

### ADDENDUM #3

Date: April 24, 2019  
To: All Bidders  
From: Ron Portadin, AIA  
Project #: 19002  
Reference: Renovations to Engineering Lab - CCC

This Addendum is issued for the purpose of amending certain requirements of the Bidding Documents and is hereby made an integral part of the Contract Documents for this project. Statements made herein shall amend, supersede, and take precedence over any conflicting and contrary information contained in previously issued documents including previously issued addenda, if any.

Bidders shall acknowledge receipt of this addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

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### GENERAL

Is the Pollution Insurance Liability a definite requirement? Attached is the form to be quoted and there are numerous sections that we cannot provide answers. From our understanding, the premium is costly, and this could greatly increase the cost of the bids, please review and advise.

1. AIA A232 General Conditions. Delete Item 11.1.13.iii in its entirety.
2. AIA A232 General Conditions. Delete Item 11.1.16 in its entirety.
3. AIA A232 General Conditions. Delete Item 11.1.17 in its entirety.

Items #1 through #3 above all address specific insurance coverages that have been removed from this project. All other required insurance types and limits provided for in the Bid Documents, and not listed above, shall remain unchanged.

### DOOR HARDWARE (Complete revised Section 087100 attached – 19 Pages)

1. Locks and Latches.
  - a. Replace item 2.05.F.1 to read
    1. Schlage: ND Series, basis of design.
  - b. Add item 2.05.F.2 to read
    2. Or Approved Equal.
2. Exit Devices.
  - a. Replace item 2.06.E.1 to read
    1. Von Duprin: 99 Series/ 33 series, basis of design.
  - a. Add item 2.06.E.2 to read
    2. Or Approved Equal.

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3. Keying System.
  - a. Clarify item 2.07.E.1 to be "Everest D-series System – No substitution"
4. Closers.
  - a. Replace item 2.09.G.1 to read
    1. LCN: 4000 Series, basis of design.
  - b. Add item 2.11.G.2 to read
    2. Or Approved Equal.
5. Power Supply.
  - a. Replace item 2.12.D.1 to read
    1. Hager Companies 2903, basis of design.
  - b. Add item 2.12.D.2 to read
    2. Or Approved Equal.

## HVAC

1. Please confirm that furnace venting is to terminate at the south wall for all furnaces.  
**CORRECTION: Furnace venting is to terminate as WEST wall (back side of building), directly behind furnaces.**
2. Is there an insulation spec for the round duct in alternate 3 serving the "drone zone"?  
**The exposed supply ductwork located in Alternate #3 Room 112. "Drone Zone" does not require insulation.**
3. Please confirm CU-1 thru CU-5 are to be heat pump condensers.  
**CU-1 through CU-5 are to be heat pump condensers.**
4. Please confirm if the floor thickness in the areas of the proposed restrooms is known?  
**For bidding purposes, it is assumed that the existing floor slab is 6" thick in the area of the proposed toilet rooms.**

## ELECTRICAL

1. Drawing E1.0 lighting plan shows Type A & Type A1 light fixtures; however, the light fixture schedule does not show a fixture type of A or A1. Please provide information for these fixture types.  
**Type A shall be similar to Type B except with 30K Lumen Package.**  
**Type A1 shall be similar to Type B1 with 30K Lumen Package.**

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2. Drawing E4.0 riser diagram shows a 60A/3P circuit breaker in the existing panel LPB. Is this breaker existing or does a new one need to be furnished and installed?  
**All Breakers shown on Panel LPB shall be new.**
3. Drawing E4.0 riser diagram shows a circuit breaker in the existing panel LPA. Is this breaker existing or does a new one need to be furnished and installed? What is the size of this circuit breaker?  
**Provide 45A/3P new breaker in Panel LPA to server Transformer X1. Breaker serving existing transformer is existing.**
4. On drawings E4.0 the feeder that is shown from existing panel LPA to Transformer X1 does not have any identification. Please provide the feeder size.  
**Feeder from Panel LPA to new transformer X1 shall be 3#6, 1#10G in 1 ½"C. On Riser Diagram Alternate 3 relocated Panel LPC shall be labeled LPD in lieu of LPC. Feeder from new transformer X1 to Panel LPD shall be 4#1, 1#8G, 1 ½"C. Provide 110A/3P enclosed breaker between new transformer X1 and relocate Panel LPC.**
5. Drawing E3.0 Power & Systems Plan shows a panel LPD. Is this panel new or existing?  
**Refer to answer for Question 4.**
6. Drawing E1.0 lighting plan and E4.0 Lighting contactor – LC1 detail shows a photocell, timeclock emergency relay and lighting contactor. These devices do not have any identification for a manufacturer and catalog information. Please provide information for these devices so we may provide it for the vendor.  
**Time clock shall be electronic type with two channels, rated for 120/277V with dry contacts. Emergency lighting relay shall be UL 924 rate.**
7. E1.0 shows to provide a grounding bar in Network Room 108. Details of this grounding bar has not been located on the drawings. Please provide size and details for the grounding bar.  
**Refer to specification section 260526 for additional information. Ground bus shall be Eaton model number SBTMGB20.**

**General:** Refer to Sheet E4.0: Contractor shall be responsible for providing breaker as shown on Panel Schedule. It is acceptable to use existing breaker in these Panels if they match what is shown on Panel Schedule.

