

## ADDENDUM # 1

To: All Bidders

Project Name: Renovations to:  
1350 Edgmont Avenue  
Chester, PA 19013

Prepared for: Chester Upland School District  
1350 Edgmont Avenue  
Chester, PA 19013

Date: 02/17/2023

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Notice to all Contractors bidding the Renovations to CUSD 1350 Edgmont Ave project. This Addendum is to amend or clarify the Contract documents as follows:

### GENERAL:

- A. This Addendum constitutes part of the Project Manual and Contract. Should conflict occur between the Project Manual and items in this Addendum or between Drawings and this Addendum, the Addendum shall govern.
- B. Work described in this Addendum shall be in accordance with Specifications for like items in remainder of building and complete with all labor and materials required.
- C. Bidders are requested to attach a copy of this Addendum to the Project Manual in their possession.
- D. Work affected by items in this Addendum shall be appropriately adjusted to accommodate these changes.
- E. Acknowledge receipt of this Addendum by inserting its number and date in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.
- F. Bids shall only be based on the products specified. No pre-bid substitutions shall be considered. Products that meet or exceed the product specifications will be considered for use during the Shop Drawing Submittal Phase.

- G. STANDARD OF QUALITY: The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for bid purposes. **In general**, it is not the intent to limit the bidder, the bid or the evaluation of the bid to any one material or product specified but rather to describe the minimum standard, **except where listed without the following clause**. When proprietary names are used, they shall generally be followed by the words "or alternatives of the quality necessary to meet the specifications". Where proprietary names are used and are not followed by a clause similar to that listed above, the contractor is limited to providing that specified product to keep a standard product already established by the School District. A bid containing an alternative which does not meet the specifications may not be accepted, but, if an award is made to the bidder, the bidder will be required to replace any alternatives which do not meet the specifications at no additional cost. The intent of the bid documents is based on this STANDARD OF QUALITY and not to be proprietary in nature in any way.

## SPECIFICATIONS

- 1.01 Specification Section 087100 – Door Hardware; **ADD** specification section in its entirety.
- 1.02 Specification Section 275123 – Paging System; **ADD** specification section in its entirety.
- 1.03 Specification Section 275313 – Clock System; **ADD** specification section in its entirety.
- 1.04 Specification Section 281300 – Access Control System; **REVISE** section as follows:

Page 281300-1, B, Delete (Specifier Notes): Remove section not required under project scope of work.

Page 281300-3, Delete Section 2.1 and replace with the following:

### 2.1 SYSTEM

- A. The Building utilizes and existing Hikvision/LTS door access control system.
- B. The Contractor shall provide all plenum wiring, card readers, request to exits, and DPDT door position switches and all programming and final connections the door access and security system as required for a complete and operating system.
- C. All new card readers match existing and shall be fully compatible with the existing system.
- D. The Contractor shall provide a Door intercom and Door intercom Master stations Compliant with Hikvision/LTS for the remote release of doors as indicated on the drawings.
1. Call stations shall be stainless steel with push button, camera and speaker.
  2. Master stations shall be provided with color display for viewing of call station camera and handset for audio communications.

3. Master stations shall be programmed for specific door release as indicated on drawing and ring-over from Security Desk Station to admin offices on a program schedule or when the security desk does not answer the call.
4. Security Desk station shall only release main door and shall not release office doors.
5. Intercom door station cameras shall be tied to the Security Camera system NVR for recording.

1.05 Specification Section 282000 – Video Surveillance; **ADD** specification section in its entirety.

## DRAWINGS

### Architectural:

- 2.01 Sheet A841; **REPLACE** sheet in its entirety; **ADD** detail and **REVISE** casework schedule.
- 2.02 Drawing 12/A503; **ADD** detail, reference sketch AD1 -A01 .
- 2.03 Drawing 1/A121; **ADD** tag, reference sketch AD1 -A02.
- 2.04 Drawing 1.7/A807; **REVISE** tag, reference sketch AD1 -A03.
- 2.05 Drawing 1/AD101; **REVISE** door to be demolished, reference sketch AD1 -A04
- 2.06 Drawing 1/A101; **ADD** door and tag, reference sketch AD1 -A04.
- 2.07 Sheet A601; **REVISE** door schedule, reference sketch AD1 -A04.

