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**Addendum 4**

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Colonial School District  
Wilmington, DE

Bid No.: 4-17-38

**Colonial School District – Eisenberg Elementary School Nurse’s/ Counseling Suite**

Tt Project No. 16101-17001

**Addendum No. 4**  
to  
Drawings and Project Manual

June 29, 2017

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To: ALL BIDDERS

This ADDENDUM forms a part of the BIDDING AND CONTRACT DOCUMENTS and modifies the following documents:  
Original DRAWINGS dated June 19, 2017  
PROJECT MANUAL dated June 19, 2017.

Acknowledge receipt of the ADDENDUM in the space provided on the FORM OF PROPOSAL

This ADDENDUM consists of two (2) pages not including the attachments:

**1.0 PROJECT MANUAL – MODIFICATIONS**

1.1 Spec Section 08 71 00; DOOR HARDWARE

1.1.1 **REPLACE** existing Spec Section with the Revised Spec Section attached to this addendum. The following hardware sets were revised: Sets 1.0, 2.0, 4.0 and 9.0, .

1.2 Specification Section 10 14 00 INTERIOR SIGNAGE

1.2.1 **ADD** Specification Section 10 14 00 INTERIOR SIGNAGE attached to this addendum.

**2.0 DRAWINGS - MODIFICATIONS**

1.1 SHEET A-101, See revisions on attached full sheet. Revision includes the demolition and replacement of Door 12 and associated hardware as well as modifying frame to accept new hardware.

1.2 SHEET A-601, See revisions on attached full sheet. Revision includes the demolition and replacement of Door 12 and associated hardware as well as modifying frame to accept new hardware. Also adds fire rating to Door 01.

1.3 SKETCH E/ SK-0.01, Sketch adds card readers and power to supply power to new card readers and door hardware added in this addendum. Imron IS2000 Card readers (system) to be added to existing card access system and are to be provided in General Contractors bid. Contact Steven Redden, Anaconda Protective Concepts, Inc.

**ATTACHMENT LIST**

1. Spec Section 08 71 00; DOOR HARDWARE
2. Spec Section 10 14 00; INTERIOR SIGNAGE
3. Revised Sheet A-101 DEMOLITION, NEW WORK AND REFLECTED CEILING PLANS
4. Revised Sheet A-601 SCHEDULES AND DETAILS
5. E-SK-0.01, PARTIAL FIRST FLOOR PLAN

**END OF ADDENDUM No. 4**

SECTION 087100 – DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes commercial door hardware for the following:
  - 1. Swinging doors.
  - 2. Other doors to the extent indicated.
- B. Door hardware includes, but is not necessarily limited to, the following:
  - 1. Mechanical door hardware.
  - 2. Electromechanical door hardware.
  - 3. Cylinders specified for doors in other sections.
- C. Related Sections:
  - 1. Division 08 Section “Hollow Metal Doors and Frames”.
  - 2. Division 08 Section “Flush Wood Doors”.
  - 3. Division 08 Section “Fiberglass Reinforced Polyester Doors”.
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
  - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
  - 2. ICC/IBC - International Building Code.
  - 3. NFPA 70 - National Electrical Code.
  - 4. NFPA 80 - Fire Doors and Windows.
  - 5. NFPA 101 - Life Safety Code.
  - 6. NFPA 105 - Installation of Smoke Door Assemblies.
  - 7. State Building Codes, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards:
  - 1. ANSI/BHMA Certified Product Standards - A156 Series
  - 2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.2 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door

Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
3. Content: Include the following information:
  - a. Type, style, function, size, label, hand, and finish of each door hardware item.
  - b. Manufacturer of each item.
  - c. Fastenings and other pertinent information.
  - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
  - e. Explanation of abbreviations, symbols, and codes contained in schedule.
  - f. Mounting locations for door hardware.
  - g. Door and frame sizes and materials.
  - h. Warranty information for each product.
4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:

1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:
  - a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
  - b. Complete (risers, point-to-point) access control system block wiring diagrams.
  - c. Wiring instructions for each electronic component scheduled herein.
2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format.

Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals.

1.3 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

D. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.