END OF ADDENDUM #3

**PART 1 – GENERAL**

1.01 SUMMARY

- A. Section includes furnishing and installation of door hardware for doors specified in “Hardware Sets” and required by actual conditions. Including screws, bolts, expansion shields, electrified door hardware, and other devices for proper application of hardware.
- B. Where items of hardware are not specified and are required for intended service, such omission, error or other discrepancy to be submitted to Architect fourteen calendar days prior to bid date for clarification by addendum.
- C. Products supplied but not installed under this Section:
  - 1. Hardware for aluminum doors will be furnished under this Section, but installed under Division 08 Openings
  - 2. Final replacement of cylinder cores to be installed by Owner.
  - 3. Electrified hardware will be furnished and installed under this Section, with connections by Cumberland County College’s security vendor.
- D. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- E. Related Divisions:
  - 1. Division 08 Openings
  - 2. Division 26 Electrical
  - 3. Division 28 Electronic Safety And Security

1.02 REFERENCES

- A. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI):
  - 1. ANSI/BHMA A156.1 Butts & Hinges (2006)
  - 2. ANSI/BHMA A156.2 Bored & Preamsembled Locks & Latches (2011)
  - 3. ANSI/BHMA A156.3 Exit Devices (2014)
  - 4. ANSI/BHMA A156.4 Door Controls – Closers (2008)
  - 5. ANSI/BHMA A156.6 Architectural Door Trim (2010)
  - 6. ANSI/BHMA A156.7 Template Hinge Dimensions (2009)
  - 7. ANSI/BHMA A156.8 Door Controls – Overhead Stops and Holders (2010)
  - 8. ANSI/BHMA A156.16 Auxiliary Hardware (2008)
  - 9. ANSI/BHMA A156.18 Materials & Finishes (2006)
  - 10. ANSI/BHMA A156.21 Thresholds (2009)
  - 11. ANSI/BHMA A156.22 Door Gasketing Systems (2012)
  - 12. ANSI/BHMA A156.25 Electrified Locks (2007)
  - 13. ANSI/BHMA A156.26 Continuous Hinges (2006)
  - 14. ANSI/BHMA A156.28 Keying Systems (2007)
  - 15. ANSI/BHMA A156.31 Electric Strikes (2007)
  - 16. ANSI/BHMA A156.36 Auxiliary Locks (2010)
  - 17. ANSI/BHMA A156.115 Hardware Preparation in Steel Doors and Steel Frames (2014)
  - 18. ANSI/BHMA A156.115W Hardware Preparation in Wood Doors with Wood or Steel Frames (2006)
- B. International Code Council/American National Standards Institute (ICC/ANSI)/ADA:
  - 1. ICC/ANSI A117.1 Standards for Accessible and Usable Buildings and Facilities 2009

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2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).
  - C. Underwriters Laboratories, Inc. (UL):
    1. UL 10C Positive Pressure Fire Test of Door Assemblies
    2. UL 1784 Air Leakage Test of Door Assemblies
    3. UL/ULC Listed
  - D. Door and Hardware Institute (DHI):
    1. DHI Publication – Keying Systems and Nomenclature (1989)
    2. DHI Publication – Abbreviations and Symbols
    3. DHI Publication – Installation Guide for Doors and Hardware
    4. DHI Publication – Sequence and Format of Hardware Schedule (1996)
  - E. National Fire Protection Agency (NFPA)
    1. NFPA 70 National Electrical Code 2014
    2. NFPA 80 Standard for Fire Doors and Other Opening Protective's 2013
    3. NFPA 101 Life Safety Code 2015
    4. NFPA 105 Standard for the Installation of Smoke Door Assemblies 2013
  - F. Building Codes
    1. IBC International Building Code 2015
    2. Local Building Code
- 1.03 SUBMITTALS
- A. Submit in accordance with Conditions of the Contract and Division 1 Administrative Requirements.
  - B. Shop Drawings:
    1. Organize hardware schedule organized in vertical format illustrated in DHI Publications Sequence and Formatting for the Hardware Schedule. Include abbreviations and symbols page according to DHI Publications Abbreviations and Symbols. Complete nomenclature of items required for each door opening as indicated.
    2. Include lock, latch or trim function (Entry, Classroom, Passage, etc.) in the product description under the Hardware Headings to matching the actual function as indicated by the product catalog number.
    3. Coordinate final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of hardware.
    4. Architectural Hardware Consultant (AHC), as certified by DHI, who shall affix seal attesting to completeness and correctness, shall review hardware schedule prior to submittal.
  - C. Submit manufacturer's catalog sheet on design, grade and function of items listed in hardware schedule. Identify specific hardware item per sheet, provide index, and cover sheet.
  - D. Coordination: Distribute door hardware templates to related divisions within fourteen days of receiving approved door hardware submittals.
  - E. Electrified Hardware: Provide electrical information to include voltage, and amperage requirements for electrified door hardware and description of operation.
    1. Description of operation for each electrified opening to include description of component functions including location, sequence of operation and interface with other building control systems.

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2. Wiring Diagrams: Detail wiring for power, signal, and control system and differentiate between manufacturers installed and field installed wiring. Include the following:
    - a. System schematic
    - b. Point to point wiring diagram
    - c. Riser diagram
    - d. Elevation of each door
  3. Detail interface between electrified door hardware and fire alarm, access control, security, and building control systems.
  4. Provide junction boxes, relays and terminal blocks as needed for proper door operations and connections.
- F. Upon door hardware submittal approval, furnish for each electrified opening, three copies of point to point diagrams.
- G. Closeout Submittals: Submit to Owner in a three ringed binder or CD if requested.
1. Warranties.
  2. Maintenance and operating manual.
  3. Maintenance service agreement.
  4. Record documents.
  5. Copy of approved hardware schedule.
  6. Copy of approved keying schedule with bitting list.
  7. Door hardware supplier name, phone number and fax number.

### 1.04 QUALITY ASSURANCE

- A. Listed and Labeled electrified door hardware as defined in NFPA 70, Article 100, by a testing agency acceptable to authority having jurisdiction.
- B. Hardware supplier shall employ an Architectural Hardware Consultant (AHC) as certified by DHI and a member of the seal program who shall be available at reasonable times during course of work for Project hardware consultation.
1. Electrified Door Hardware Supplier Qualifications: Experienced door hardware supplier who has completed projects with electrified door hardware similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Door hardware conforming to ICC/ANSI A117.1. : Handles, Pulls, Latches, Locks and operating devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
- D. Fire Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and or labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UL 10C, unless otherwise indicated.
- E. Fire Door Inspection: Prior to receiving certificate of occupancy have fire rated doors inspected by an independent certified Fire and Egress Door Assembly Inspector (FDAI), as certified by Intertek (ITS), a written report shall be submitted to Owner and Contractor. Doors failing inspection shall be adjusted, replaced or modified to be within appropriate code requirements.  
Use for buildings under IBC 2009
- F. 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.