## BIDDERS QUESTIONS

- 3.01 **Question:** What is the roof deck height on the second floor?  
**Response:** *Roof slopes, low side is approximately 13'-0". Contractor shall verify in field during construction.*
- 3.02 **Question:** Is dust control required on the second floor?  
**Response:** *Dust control and temporary partitions will be required throughout construction. Locations will be coordinated with the owner/architect during construction.*
- 3.03 **Question:** Where will dumpsters be located?  
**Response:** *Contractors can locate dumpster on the side of the building adjacent to the exterior double doors in the future cafeteria.*
- 3.04 **Question:** Where does construction delivery occur?  
**Response:** *Contractors can make deliveries on the side of the building using the exterior double doors in the future cafeteria.*
- 3.05 **Question:** Are any exterior windows being replaced?

- Response:** *No exterior windows are being replaced. There is a section of window being removed in order to construct a new doorway into the kitchen as shown in the drawings.*
- 3.06 **Question:** Please provide the manufacturer for the existing fire alarm and security systems.  
**Response:** *This will be answered in a future addendum.*
- 3.07 **Question:** Will all furniture currently located in spaces be removed?  
**Response:** *Yes, the owner will be removing all furniture.*
- 3.08 **Question:** Is loose furniture in the drawings included?  
**Response:** *No, loose furniture such as office desks & chairs, student desks & chairs, cafeteria tables, are not included in the scope of this project. All casework and mill work is included.*
- 3.09 **Question:** Who is responsible for floor demolition for new pipes?  
**Response:** *Cutting and patching of existing concrete slabs is the responsibility of the contractor requiring the openings.*
- 3.010 **Question:** Where are bids being delivered to?  
**Response:** *Bids will be delivered to the Administration Building, 1350 Edgmont Ave., at the main entrance.*
- 3.011 **Question:** What is the current roof warranty? Will roof penetrations affect this warranty?  
**Response:** *This will be answered in a future addendum.*
- 3.012 **Question:** Can the QCP requirement be waived for this project as long as they are AWA certified??  
**Response:** *Yes, the QCP requirement can be waived if the manufacturer is AWA certified.*
- 3.013 Can you please provide insurance limits required for this project?  
**Response:** *This will be answered in a future addendum.*
- 3.014 Is the Qualification form to be submitted upon award as noted in the ITB, or with the bid as noted on the bid form?  
**Response:** *This will be answered in a future addendum.*
- 3.015 Is the 009000 Sub List and Equipment Suppliers List to be submitted with the bid or upon award?  
**Response:** *This will be answered in a future addendum.*

## ATTACHMENTS

### General:

Pre-bid Meeting Minutes  
Pre-bid Sign-in Sheet

Specifications:

087100	Door Hardware
275123	Paging System
275313	Clock System
282000	Video Surveillance

Drawings:

A841	Casework Legend
AD1-01	RCP Detail
AD1-02	First Floor Reflected Ceiling Plan
AD1-03	IE – Copy/Work Room Elevation
AD1-04	Door and Door Schedule

END OF ADDENDUM

# SCHRADERGROUP

## PRE-BID MEETING AGENDA

CLIENT: Chester Upland School District (CUSD)

PROJECT: Renovations to 1350 Edgmont Ave.

LOCATION: 1350 Edgmont Avenue

MEETING DATE: 02.16.2023

MEETING TIME: 1:00 PM—1:30 PM

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1. WELCOME AND PROJECT TEAM INTRODUCTION
  - a. Introductions
    - Owner – Chester Upland School District
    - Design Team Members
      - Architecture/Structural Engineering - Schradergroup Architecture
      - MEP/FP – Snyder Hoffman Associates
      - Food Service – Corsi Associates
  - b. Issues discussed during pre-bid **ARE NOT CONTRACTUAL** unless affirmed in a formal addendum.
  - c. **Bid Due Date: Thursday, March 2, 2023 at 1:00PM**
  