2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

E. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

F. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

G. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

H. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

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

#### 1.5 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to

source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

- C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

## 1.6 WARRANTY

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

## 1.7 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

## PART 2 - PRODUCTS

### 2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

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

## 2.2 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.
  - 1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
    - a. Two Hinges: For doors with heights up to 60 inches.
    - b. Three Hinges: For doors with heights 61 to 90 inches.
    - c. Four Hinges: For doors with heights 91 to 120 inches.
    - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
  - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
    - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
    - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
  - 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
    - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
    - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
  - 4. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:
    - a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
  - 5. Acceptable Manufacturers:

- a. Bommer Industries (BO).
- b. Hager Companies (HA).
- c. McKinney Products (MK).

## 2.3 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.
- B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
  1. Acceptable Manufacturers:
    - a. Corbin Russwin Hardware (RU).
    - b. No Substitution.
- C. Cylinders: Original manufacturer cylinders complying with the following:
  1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
  2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
  3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
  4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
  5. Keyway: Match Facility Standard.
- D. Keying System: Each type of lock and cylinders to be factory keyed.
  1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
  2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
  3. Existing System: Key locks to Owner's existing system.
- E. Key Quantity: Provide the following minimum number of keys:
  1. Change Keys per Cylinder: Three (3).
  2. Master Keys (per Master Key Level/Group): Five (5).
  3. Construction Keys (where required): Ten (10).
- F. Key Registration List (Bitting List):
  1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
  2. Provide transcript list in writing or electronic file as directed by the Owner.

## 2.4 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.
1. Acceptable Manufacturers:
    - a. Corbin Russwin Hardware (RU) – ML2000 Series.

## 2.5 STAND ALONE ACCESS CONTROL LOCKING DEVICES

- A. Stand Alone Integrated Access Control Lockets: Internal, battery-powered, self-contained ANSI Grade 1, mortise or cylindrical lock consisting of electronically motor driven locking mechanism, integrated keypad, proximity card reader, or keypad/proximity card reader combination, and specified electronic programming accessories. Locks to accept standard, interchangeable (removable) core, security and high security override cylinders. Provide keypad/proximity and proximity only products with a minimum of 2,000 user codes, key override, low-battery detection and warning, LED status indicators, and ability to program at the lock for the functions indicated.
1. Acceptable Manufacturers:
    - a. Corbin Russwin Hardware (RU) - Access 800 AC2 Series.

## 2.6 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
  2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
  3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
  4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.
- B. Standards: Comply with the following:
1. Strikes for Mortise Locks and Latches: BHMA A156.13.
  2. Strikes for Bored Locks and Latches: BHMA A156.2.
  3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
  4. Dustproof Strikes: BHMA A156.16.

## 2.7 DOOR CLOSERS

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

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

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

1. Acceptable Manufacturers:
  - a. LCN Closers (LC) - 4010 Series.

## 2.8 ARCHITECTURAL TRIM

### A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and

not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.

3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
  - a. Stainless Steel: 300 grade, 050-inch thick.
5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Acceptable Manufacturers:
  - a. Ives (IV).
  - b. Rockwood Manufacturing (RO).
  - c. Trimco (TC).

## 2.9 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
  1. Acceptable Manufacturers:
    - a. Ives (IV).
    - b. Rockwood Manufacturing (RO).
    - c. Trimco (TC).

## 2.10 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
  - 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
  - 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NFPA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Acceptable Manufacturers:
  - 1. National Guard Products (NG).
  - 2. Pemko Manufacturing (PE).
  - 3. Reese Enterprises, Inc. (RE).