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- G. Door hardware certified to ANSI/BHMA standards as noted, participate and be listed in BHMA Certified Products Directory.
- H. Substitution request: Include the reason for requesting the substitution, clear catalog copy highlighting the proposed product and options, compliance statement, technical data, product warranty and lead time, to show how the proposed can meet or exceed established level of design function and quality. Approval of request is at the discretion of the owner, architect and their designated consultants.
- I. Pre-installation Meeting: Comply with requirements in Division 1 Section "Project Meetings."
  - 1. Convene meeting seven days before installation. Participants required to attend: Contractor, installer, material supplier, manufacturer representatives, electrical contractor, security consultant and fire alarm consultant.
  - 2. Include in conference decisions regarding proper installation methods and procedures for receiving and handling hardware.
  - 3. Review sequence of operation for each type of electrified door hardware, inspect, and discuss electrical roughing-in and other preparatory work performed by other trades.
  - 4. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
- I. Within fourteen days of receipt of approved door hardware submittals contact Owner with representative from hardware supplier to establish a keying conference. Verify keyway, visual key identification, number of master keys and keys per lock. Provide keying system per Owners instructions.
- J. Installer Qualifications: Specialized in performing installation of this Section and have five years minimum documented experience.
- K. Hardware listed in 3.07- Hardware Schedule is intended to establish type and grade.

### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Provide clean, dry and secure room for hardware delivered to Project but not yet installed.
- B. Furnish hardware with each unit marked and numbered in accordance with approved finish hardware schedule. Include door and item number for each type of hardware.
- C. Pack each item complete with necessary parts and fasteners in manufacturer's original packaging.
- D. Deliver permanent key, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to Owner shall be established at "Keying Conference."
- E. Waste Management and Disposal: Separate waste materials for reuse or recycling in accordance with Division 1.

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### 1.06 WARRANTY

- A. General Warranty: Owner may have under provisions of the Contract Documents and be an addition and run concurrent with other warranties made by Contractor under requirements of the Contract documents.
- B. Special Warranty: Warranties specified in this article shall not deprive Owner of other rights.
  - 1. Ten years for manual door closers.
  - 2. Five years for mortise, auxiliary and bored locks.
  - 3. Five years for exit devices.
  - 4. One year for electromechanical door hardware.
- C. Replace or repair defective products during warranty period in accordance with manufacturer's warranty at no cost to Owner. There is no warranty against defects due to improper installation, abuse and failure to exercise normal maintenance.
- D. Maintenance Tool and Instructions: Furnish a complete set of specialized tools and maintenance instructions for Owner's continued adjustment, maintenance, removal and replacement of door hardware.

## PART 2 – PRODUCTS

### 2.01 HINGES

- A. Hinges, electric hinges of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Products to be certified and listed by the following:
  - 1. Butts and Hinges: ANSI/BHMA A156.1
  - 2. Template Hinge Dimensions: ANSI/BHMA A156.7
- C. Butt Hinges:
  - 1. Hinge weight and size unless otherwise indicated in hardware sets:
    - a. Doors up to 36" wide and up to 1-3/4" thick provide hinges with a minimum thickness of .134" and a minimum of 4-1/2" in height.
    - b. Doors from 36" wide up to 42" wide and up to 1-3/4" thick provide hinges with a minimum thickness of .145" and a minimum of 4-1/2" in height.
    - c. For doors from 42" wide up to 48" wide and up to 1-3/4" thick provide hinges with a minimum thickness of .180" and a minimum of 5" in height.
    - d. Doors greater than 1-3/4" thick provide hinges with a minimum thickness of .180" and a minimum of 5" in height.
    - e. Width of hinge is to be minimum required to clear surrounding trim.
  - 2. Base material unless otherwise indicated in hardware sets:
    - a. Exterior Doors: 304 Stainless Steel, Brass or Bronze material.
    - b. Interior Doors: Steel material.
    - c. Fire Rated Doors: Steel or 304 Stainless Steel materials.
    - d. Stainless Steel ball bearing hinges to have stainless steel ball bearings. Steel ball bearings are unacceptable.
  - 3. Quantity of hinges per door unless otherwise stated in hardware sets:
    - a. Doors up to 60" in height provide 2 hinges.
    - b. Doors 60" up to 90" in height provide 3 hinges.
    - c. Doors 90" up to 120" in height provide 4 hinges.



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- d. Doors over 120" in height add 1 additional hinge per each additional 30" in height.
  - e. Dutch doors provide 4 hinges.
4. Hinge design and options unless otherwise indicated in hardware sets:
- a. Hinges are to be of a square corner five-knuckle design, flat button tips and have ball bearings unless otherwise indicated in hardware sets.
  - b. Out-swinging exterior and out-swinging access controlled doors shall have non-removable pins (NRP) to prevent removal of pin while door is in closed position.
  - c. When full width of opening is required, use hinges that are designed to swing door completely from opening when door is opened to 95 degrees.
  - d. Electric Through Wire (ETW) to have appropriate number of wires to transfer power through door frame to door for proper connection of finish hardware and certified to handle an amperage rating of 3.5AMPS/continuous duty with 16.0AMPS/intermittent duty.
  - e. Provide mortar boxes for frames that require any electrically modified hinges if not an integral part of frame.
  - f. When shims are necessary to correct frame or door irregularities, provide metal shims only.
5. Acceptable Manufacturers:
- |                    |                 |                 |
|--------------------|-----------------|-----------------|
|                    | Standard Weight | Heavy Weight    |
| a. Hager Companies | BB1279/BB1191   | BB1168/BB1199   |
| b. Bommer          | BB5000/BB5002   | BB5004/BB5006   |
| c. McKinney        | TA2714/TA2314   | T4A3786/T4A3386 |