2. BIDDING REQUIREMENTS
  - a. Multiple Prime Project with applicable Pennsylvania Prevailing Wage Rates:
    - Contract 1 - General Construction
    - Contract 2 – Plumbing Construction
    - Contract 3 – HVAC Construction
    - Contract 4 – Electrical Construction
  
  - b. Submission Requirements:
    - Sealed, fixed-price bids, clearly marked with bid invitation name and number.
    - Reference Supplemental Instructions to Bidders and Specification Section 004200 for Bid Attachment information.
    - Submit two (2) copies of Bid forms.
    - Bid Bond: 10% of contract amount.
    - Bid Form must include acknowledgement of all addenda.
    - Insurance requirements listed in Supplemental Instructions

### 3. BID OPENING AND SCHEDULE

- a. Bids shall be submitted in a sealed envelope and are due **Thursday, March 2, 2023 at 1:00PM** at the Chester Upland School District Administration Office, 1350 Edgmont Avenue, Chester, PA 19013. Basis for award is lowest responsible/responsive bidder.
- b. Bids will be reviewed and a Notice to Proceed will be issued in March at the School District's discretion.
- c. Performance/Payment Bond (100% of contract with A- or better rating) – to be submitted by accepted bidder in each Prime contract prior to bid award.
- d. Substantial Completion: no later than August 21, 2023.
- e. Liquidated Damages are \$1,000.00 per day
- f. The General Contractor is responsible for overall construction schedule and coordination with the other prime contractors.

### 4. ADDENDA

- a. Issuance of addenda will occur electronically through BluEdge., Philadelphia location 215.627.6493. All interested bidders **MUST BE REGISTERED** with BluEdge to receive issued Addenda.
- b. Pre-bid RFI process: submit all questions in written format, via e-mail, to Dan D'Amico at [ddamico@sgarc.com](mailto:ddamico@sgarc.com).
  - Questions will be accepted through **Wednesday, February 21st at 5:00 p.m., EST**.
  - The final addendum will be issued **Thursday, February 23<sup>rd</sup>**.

### 5. REVIEW OF PROJECT SCOPE OF WORK

- a. The owner will secure the general building permit. Contractors are responsible for any trade-specific permits or inspections required by the local AHJ or Pennsylvania Department of Labor & Industry (L&I).
- b. ***All bidders are required to familiarize themselves with the project site and all bidding documents, including General Conditions and Requirements, Summary of Work, etc. Submission of Bid acknowledges that bidder has done so.***
- c. The building is occupied by the Chester Upland School District Administration, located on the second floor in the areas noted on the plans as "not in scope". Access to these areas must be maintained during construction.
- d. **General Construction**
  - The project is to renovate the remaining three quarters of the building (entire first floor, and half of second floor) for use as Middle School classrooms and Cafeteria for CUSD.
  - The scope of work includes demo of interior partitions, finishes, etc. as depicted in the demolition drawings. The documents call for existing doors in good and usable condition to be salvaged and re-used.
  - Interior spaces will be constructed using metal studs and drywall, with all new finishes. All new and existing surfaces will receive new finishes; paint, flooring, etc.
  - There is a warming kitchen being added to the first floor adjacent to the cafeteria. A new exterior access point is being added to the kitchen along with an exterior ramp down to enter the space.

- The existing building was designed with a chase for a future elevator. This shaft is being infilled to provide single toilets rooms on the first and second floor. There are other toilet rooms being added as shown in construction documents.
  - e. **Plumbing**
    - Select demolition of existing plumbing fixtures and piping.
    - Provide new plumbing fixtures and piping in areas of new work.
    - Provide new grease interceptor for kitchen.
    - Provide new gas fired water heater with recirculation.
  - f. **Fire Protection**
    - Select demolition of the existing sprinkler system including piping and heads.
    - Provide new sprinkler piping and heads in areas of new work.
  - g. **HVAC**
    - Existing Rooftop units will remain.
    - Select demolition of existing ductwork & equipment.
    - Provide new ductwork and electric VAV boxes in areas of new work.
    - Provide new electric cabinet heaters and electric baseboard radiation in areas of new work.
    - Provide new exhaust fans in areas of new work.
    - New open DDC system.
  - h. **Electrical**
    - Select demolition of existing electrical systems, equipment, conduit, wiring and devices. Contractor shall maintain all power and control wiring to equipment and devices to remain.
    - Provide new electrical panels as indicated.
    - Provide new lighting and lighting controls in areas of new work.
    - Provide new power receptacles and power distribution in areas of new work.
    - Expand the existing data network, fire alarm, door access and camera systems.
    - Provide new paging system interfaced with existing District I.P. phone system.
    - Provide new clock and bell system.
- 6. Post Meeting Site Tour
  - a. Additional building tours can be scheduled, contact Irvin Maldonado at [imaldonado@chesteruplandsd.org](mailto:imaldonado@chesteruplandsd.org)
- 7. QUESTIONS (all scope questions must be submitted in writing).