## 2.11 FABRICATION

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

## 2.12 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

#### 3.2 PREPARATION

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

#### 3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
  - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
  - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
  - 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
  - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
  - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

### 3.4 FIELD QUALITY CONTROL

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

### 3.5 ADJUSTING

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

### 3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

### 3.7 DEMONSTRATION

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

### 3.8 DOOR HARDWARE SETS

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

B. Manufacturer's Abbreviations:

1. HA - Hager
2. PE - Pemko
3. RU - Corbin Russwin
4. RO - Rockwood
5. RF - Rixson
6. LC - LCN Closers
7. IV - Ives
8. SA - Sargent
9. SU - Securitron

**Hardware Sets**

**Set: 1.0**

Doors: 12

1 Hinge	T4A3786-QC12	US26D MK
2 Hinge	T4A3786	US26D MK
1 Fail Secure Electric Lock	10 RX SG 8271-24V LNL RA	US26D SA
1 Surface Closer	4111 SCUSH	AL LC
1 eLynx Frame Harness	QC-C1500P	MK
1 eLynx Door Harness	QC-C*** (Length/ Type as Required)	MK
1 Power Supply	BPS (size & type as required)	SU
1 Card Reader		BLK HD
1 Position Switch	DPS-M-BK	SU

Notes:

Electronic Operation: Valid Credential at card reader. Integrated request to exist switch signals an authorized egress. Door position switch monitors door status. Fail Safe.

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**Set: 2.0**

Doors: 02

1 Hinge	T4A3786-QC12	US26D MK
2 Hinge	T4A3786	US26D MK
1 Fail Secure Electric Lock	10 RX SG 8271-24V LNL RA	US26D SA
1 Surface Closer	4111 SCUSH	AL LC

1 Threshold	279x224AFGT MSES25SS	PE
1 Rain Guard	346C	PE
1 Gasketing	S773BL	PE
1 Sweep	3452CNB	PE
1 eLynx Frame Harness	QC-C1500P	MK
1 eLynx Door Harness	QC-C*** (Length/ Type as Required)	MK
1 Push Button	PB3N	SU
1 Power Supply	BPS (size & type as required)	SU
1 Card Reader		BLK HD
1 Position Switch	DPS-M-BK	SU

Notes:

Electronic Operation: Free Egress at all times. Valid Credential at card reader or push button located at reception desk unlocks outside lever allowing entry. Integrated request to exist switch signals an authorized egress. Door position switch monitors door status. Fail Secure.

**Set: 3.0**

Doors: 11

3 Hinge	AB700 4-1/2" x 4-1/2"	US26D HA
1 Storeroom Lock	ML2057 NSA 77 (MATCH EXISTING KEYWAY)	626 RU
1 Door Stop	403 (or) 441CU	US26D RO
3 Silencer	SR64-GRY	IV

**Set: 4.0**

Doors: 05, 08

3 Hinge	AB700 4-1/2" x 4-1/2"	US26D HA
1 Storeroom Lock	ML2057 NSA 77 (MATCH EXISTING KEYWAY)	626 RU
1 Surf Overhead Stop	10-X36	630 RF
3 Silencer	SR64-GRY	IV

**Set: 5.0**

Doors: 06

3 Hinge	AB700 4-1/2" x 4-1/2"	US26D HA
1 Storeroom Lock	ML2057 NSA 77 (MATCH EXISTING KEYWAY)	626 RU
1 Surface Closer	4011 REG	AL LC

Tetra Tech

DOOR HARDWARE  
087100 - 1

1 Kick Plate	194S 8" CSK	US32D HA
1 Door Stop	403 (or) 441CU	US26D RO
3 Silencer	SR64-GRY	IV

**Set: 6.0**

Doors: 07, 10

3 Hinge	AB700 4-1/2" x 4-1/2"	US26D HA
1 Passage Latch	ML2010 NSA	626 RU
1 Door Stop	403 (or) 441CU	US26D RO
3 Silencer	SR64-GRY	IV

**Set: 7.0**

Doors: 04

3 Hinge	AB700 4-1/2" x 4-1/2"	US26D HA
1 Classroom Lock	ML2055 NSA 77 (MATCH EXISTING KEYWAY)	626 RU
1 Door Stop	403 (or) 441CU	US26D RO
3 Silencer	SR64-GRY	IV

**Set: 8.0**

Doors: 09

3 Hinge	AB700 4-1/2" x 4-1/2"	US26D HA
1 Privacy Set	ML2060 NSA M19V	626 RU
1 Mop Plate	194S 4" CSK	US32D HA
1 Kick Plate	194S 8" CSK	US32D HA
1 Door Stop	403 (or) 441CU	US26D RO
3 Silencer	SR64-GRY	IV