### 2.02 CONTINUOUS HINGES

- A. Continuous hinges of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Products to be certified and listed by the following: Continuous Hinges: ANSI/BHMA A156.26 Grade 1
- C. Continuous Geared Hinges:
  - 1. Determine model number by door and frame application, door thickness, frequency of use, and fire rating requirements according to manufacturer's recommendations.
    - a. Length of hinge shall be 1" less door height unless otherwise stated in hardware sets.
- D. Material and Design:
  - 1. Base material: Anodized aluminum manufactured from 6063-T6 material, unexposed working metal surfaces shall be coated with TFE dry lubricant
  - 2. Bearings:
    - a. Vertical loads shall be carried on Lubriloy RL bearings for non Fire Rated doors.
    - b. Continuous hinges shall have a minimum spacing between bearings of 2-9/16". Typical door from 80" to 84" in height to have a minimum of 32 bearings.
  - 3. Options:
    - a. Removable Electric Through-Wire (RETW) shall have appropriate number of wires to transfer power through door frame to door for proper connection of finish hardware. Provide RETW in a form that can be removed for connection, servicing without removing entire hinge from door and frame, and certified to handle an amperage rating of 3.5AMPS/continuous duty with 16.0AMPS/intermittent duty.

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- b. When full width of opening is required, use hinges that are designed to swing door completely from opening when door is opened to 95 degrees.
- c. Fire rated hinges shall carry UL certification, up to and including 90-minute applications for wood doors and up to 3-hour applications for metal doors.

E. Acceptable Manufacturers:

|                    | Heavy Duty |
|--------------------|------------|
| 1. Hager Companies | 780-224HD  |
| 2. Bommer          | FM120HD    |
| 3. Zero            | 914A       |

### 2.03 FLUSH BOLTS AND COORDINATORS

A. Flushbolts of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Manufacturer to be listed by the following: Auxiliary Hardware: ANSI/BHMA A156.16

C. Labeled openings: Provide automatic or constant latching flush bolts per hardware schedule for inactive leaf of pairs of doors. Provide dust proof strikes for bottom bolt.

D. Non-Labeled openings: Provide two flush bolts for inactive leaf of pairs of doors per hardware schedule. Top bolt shall not be more than 78" centerline from floor. Provide dust proof strike for bottom bolt.

E. Acceptable Manufacturers:

|                    | Manual Flush Bolt | Auto Flush Bolt | Dust Proof |
|--------------------|-------------------|-----------------|------------|
| Strike             |                   |                 |            |
| 1. Hager Companies | 282D              | 292D/295W/296W  | 280X       |
| 2. Rockwood        | 555               | 1942            | 570        |
| 3. Trimco          | 3917              | 3815            | 3911       |

F. Coordinators: Provide for labeled pairs of doors with automatic flush bolts or with vertical rod exit device with a mortise-locking device per hardware schedule. Provide filler piece to extend full width of stop on frame. Provide mounting brackets for closers and special preparation for latches where applicable.

G. Acceptable Manufacturers:

|                    | Coordinator | Bracket | Bracket for stops greater than 2-1/4" |
|--------------------|-------------|---------|---------------------------------------|
| 1. Hager Companies | 297         | 297M    | 297N                                  |
| 2. Rockwood        | 1600        | 1601AB  | 1601C                                 |
| 3. Trimco          | 3094        | 3095    | 3096                                  |

### 2.04 REMOVABLE MULLIONS

A. Keyed and non-keyed removable mullions of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Manufacturer to be listed by the following: UL/cUL/Warnock Hersey for fire rated pairs of doors up to 8 feet tall x 8 feet wide opening.

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C. Material and Design:

1. For use with rim exit devices on non-rated and fire rated pairs of doors. Mullion 2"x 3"x 11 gage steel tube.
2. Top Fitting:
  - a. Mullion locked in place without use of a key.
  - b. Deadlock on fire rated device

D. Acceptable manufacturers for keyed removable mullions:

|                     | Keyed Fire Rated | Keyed Non-Fire Rated |
|---------------------|------------------|----------------------|
| 1. Hager Companies: | 4900TF           | 4900T                |
| 2. Von Duprin:      | KR9954           | KR4954               |
| 3. Sargent:         | 12- L980         | L980S                |

E. Acceptable manufacturers for removable mullions:

|                     | Fire Rated | Non-Fire Rated |
|---------------------|------------|----------------|
| 4. Hager Companies: | 4900UF     | 4900U          |
| 5. Von Duprin:      | 9954       | 4954           |
| 6. Sargent:         | 12- 980    | 980S           |

### 2.05 LOCKS AND LATCHES (GRADE 1 CYLINDRICAL)

A. Locks and latches of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Product to be certified and listed by following:

1. ANSI/BHMA A156.2 Series 4000 Certified to Grade 1.
2. ANSI/BHMA A250.13 Certified for a minimum design load of 1150lbf (100psf) for single out swinging doors measuring 36" in width and 84" in height and a minimum design load of 1150lbf (70psf) for out swinging single doors measuring 48" in width and 84" in height.
3. UL/cUL Labeled and listed for functions up to 3 hours for single doors up to 48" in width and up to 96" in height.
4. UL10C/UBC 7-2 Positive Pressure Rated.
5. ICC/ANSI A117.1.

C. Lock and latch function numbers and descriptions of manufactures series as listed in hardware sets.

D. Material and Design:

1. Lock and Latch chassis to be Zinc dichromate for corrosion resistance.
2. Keyed functions to be of a freewheeling design to help resist against vandalism.
3. Non-handed, field reversible.
4. Thru-bolt mounting with no exposed screws.
5. Levers, Zinc cast and plated to match finish designation in hardware sets.
6. Roses, wrought Brass or Stainless Steel material.

E. Latch and Strike:

1. Stainless Steel latch bolt with minimum of ½" throw and deadlocking for keyed and exterior functions. Provide ¾" latchbolt for pairs of fire rated doors where required by door manufacture. Standard backset to be 2-3/4" and adjustable faceplate to accommodate a square edge door or a standard 1/8" beveled edge door.
2. Strike is to fit a standard ANSI A115 prep measuring 1-1/4" x 4-7/8" with proper lip length to protect surrounding trim.

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- F. Acceptable Manufacturers:
  - 1. Schlage: ND Series, basis of design.
  - 2. Or approved equal.

