and resume normal function.

Emergency Lock Down Activation:

1. When the building Emergency Lock Down System is activated, power to the Wall Magnets shall be terminated. Power to the Fail Safe (FSA) Lever Trim shall remain. The doors shall automatically close and lock from the stairwell side of the opening.
2. When closed and secure, access by presenting a valid credential to the card reader, or by key.
3. Free egress maintained at all times by depressing exit device push bar.
4. When the building Emergency Lock Down System is reset, power to the Wall Magnets is and Fail Safe (FSA) Lever Trim shall be automatically restored. The doors can be placed back into the hold open position and resume normal function.

Power Failure:

1. Power Failure: Upon complete power failure, doors shall automatically close and latch, but not lock.
2. Free egress/ingress is maintained in either direction.

Hardware Set No. 055

For use on Door #(s):

C-101A	**C-102A**	**C-104A**	**C-106A**	**C-109A**	**C-112A**
C-113A	**C-114A**	**C-115A**	**C-116A**		

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	L9010 17A	626	SCH
1	EA	OVERHEAD STOP	100S	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 056

For use on Door #(s):
C-105 **C-108** **C-222**

Each To Have:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080L 17A	626	SCH
1	EA	MORTISE CYLINDER	CAM & Blocking Ring as required - Match Existing District Key System per Spec's.	626	SAR
1	EA	OH STOP & HOLDER	100F	630	GLY
3	EA	SILENCER	SR64	GRY	IVE

END OF SECTION