## END OF PRE-BID MEETING AGENDA

## SECTION 087100 - DOOR HARDWARE

### PART 1 GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Hardware for swinging Aluminum, Hollow Metal and Wood Door Openings.

B. Related Sections:

1. Section 01 25 13 – Product Substitution Procedures
2. Section 06 20 00 – Finish Carpentry
3. Section 08 11 13 – Hollow Metal Doors and Frames
4. Section 08 14 16 – Flush Wood Doors
5. Section 08 41 13 – Aluminum – Framed Entrances and Storefronts
6. Section 26 05 19 – Low Voltage Electrical Power Conductors and Cables

#### 1.2 REFERENCES

A. Use the following references to properly detail, schedule, furnish and install finish hardware items.

1. NFPA 80 – Standard for Fire Doors and Other Opening Protectives (2007)
2. DHI Installation Guide for Doors and Hardware (1984)
3. DHI Sequence and Format for the Hardware Schedule (1996)
4. ANSI/BHMA A156.4 – Door Controls – Closers (2013)
5. ANSI/BHMA A156.2 – Bored and preassembled Locks and Latches (2011)
6. ANSI/BHMA A156.13 – Mortise Locks and Latches Series 1000 (2012)
7. ANSI/BHMA A156.18 – Materials and Finishes (2012)

#### 1.2 SUBMITTALS

A. Schedule:

1. Provide submittals in accordance with 01 33 00 – Submittal Procedures.
2. Provide hardware schedule in vertical format on 8-1/2-inch by 11-inch paper or electronic format. Conform to DHI publication Sequence and Format for Hardware Schedule using Architect's door numbers and hardware set numbers.
3. Provide elevation drawings for openings with electrical hardware and access control devices with each hardware schedule. Include illustration of opening, operational description, electrified hardware components, legend, approximate mounting location and size of enclosures, size and quantity of conductors, facility name and date.

B. Product Data: Provide one set of manufacturer's catalog and technical data for each hardware item used, highlighting design, function, fasteners, accessories, and options to facilitate review with each hardware schedule submitted.

C. Templates: Provide two sets of manufacturer's templating information for mortised and template hardware upon receipt of approved hardware schedule to the door and frame supplier(s). Include requirements for internal reinforcements required for surface mounted hardware.

D. Wiring Diagrams:

1. Three sets point-to-point diagrams specially developed for each opening that requires electrical hardware, with hardware delivery to jobsite. Reference elevation drawings submitted with hardware schedule using Architect's opening numbers.
  2. Three sets riser diagrams for openings requiring power supplies or access control. Include placement of power supplies, distance of wire runs from power supply, cable quantity and number and gauges of wires.
- E. Keying Schedule: Arrange meeting with Owner, Architect and finish hardware supplier to determine keying requirements immediately upon receipt of finish hardware schedule.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Furnish operations and maintenance manual in accordance with Section 01 78 28 – Operations and Maintenance Data and as follows:
1. Furnish one copy of manual at date of Substantial Completion in a 2-1/2-inch thick binder labeled with project information, date and name and contact information for the hardware supplier.
  2. Include in manual:
    - a. Copy of approved hardware schedule, including door numbers and locations. Highlight fire rated door to aid in annual fire door inspection.
    - b. Copy of approved keying schedule.
    - c. Catalog data for each product.
    - d. As-installed "wiring diagrams" for each opening connected to power.
    - e. Parts list for locksets, exit devices, and door closers.
    - f. Installation templates and instructions.
    - g. Warranty information.
    - h. Name, address, and phone number of local representatives for each manufacturer.