### 2.06 EXIT DEVICES (GRADE 1)

- A. Exit Devices of one manufacturer as listed for continuity of design and consideration of warranty. Touch pad type, finish to match balance of door hardware
- B. Standards: Manufacturer to be certified and or listed by the following:
  - 1. BHMA Certified ANSI A156.3 Grade 1
  - 2. UL/cUL Listed for up to 3 hours for "A" labeled doors
  - 3. UL10C/UBC 7-2 Positive Pressure Rated
  - 4. UL10B Neutral Pressure Rated
  - 5. UL 305 Listed for Panic Hardware
- C. Material and Design:
  - 1. Touch pad shall extend a minimum of one half-door width. Freewheeling lever design shall match design of locks levers. Exit device to mount flush with door.
  - 2. Latchbolts:
    - a. Rim device –  $\frac{3}{4}$ " throw, Pullman type with automatic dead-latching, stainless steel
    - b. Surface vertical rod device – Top  $\frac{1}{2}$ " throw, Pullman type with automatic dead-latching, stainless steel. Bottom  $\frac{1}{2}$ " throw, Pullman type, held retracted during door swing, stainless steel.
  - 3. Fasteners: Wood screws, machine screws and thru-bolts.
- D. Lock and Latch Functions: Function numbers and descriptions of manufacturer's series and lever styles indicated in door hardware sets.
- E. Acceptable Manufacturers:
  - 1. Von Duprin: 99 Series/ 33 series, basis of design.
  - 2. Or approved equal.
- F. Electric Modifications:
  - 1. Motorized Electric Latch Retraction: Continuous duty solenoids retract the latch bolt for momentary or maintained periods of time.
  - 2. Provide Request to Exit (REX) switches as scheduled.

### 2.07 CYLINDERS AND KEYING

- A. Cylinders of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Manufacturer shall meet the following:
  - 1. Auxiliary Locks: ANSI/BHMA A156.5
  - 2. DHI Handbook "Keying systems and nomenclature" (1989)
- C. Cylinders:
  - 1. Manufacturer's standard tumbler type, large format IC core supported by Schlage Everest.
  - 2. Furnish with cams/tailpieces as required for locking device that is being furnished for project.
- D. Keying:

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1. Conduct a keying meeting the owner's representative, to establish their requirements.
2. Copy of Owners approved keying schedule submitted to Owner and Architect with documentation of which keying conference was held and Owners sign-off.
3. Provide a bitting list to Owner of combinations as established, and expand to twenty five percent for future use or as directed by Owner.
4. Key into Owner's existing keying system Everest System (Campus Standard).
5. Keys to be shipped to Owner's representative, individually tag per keying conference.
6. Provide visual key control identification on keys.
7. Provide interchangeable cores with construction cores as required per hardware schedule.

E. Acceptable manufacturers:

1. Everest D-series System - No substitution

### 2.08 PUSH/PULL PLATES

A. Push/Pull plates and bars of one manufacturer as listed for continuity of design and consideration of warranty.

B. Standards: Manufacturer to be certified by the following:

1. Architectural Door Trim: ANSI/BHMA A156.6
2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).

C. Push plates: .050" thick, square corner and beveled edges with counter sunk screw holes. Width and height as stated in hardware sets.

D. Acceptable Manufacturers:

1. Hager Companies: 30S
2. Trimco

E. Pull plates: .050" thick, square corner and beveled edges. Width and height as stated in hardware sets, 3/4" diameter pull, with clearance of 2-1/2" from face of door.

F. Acceptable Manufacturers:

1. Hager Companies: 33E
2. Trimco

G. Off-Set Pull: Hager 11J

### 2.09 CLOSERS (CAST IRON BODY GRADE 1)

A. Closers of one manufacturer as listed for continuity of design and consideration of warranty. Unless otherwise indicated on hardware schedule, comply with manufacturer's recommendation for size of closer, depending on width of door, frequency of use, atmospheric pressure, ADAAG requirements, and fire rating.

B. Standards: Manufacturer to be certified and or listed by the following:

1. BHMA Certified ANSI A156.4 Grade 1
2. ADA Compliant ANSI A117.1
3. UL/cUL Listed up to 3 hours.
4. UL10C Positive Pressure Rated
5. UL10B Neutral Pressure Rated

C. Material and Design:

1. Provide cast iron non-handed bodies with full plastic covers.

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2. Closers shall have separate staked adjustable valve screws for latch speed, sweep speed, and backcheck.
  3. Provide Tri-Pack arms and brackets for regular arm, top jamb, and parallel arm mounting.
  4. One-piece seamless steel spring tube sealed in hydraulic fluid.
  5. Double heat-treated steel tempered springs.
  6. Precision-machined heat-treated steel piston.
  7. Triple heat-treated steel spindle.
  8. Full rack and pinion operation.
- D. Mounting:
1. Out swing doors use surface parallel arm mount closers except where noted on hardware schedule.
  2. In swing doors use surface regular arm mount closers except where noted on hardware schedule.
  3. Provide brackets and shoe supports for aluminum doors and frames to mount fifth screw.
  4. Furnish drop plates where top rail conditions on door do not allow for mounting of closer and where backside of closer is exposed through glass.
- E. Size closers in compliance with requirements for accessibility (ADDAG). Comply with following maximum opening force requirements.
1. Interior hinged openings: 5.0 lbs.
  2. Fire rated and exterior openings use minimum opening force allowable by authority having jurisdiction.
- F. Fasteners: Provide self-reaming and self-tapping wood and machine screws and sex nuts and bolts for each closer.
- G. Acceptable manufacturers:
1. LCN: 4000 Series, basis of design.
  2. Or approved equal.
- 2.10 PROTECTIVE TRIM
- A. Protective trim of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Size of protection plate: Single doors, size two inches less door width (LDW) on push side of door, and one inch less on pull side of door. For pairs of doors, size one inch less door width (LDW) on push side of door, and ½ inch on pull side of door.
1. Kickplates 10" high or sized to door bottom rail height
- C. Standards: Manufacturer shall meet requirements for:
1. Architectural Door Trim: ANSI/BHMA A156.6
  2. UL
- D. Material and Design:
1. 0.050" gage stainless steel
  2. Corners square, polishing lines or dominant direction of surface pattern shall run across door width of plate.
  3. Bevel top, bottom and sides uniformly leaving no sharp edges.
  4. Provide countersink holes for screws for all protection plates. Screws holes shall be spaced equidistant eight inches CTC, along a centerline not over ½ inch in from edge around plate. End screws maximum of 0.53 inch from corners.