**Set: 9.0**

Doors: 01, 03

2 Hinge	T4A3786	US26D MK
1 Hinge	T4A3786-QC	US26D MK
1 Fail Secure Electric Lock	10 RX SG 8271-24V LNL RA	US26D SA
1 Surface Closer	4011 REG	AL LC
1 Kick Plate	194S 8" CSK	US32D HA
1 Door Stop	403 (or) 441CU	US26D RO

3 Silencer	SR64-GRY		IV
1 eLynx Frame Harness	QC-C1500P		MK
1 eLynx Door Harness	QC-C*** (Length/ Type as Required)		MK
1 Push Button	PB3N		SU
1 Power Supply	BPS (size & type as required)		SU
1 Card Reader		BLK	HD
1 Position Switch	DPS-M-BK		SU

Notes:

Electronic Operation: Free Egress at all times. Valid Credential at card reader or push button located at reception desk unlocks outside lever allowing entry. Integrated request to exist switch signals an authorized egress. Door position switch monitors door status. Fail Secure.

END OF SECTION 087100

## **SECTION 10 14 00 - SIGNAGE**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. Section Includes:
  1. Room identification sign system.
  2. Signage accessories.
  3. Signage Schedule.

#### **1.3 DEFINITIONS**

- A. Accessible: In accordance with the accessibility standard.

#### **1.4 SUBMITTALS, GENERAL**

- A. General: Submit all action submittals (except Samples for Verification) and informational submittals required by this Section concurrently.

#### **1.5 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Product Data: Submit manufacturer's technical data and installation instructions for each type of sign required, including construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of sign.
- C. Shop Drawings: Submit shop drawings for fabrication and erection of interior signs, including plans, elevations, and large-scale sections of typical members and other components. Show mounting methods, mounting heights, layout, spacing, reinforcement, accessories, and installation details. Shop drawings are to include but not limited to:
  1. Message list for each sign.
  2. Large-scale details of wording, lettering artwork and Braille layout.
  3. Complete color list – both standard and custom colors.
  4. Photocopies of Tetra Tech documentation not acceptable.
  5. Fasteners and anchors.
  6. Signage Schedule.
  7. Adhesives.

8. Two-face tape.

D. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.

1. Include representative Samples of available typestyles and graphic symbols.

E. Samples for Verification: For each type of sign assembly showing all components and with the required finishes, in manufacturer's standard size unless otherwise indicated and as follows:

1. Panel Signs: Full-size Sample.

2. Field-Applied, Vinyl-Character Signs: Full-size Sample of characters on glass.

F. Sign Schedule: Use same designations specified or indicated on Drawings or in a sign schedule.

G. Sample Warranty: For special warranty.

#### 1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

#### 1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

B. Warranty: Executed special warranty.

#### 1.8 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1. Qualifications

a. Manufacturer: Obtain each sign type and all associated accessories through one source from single manufacturer.

b. Installer: Workers to be approved by signage manufacturer and supply list of recently completed installations.

2. Regulatory Requirements

a. ADA Compliance: Comply with the Americans with Disabilities Act (ADA), and with code provisions as adopted by authorities having jurisdiction.

#### 1.9 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:
  - a. Deterioration of finishes beyond normal weathering.
  - b. Deterioration of graphic image.
  - c. Separation or delamination of sheet materials and components.
2. Warranty Period: Five years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Accessibility Standard: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities, ICC A117.1, and building code in effect for Project, for signs.
- B. Fire Rating: Provide sign material with Class 1A fire rating.

### 2.2 SIGNS

- A. Basis-of-Design Product: For convenience detail and specifications have been based on "InForm" by ASI Signage Systems, Grand Island, New York. Other manufactures offering comparable product by one of the following:
  1. Andco Industries Corp.; Greensboro, North Carolina
  2. Mohawk Engraving Co.; Schenectady, New York
  3. Best Sign Systems Inc.