#### 1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Materials:
1. Screws and Fasteners: Fifty of each screw and fastener required for general maintenance of hinges, locks, closers, exit devices, and sealing systems.
  2. Deliver to Owner remaining finish hardware fasteners and special installation tools upon completion of Project.

#### 1.6 QUALITY ASSURANCE

- A. Supplier:
1. Furnish hardware from recognized supplier who has warehousing facility within 100 miles of project location, and who has actively supplied hardware for similar projects in the vicinity for a minimum of five years.
  2. Supplier shall employ an Architectural Hardware Consultant (AHC), as certified by Door and Hardware Institute, on staff full time to administer and supervise project.
- B. Installer: Install hardware using installers who have actively installed commercial door hardware for a minimum of five years, and are familiar with hardware installation of type required on this Project.

C. Pre-Installation Meeting:

1. Prior to installation of hardware, arrange for manufacturer's representatives of locksets, door closers, and exit devices to hold a jobsite meeting to instruct the installing personnel on the proper installation of their products.
2. Send a letter of compliance, indicating when this meeting was held, and who was in attendance, to the Architect and Owner.

D. Fire Rated Door Openings:

1. Comply with NFPA 80.
2. Furnish nationally recognized testing agency label or stamp on hardware for labeled openings.
3. Only labeled locks or latches or fire exit hardware can be used on fire rated openings.
4. Where UL requirements conflict with Drawings or Specifications, furnish hardware conforming to the UL requirements.

## 1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery:

1. Jointly check in hardware, upon delivery to jobsite, against approved hardware schedule with hardware supplier. Record shortage or damage and replace or repair as necessary.
2. Deliver hardware to be installed during fabrication of doors and frames, to manufacturer.

B. Storage:

1. Store hardware in a secure, dry, temperature controlled room on shelving to protect against loss, theft and damage.
2. Store items too long for shelving on pallet, off the floor.

C. Marking and Packaging:

1. Deliver hardware to jobsite in manufacturer's original packaging marked to correspond with approved hardware schedule with Architect's door numbers and hardware sets.
2. Mark all locksets, exit devices, cylinders, auxiliary hardware and key switches with keyset symbol.
3. Replace any wet or damaged packaging with new.

## 1.8 WARRANTY

A. Furnish warranties in accordance with Section 01 78 36 – Warranties. Extended or limited warranties shall be as follows:

1. Furnish minimum ten year factory warranty on door closers, against defects in material and workmanship, from date of substantial completion.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

A. The following manufacturers' were used in the hardware sets.

- |                        |           |    |
|------------------------|-----------|----|
| 1. Butt Hinges         | Best      | ST |
| 2. Continuous Hinges   | Best      | ST |
| 3. Locks and Latchsets | Best      | BE |
| 4. Cylinders and Cores | Best      | BE |
| 5. Surface Closers     | Best      | BE |
| 6. Exit Devices        | Precision | PR |

7. Overhead Stop/holders	ABH	AB
8. Door Pulls	Trimco	TR
9. Flushbolts	Trimco	TR
10. Protection Plates	Trimco	TR
11. Wall/Floor Stops	Trimco	TR
12. Thresholds and Gasketing	National Guard	NA
13. Silencers	Trimco	TR

B. Submit requests for substitution in accordance with Section 01 25 13 Product Substitution requirements and as follows:

1. Provide catalog data with product information highlighted or bubbled to facilitate review. Product must meet or exceed level or design intended and/or function established by specified products.

2.2 MATERIALS

A. Screws and Fasteners:

1. Provide manufacturer's recommended fasteners of proper type, material and finish.
2. Provide self-tapping screws for sweeps and stop applied weatherstripping.
3. Utilize through-bolts for the attachment of door closers and exit devices on non-reinforced doors only. Finish: match door face.
4. Exposed screw heads: phillips type.