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- E. UL label stamp required on protection plates when top of plate is more than 16 inches above bottom of door on fire rated openings. Verify door manufactures UL listing for maximum height and width of protection plate to be used.
- F. Acceptable Manufacturers:
  - 1. Hager Companies: 190S
  - 2. Trimco
  - 3. Burns

### 2.11 STOPS AND HOLDERS

- A. Stops and holders of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Wall Stops: Provide door stops wherever necessary to prevent door or hardware from striking an adjacent partition or obstruction. Provide wall stops when possible. Door stops and holders mounted in concrete floor or masonry walls have stainless steel machine screws and lead expansion shields.
- C. Standards: Manufacturer shall meet requirements for:
  - 1. Auxiliary Hardware: ANSI/BHMA A156.16
- D. Acceptable Manufacturers:

|                    |        |         |
|--------------------|--------|---------|
|                    | Convex | Concave |
| 1. Hager Companies | 232W   | 236W    |
| 3. Burns           |        |         |
- E. Overhead Stops and Holders: Provide overhead stop and holders for doors that open against equipment, casework sidelights and other objects that would make wall stops/holders and floor stops/holders inappropriate. Provide sex bolt attachments for mineral core wood door applications.
- F. Standards: Manufacturer shall be certified by the following:
  - 1. Overhead Stops and Holders: ANSI/BHMA A156.8 Grade 1
- G. Acceptable Manufacturers:

|                    |                    |                      |
|--------------------|--------------------|----------------------|
|                    | Heavy Duty Surface | Heavy Duty Concealed |
| 1. Hager Companies | 7000 SRF Series    | 7000 CON Series      |
| 2. Glynn Johnson   | 90 Series          | 100 Series           |
| 3. Sargent         | 590 Series         |                      |

### 2.12 POWER SUPPLY (for fail safe or fail secure locking devices)

- A. Power supplies of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Standards: Manufacturer shall meet requirements for:
  - 1. UL Listed
- C. Design:
  - 1. Interface with building alarm controls, card readers, keypads, and other door controls.
  - 2. Filtered and regulated 24 VDC constant voltage
  - 3. 2 AMP load capacity
  - 4. Over voltage/short circuit protection

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5. Surge protection for locking devices
6. Interface relay
7. Adjustable time delay

- D. Acceptable Manufacturer:
1. Hager Companies 2903, basis of design.
  2. Or approved equal.

### 2.13 DOOR GASKETING AND WEATHERSTRIP

- A. Door gasketing and weather-strip of one manufacturer as listed for continuity of design and consideration of warranty.
- B. Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing where indicated on hardware schedule. Provide non-corrosive fasteners for exterior applications.
1. Perimeter gasketing: Apply to head and jamb, forming seal between door and frame.
  2. Meeting stile gasketing: Fasten to meeting stiles, forming seal when doors are in closed position.
  3. Door bottoms: Apply to bottom of door, forming seal with threshold or floor when door is in closed position.
  4. Sound Gasketing: Cutting or notching for stop mounted hardware not permitted.
  5. Drip Guard: Apply to exterior face of frame header. Lip length to extend 4" beyond width of door.
- C. Standards: Manufacturer shall meet requirements for:
1. Door Gasketing and Edge Seal Systems: ANSI/BHMA A156.22
  2. BHMA certified for door sweeps, automatic door bottoms, and adhesive applied gasketing. (721)
- D. Smoke-Labeled Gasketing: Comply with NFPA 105 listed, labeled, and acceptable to authorities having jurisdiction, for smoke control indicated.
1. Provide smoke labeled gasketing on 20-minute rated doors and on smoke rated doors.
- E. Fire-Rated Gasketing: Comply with NFPA 80 listed, labeled, and acceptable to Authorities Having Jurisdiction, for fire ratings indicated.
- F. Refer to Section 08 1416 Wood Doors for Category A or Category B. Comply with UBC 7-2 and UL10C positive pressure where frame applied intumescent seals are required. Provide Hager # 720 for single and 720 x 724 for a pair of doors.
- G. Acceptable Manufacturers:
1. Perimeter Gasketing:

|                     | Adhesive Applied | Stop Applied |
|---------------------|------------------|--------------|
| a. Hager Companies: | 726              | 881S         |
| b. K.N. Crowder:    |                  |              |
| c. Reese:           |                  |              |
  2. Meeting Stile Weatherstrip:

|                     |       |
|---------------------|-------|
| a. Hager Companies: | 872SN |
| b. K.N. Crowder:    |       |
| c. Reese:           |       |

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- 3. Door Bottom Sweeps:
  - a. Hager Companies: 770S
  - b. K.N. Crowder:
  - c. Reese:
  
- 4. Overhead Drip Guard
  - a. Hager Companies: 810S
  - b. K.N. Crowder:
  - c. Reese:

**2.14 THRESHOLDS**

- A. Thresholds of one manufacturer as listed for continuity of design and consideration of warranty.
  
- B. Set thresholds for exterior and acoustical openings in full bed of sealant with lead expansion shields and stainless-steel machine screws complying with requirements specified in Division 7 Section "Joint Sealants". Notched in field to fit frame by hardware installer. Refer to Drawings for special details.
  
- C. Standards: Manufacturer to be certified by the following:
  - 1. Thresholds: ANSI/BHMA A156.21
  - 2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).
  
- D. Acceptable Manufacturers:
  - 1. Hager Companies: 412S
  - 2. K.N. Crowder
  - 3. Reese

**2.59 SILENCERS**

- A. Where smoke, light, or weather seal are not required, provide three silencers per single door frame, two per double door frame and four per Dutch door frame.
  