## PART 3 - ROOM IDENTIFICATION SIGN SYSTEM

- A. Materials: Metal – Embossed aluminum.
  1. Sign Face: Encapsulated poly-carbonate layer chemically bonded to 1/16" one piece aluminum substrate with painted edges.
  2. Tactile Graphics and Text: Integral to face.
  3. Finish: Selected by Architect from manufacturer's full range of standard and custom non-glare finishes.
  4. Contrast: Selected by Architect from dark characters on light background or light characters on dark background.
  5. Similar to "InForm" by ASI Sign Systems
- B. Interior Signage Types: Not all types may be applicable for project. Refer to Signage Schedule for specific text and quantities:
  1. Type 5: Room Name/Number Sign: 6"x6" sign.
    - a. Text: All room numbers printed in minimum 1" high sans serif lettering and two lines, where needed. All room names printed in minimum 5/8" high lettering.

2. Type 7: Room Sign: 2"x6" sign.
  - a. Text: All room names printed in minimum 5/8" high lettering.
3. Type 10: Restroom Sign: 6"x6" sign.
  - a. Graphics: Male/female symbol and wheelchair accessibility symbol, if applicable.
  - b. Use with Room Sign (Type 7).

### 3.2 ACCESSORIES

- A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Provide inserts, as required, to be set into concrete or masonry work.
- B. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signage, noncorrosive and compatible with each material joined, and complying with the following:
  1. For exterior exposure, furnish stainless-steel devices unless otherwise indicated.
  2. Exposed Metal-Fastener Components, General:
    - a. Fastener Heads: For nonstructural connections, use flathead or oval counter sunk screws and bolts with tamper-resistant Allen-head spanner-head or one-way-head slots unless otherwise indicated.
- C. Adhesives: As recommended by sign manufacturer and with a VOC content 4 g/L or less for adhesives used inside the weatherproofing system and applied on-site when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- D. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch thick, with adhesive on both sides.

### 3.3 FABRICATION

- A. Fabrication: Comply with requirements of The Americans Disabilities Act (ADA) of 1990 and dimensions and characteristic given below and in 'Interior Signage Types'.
  1. Braille Characters: Grade 2 Braille (literary Braille) consisting of 189 part words or whole word contractions, in addition to 63 Grade 1 Braille characters.
  2. Character Height (based on upper case): 5/8-inch minimum; 3 inches maximum.
  3. Tactile Characters: Raised 1/32-inch minimum thickness.
  4. Type Style: All upper case letters, without serifs or with simple serifs.
  5. Symbols: Provide border around symbol (not required to be raised) with verbal description placed directly below symbol in 1/32 inch raised and Braille characters.
  6. Color: Up to 5 colors throughout school, as selected by Architect from manufacturer's full color range.
- B. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

### 3.4 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## PART 4 - EXECUTION

### 4.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of signage work.
- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

### 4.2 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
  - 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
  - 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
  - 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
- B. Mounting Locations: Walls adjacent to latch side of door 60 inches from center of sign to finished floor, and 2 inches from edge of doorframe. Where wall space adjacent to latch side of door is not available, and at double leaf doors, place sign on nearest adjacent wall.
- C. Mounting Methods:
  - 1. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
    - a. Vinyl-Tape Mounting (Semi-Permanent Installations): Double sided tape to mount signs to smooth, non-porous surfaces. Not suitable for rough, or vinyl covered surfaces.

- b. Silicone Adhesive: To be used with Vinyl Tape. Suitable for most wall surfaces, including vinyl. Provide adhesive as recommended by sign manufacturer.

4.3 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

PART 5 - SIGN SCHEDULES

- A. All permanent rooms to receive room identification system containing both text and room numbers.
- B. Provide barrier-free and tactile signage at all locations required by code and as shown on the architectural drawings.
- C. Coordinate mounting heights as per CABO/ANSI A117.1 and as per manufacturer's recommendations.
- D. **All room names and numbers are subject to change, Supplier to verify with school district during construction phase, prior to submittal phase, for final room names and numbers.**
- E. All colors to be issued during construction.

COLOR	ROOM NO.	SIGNAGE TYPE	SIGNAGE TEXT	REMARKS
			<b>FIRST FLOOR</b>	
	100	5	Room Name to be provided by district	TYPE 5 AT ALL DOORS EXCEPT Restroom 103
	Unisex Restroom 103	5	Room Name to be provided by district	

END OF SECTION 10 14 00