C. Hinges:

1. Type:
  - a. Five-knuckle, full mortise, ball bearing.
  - b. Furnish heavy weight hinges on heavy doors and doors expected to have high frequency use.
2. Quantity:
  - a. One pair of hinges for all doors up to 5 feet high. Furnish one additional hinge for every 2'-6" in height or fraction thereof.
  - b. Four hinges at dutch doors up to 7'-6" in height.
3. Size:
  - a. For 1-3/4-inch thick doors up to 3 feet wide: 4 1/2-inches high
  - b. For 1-3/4-inch thick doors over 3 feet wide: 5-inches high
  - c. For all doors over 1-3/4-inches thick: 5-inches high
  - d. Size in width shall minimally clear door trim.
4. Application:
  - a. NRP (non-removable pin) at exterior doors and reverse bevel doors with locking hardware.
  - b. Electric hinges: have sufficient number of concealed wires to accommodate electrical function of hardware. Furnish junction box and mortar shield.
5. Acceptable manufacturers and types:

Type	Best	Hager
Standard Weight	FBB179	BB1279
Heavy Weight	FBB168	BB1168
Heavy Weight	FBB199	BB1199

D. Continuous Hinges:

1. Configuration appropriate for type, inset, and thickness of door. Coordinate with door manufacturer.

2. Meet UL fire label listing requirements at UL rated openings. Include fire pins as required by manufacturer.
3. Acceptable manufacturers and types:

Door Type	Best	ABH	Select
Aluminum	661HD	A110HD	SL11HD
Hollow Metal	662HD	A240HD	SL24HD

E. Door Bolts:

1. Flushbolts:
  - a. Manual Flushbolts: Two for inactive leaf of locked pairs of doors at non-occupied rooms.
  - b. Self-Latching Flushbolts: One pair for inactive leaf at pairs of doors where inactive leaf is not required for egress.
  - c. Automatic Flushbolts: One pair at fire rated doors, and occupied rooms required for egress.
  - d. Acceptable manufacturers and types:

Bolt/Door Type	Trimco	Burns	ABH
Manual	3917	590	1855

F. Locksets:

1. Mortise Locks:
  - a. Conform to ANSI/BHMA A156.13, Series 1000 Operational Grade 1.
  - b. Latchbolt with appropriate throw for fire rated doors and pairs of doors in accordance with manufacturers listing.
  - c. Lock functions as specified in hardware schedule.
  - d. Electrical functions as specified in hardware schedule, 24VDC.
  - e. Lever design: 15H
  - f. Backset: 2-3/4-inch
  - g. Strike single door: ANSI 4-7/8-inch with proper lip length to minimally clear trim.
  - h. Strike pair of doors: flat lip strike sized to fit flush with face of door.
  - i. Furnish wrought strike box.
  - j. Acceptable manufacturers and types:

Best (No Substitute)
45H Series

2. Cylindrical Locks:
  - a. Conform to ANSI/BHMA A156.2, Series 4000 Operational Grade 1.
  - b. Latchbolt with appropriate throw for fire rated doors and pairs of doors in accordance with manufacturers listing.
  - c. Lock functions as specified in hardware schedule.
  - d. Lever design: 15D
  - e. Backset: 2-3/4-inch
  - f. Strike single door: ANSI 4-7/8-inch with proper lip length to minimally clear trim.
  - g. Strike pair of doors: flat lip strike sized to fit flush with face of door.
  - h. Furnish wrought strike box.
  - i. Acceptable manufacturers and types:

Best (No Substitute)
9K Series

3. Cylinders:
  - a. Provide mortise and rim cylinders and cores from same manufacturer as locksets, for all locksets, exit devices, cylinder dogging, key switches and auxiliary hardware.
  - b. Appropriate cam and blocking rings for proper installation

**G. Keys & Keying: BEST – NO SUBSTITUTION – DISTRICT STANDARD**

1. Cylinders: 7-pin, interchangeable core and keyed into an EXISTING BEST factory registered Masterkey System.
2. Provide construction cores and keys during construction period. Construction control and operating keys and cores are not part of permanent keying system or furnished on same keyway (or key section) as permanent keying system.
3. Permanent Keys and Cores: Prepare permanent cores and keys in accordance with keying schedule. Provide Masterkeys and other Security Keys.
4. Furnish keys in the following quantities:
  - a. 4 each Masterkeys per new Masterkey set.
  - b. 2 each Change keys each keyed core.
  - c. 6 each Construction Masterkeys.
  - d. 2 each Construction Control keys.
  - e. 2 each Control keys.
5. Install permanent cores in locksets.
6. Return construction cores to Hardware Supplier.