- B. Standards: Manufacturer shall meet requirements for:
  - 1. Auxiliary Hardware: ANSI/BHMA A156.16
  
- C. Acceptable Manufacturers:

|                     |                    |            |
|---------------------|--------------------|------------|
|                     | Hollow Metal Frame | Wood Frame |
| 1. Hager Companies: | 307D               | 308D       |
| 2. Rockwood:        |                    |            |
| 3. Trimco:          |                    |            |

**2.63 FINISHES**

- A. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if within range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within range of approved Samples.
  
- B. Comply with base material and finish requirements indicated by ANSI/BHMA A156.18 designations in hardware schedule.

**PART 3 – EXECUTION**

**3.01 EXAMINATION**

- A. 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.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.02 INSTALLATION**

- A. Install hardware per manufacturer's instructions and in compliance with:
  - 1. NFPA 80.
  - 2. NFPA 105.
  - 3. ICC/ANSI A117.1.
  - 4. ANSI/BHMA A156.115 Hardware Preparation in Steel Doors and Steel Frames
  - 5. ANSI/BHMA A156.115W Hardware Preparation in Wood Doors with Wood or Steel Frames
  - 6. DHI Publication – Installation Guide for Doors and Hardware
  - 7. UL10C/UBC7-2
  - 8. Local building code.
  - 9. Approved shop drawings.
  - 10. Approved finish hardware schedule.
- B. Do not install surface mounted items until finishes have been completed on substrates involved. Set unit level, plumb and true to line location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

**3.03 FIELD QUALITY CONTROL**

- A. Material supplier to schedule final walk through to inspect hardware installation ten business days before final acceptance of Owner. Material supplier shall provide a written report detailing discrepancies of each opening to General Contractor within seven calendar days of walk through.

**3.04 ADJUSTMENT, CLEANING AND DEMONSTRATING**

- A. Adjustment: Adjust and check each opening to ensure proper operation of each item of finish hardware. Replace items that cannot be adjusted to operate freely and smoothly or as intended for application at no cost to Owner.
- B. Cleaning: Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no cost to Owner.
- C. Demonstration: Conduct a training class for building maintenance personnel demonstrating the adjustment, operation of mechanical and electrical hardware. Special tools for finished hardware to be turned over and explained usage at this meeting.

## SECTION 087100 – DOOR HARDWARE

### 3.05 PROTECTION

- A. Leave manufacturer's protective film intact and provide proper protection for all other finish hardware items that do not have protective material from the manufacture until Owner accepts Project as complete.

### 3.06 HARDWARE SET SCHEDULE

- A. Guide: Door hardware items have been placed in sets which are intended to be a guide of design, grade, quality, function, operation, performance, exposure, and like characteristics of door hardware, and may not be complete. Provide door hardware required to make each set complete and operational.
- B. Hardware schedule does not reflect handing, backset, method of fastening and like characteristics of door hardware and door operation.
- C. Review door hardware sets with door types, frames, sizes and details on drawings. Verify suitability and adaptability of items specified in relation to details and surrounding conditions.

### 3.07 HARDWARE SCHEDULE

#### Set #1

Door Numbers: 100-1

Each opening to receive:

| Qty.  | Type                             | Description                | Finish    |
|-------|----------------------------------|----------------------------|-----------|
| 1 ea. | Continuous Hinge                 | 780-226HD                  | Clear HAG |
| 1 ea. | Electrified Continuous Hinge     | 780-226HD RETW             | Clear HAG |
| 1 ea. | Panic Exit Device                | 4601 RIM                   | US32D HAG |
| 1 ea. | Motor latch Retracted Panic Exit | 4601 RIM MLR               | US32D HAG |
| 1 ea. | Rim Cylinder (night latch)       | Match Campus standard      |           |
|       | US26D SCH                        |                            |           |
| 2 ea. | Off-set Pulls                    | 11J                        | US32D HAG |
| 1 ea. | Keyed Removable Mullion          | 4900T                      | USP HAG   |
| 1 ea. | Rim Cylinder (KRM)               | Match Campus standard FSIC | US26D SCH |
| 2 ea. | Final keyed cores                | Match Campus Standard FSIC | US26D     |
|       | SCH                              |                            |           |
| 2 ea. | Closers                          | 5100 HDCS                  | ALM HAG   |
| 2 ea. | Drop Plates                      | 5110 (as required)         | ALM HAG   |
| 2 ea. | Blade Stop Spacer                | 5113 (as required)         | ALM HAG   |
| 1 ea. | Threshold                        | 412S door opening width    | MIL       |
|       | HAG                              |                            |           |
| 1 ea. | Power Supply                     | 2903                       | - HAG     |
| 1 ea. | Door Position Switch             | By CCC security vendor     | - -       |
| 1 ea. | Card Reader                      | By CCC security vendor     | - -       |

Weather-strip and sweeps by door manufacturer.

120VAC power, conduit and wiring by Division 26.

Description of Operation: Doors normally closed and locked. Key retracts latch. Removing key leaves the door locked. Access upon proper credential validation. In the event of a power failure the door remains locked (Fail Secure). Free egress at all times.

Special Note: Allow for longer rim cylinder tail pieces and longer fasteners to accommodate the 2" thick doors.

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Set #2

Door Numbers: 100-2, 105-1, 112-1  
Each opening to receive:

| Qty.  | Type                     | Description                   | Finish    |
|-------|--------------------------|-------------------------------|-----------|
| 6 ea. | Hinges                   | BB1279 4.5" x 4.5" NRP        | US26D HAG |
| 2 set | Automatic Flush Bolts    | 296W                          | US26D HAG |
| 1 ea. | Classroom Security Lock  | ND75 SPA FSIC                 |           |
|       | US26D SCH                |                               |           |
| 2 ea. | Final keyed cores        | Match Campus Standard FSIC    | US26D     |
|       | SCH                      |                               |           |
| 2 ea. | Hold Open Closer         | 5100 HDHOCS                   | ALM HAG   |
| 1 ea. | Coordinator              | 297D                          | USP HAG   |
| 2 ea. | Closer Mounting Brackets | 297M/N                        | USP       |
|       | HAG                      |                               |           |
| 2 ea. | Kick Plates              | 190S 10" x 1" LDW             | US32D HAG |
| 2 ea. | Silencers                | 307D                          | Gray HAG  |
| 1 set | Metal Edge and Astragal  | By wood door mfg. as required | -         |
| -     |                          |                               |           |

Set #3

Door Numbers: 101-1, 104-1  
Each opening to receive:

| Qty.  | Type       | Description        | Finish    |
|-------|------------|--------------------|-----------|
| 3 ea. | Hinges     | BB1279 4.5" x 4.5" | US26D HAG |
| 1 ea. | Push Plate | 30S 4" x 16"       | US32D HAG |
| 1 ea. | Pull Plate | 33E 4" x 16"       | US32D HAG |
| 1 ea. | Closer     | 5100 MLT           | ALM HAG   |
| 1 ea. | Kick Plate | 190S 10" x 2" LDW  | US32D HAG |
| 1 ea. | Wall Stop  | 236W               | US32D HAG |
| 3 ea. | Silencers  | 307D               | Gray HAG  |

Set #4

Door Numbers: 102-1, 103-1  
Each opening to receive:

| Qty.  | Type              | Description                | Finish    |
|-------|-------------------|----------------------------|-----------|
| 3 ea. | Hinges            | BB1279 4.5" x 4.5"         | US26D HAG |
| 1 ea. | Storeroom Lock    | ND80 SPA FSIC              | US26D     |
|       | SCH               |                            |           |
| 1 ea. | Final keyed cores | Match Campus Standard FSIC | US26D     |
|       | SCH               |                            |           |
| 1 ea. | Closer            | 5100 MLT (102-1)           | ALM HAG   |
| 1 ea. | Hold Open Closer  | 5100 HOTA (103-1)          | ALM HAG   |
| 1 ea. | Kick Plate        | 190S 10" x 2" LDW          | US32D HAG |
| 1 ea. | Wall Stop         | 236W (102-1)               | US32D HAG |
| 3 ea. | Silencers         | 307D                       | Gray HAG  |



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Set #5

Door Numbers: 107-1  
 Each opening to receive:

| Qty.  | Type                     | Description                | Finish    |
|-------|--------------------------|----------------------------|-----------|
| 3 ea. | Hinges                   | BB1279 4.5" x 4.5"         | US26D HAG |
| 1 ea. | Office Lock              | ND50 SPA FSIC              | US26D     |
| 1 ea. | Final keyed cores<br>SCH | Match Campus Standard FSIC | US26D     |
| 1 ea. | Hold Open Closer         | 5100 HOTA                  | ALM HAG   |
| 1 ea. | Kick Plate               | 190S 10" x 2" LDW          | US32D HAG |
| 1 ea. | Gasket                   | 726 head and jambs         | Char HAG  |

Set #6

Door Numbers: 108-1, 113-1  
 Each opening to receive:

| Qty.  | Type                     | Description                | Finish    |
|-------|--------------------------|----------------------------|-----------|
| 3 ea. | Hinges                   | BB1279 4.5" x 4.5"         | US26D HAG |
| 1 ea. | Classroom Security Lock  | ND75 SPA FSIC              |           |
| 2 ea. | Final keyed cores<br>SCH | Match Campus Standard FSIC | US26D     |
| 1 ea. | Closer                   | 5100 MLT                   | ALM HAG   |
| 1 ea. | Kick Plate               | 190S 10" x 2" LDW          | US32D HAG |
| 1 ea. | Wall Stop                | 236W                       | US32D HAG |
| 1 ea. | Gasket                   | 726 head and jambs         | Char HAG  |

Set #7

Door Numbers: 109-1, 110-2  
 Each opening to receive:

| Qty.  | Type                     | Description                | Finish    |
|-------|--------------------------|----------------------------|-----------|
| 3 ea. | Hinges                   | BB1279 4.5" x 4.5"         | US26D HAG |
| 1 ea. | Classroom Security Lock  | ND75 SPA FSIC              |           |
| 2 ea. | Final keyed cores<br>SCH | Match Campus Standard FSIC | US26D     |
| 1 ea. | Closer                   | 5100 HDCS                  | ALM HAG   |
| 1 ea. | Kick Plate               | 190S 10" x 2" LDW          | US32D HAG |
| 1 ea. | Gasket                   | 726 head and jambs         | Char HAG  |

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Set #8

Door Numbers: 110-1  
Each opening to receive:

| Qty.  | Type                 | Description            | Finish    |
|-------|----------------------|------------------------|-----------|
| 3 ea. | Hinges               | BB1279 4.5" x 4.5"     | US26D HAG |
| 1 ea. | Panic Exit Device    | 4501 RIM Exit Only     | US32D HAG |
| 1 ea. | Closer               | 5100 HDCS              | ALM HAG   |
| 1 ea. | Kick Plate           | 190S 10" x 2" LDW      | US32D HAG |
| 1 ea. | Threshold<br>HAG     | 412S door width        | MIL       |
| 1 ea. | Gasket               | 726 head and jambs     | Char HAG  |
| 1 ea. | Sweep                | 770S B door width      | MIL HAG   |
| 1 ea. | Drip Cap             | 810S door width + 4"   | MIL HAG   |
| 1 ea. | Door Position Switch | By CCC security vendor | - -       |

Set #9

Door Numbers: 112-2  
Each opening to receive:

| Qty.  | Type                 | Description            | Finish |
|-------|----------------------|------------------------|--------|
| 1 ea. | Door Position Switch | By CCC security vendor | - -    |

Set #10

Door Numbers: Existing Exterior Doors  
Each opening to receive:

| Qty.  | Type                 | Description            | Finish |
|-------|----------------------|------------------------|--------|
| 1 ea. | Door Position Switch | By CCC security vendor | - -    |

Set #11

Door Numbers: General  
Each opening to receive:

| Qty.   | Type                         | Description                                  | Finish |
|--------|------------------------------|--|--------|
| 18 ea. | Temporary construction cores | Schlage FSIC with control & operational keys | - SCH  |

END OF SECTION