**H. Exit Devices:**

1. UL-listed for fire at fire door assemblies, and UL listed for panic at non-rated door assemblies.
2. Size exit devices to proper door width and height.
3. Stainless Steel deadlocking ¾ -inch throw latch bolt.
4. LBR (less bottom rod) where scheduled to eliminate use of floor mounted strikes.
5. Cylinders for exit devices with cylinder dogging or locking trim.
6. Electrical functions as scheduled in sets. Provide power supply and power transfer from same manufacturer as electrified exit device.
7. Strike: as recommended by manufacturer.
8. Lever design: To match lockset trim.
9. Acceptable manufacturers and types:

Precision	Von Duprin
Apex 2000 Series	98 Series

**I. Surface Door Closers:**

1. Conform to ANSI/BHMA A156.4 Grade 1.
2. Heavy duty high silicon aluminum alloy or cast iron body closers.
3. Furnish manufacturers recommended size, arms and configuration for door and frame application required.
4. Furnish brackets, spacers, support shoes, and plates for complete and proper installation.
5. DA (delayed-action) at toilet room doors and as scheduled.
6. Acceptable manufacturers and types:

Dorma	LCN
8900 Series Series	4040XP Series

**J. Overhead Door Stop:**

1. Provide overhead stop or overhead stop/holder for interior doors as specified. Provide overhead stop for interior doors and at any door that swings more than 140 degrees before striking a wall, open against equipment, casework, sidelights, and/or where conditions do not allow a wall stop or a floor stop presents a tripping hazard.
2. Where overhead holders are specified provide friction type at doors without a closer and positive type at doors with a closer.
3. Acceptable manufacturers:

ABH	Rixson	Glynn Johnson
9000 Series	9 Series	90 Series

K. Door Trim:

1. Provide push plates 6 inches wide x 16 inches high x 0.050 inch thick and beveled 4 edges. Where width of door stile prevents use of 6 inches wide plate, adjust width to fit.
2. Provide pull plates 4 inches wide x 16 inches high x 0.050 inch thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches wide plate, adjust width to fit.
3. Acceptable manufacturers:

Type	Trimco	Burns
Pull Plate	1018-3B	5426C
Push Plate	1001-9	56

L. Protection Plates:

1. Where bottom rail allows, furnish 10-inch high kick plates and 10-inch high mop plates.
2. Material: 0.050-inch thick stainless steel plates with four beveled edges.
3. Countersink screw heads at wood doors.
4. Width: 2-inch less door width on stop (push) side and 1-inch less door width on face (pull) side.
5. Acceptable manufacturer and types:

Trimco	Burns	Rockwood
K0050	KP	K1050
KM050	MP	K1050

M. Door Stops:

1. Convex, cast, wall stops.
2. Furnish fastener suitable for wall condition.
3. Provide wedge type stop for doors with push/pulls.
4. Where wall stops are inappropriate provide universal dome type floor stops.
5. Acceptable manufacturers and types:

Type	Trimco	Burns	Rockwood
Wall Stop	1270CX	560	400
Wedge Stop	1298	526	487
Floor Stop	1211	521	441H

N. Door Position Switch:

1. Acceptable manufacturer's and type: by electrical contractor

O. Thresholds and Gasketing:

1. Thresholds:
  - a. Returned closed ends at openings where threshold extends beyond frame face.
  - b. Bumper threshold with silicone insert where scheduled.
  - c. Acceptable manufacturers and types:
  - d. Coordinate door undercuts with door hardware.

Type	National Guard	Pemko
Saddle	513	271
Saddle	425	171
Bumper	896HD	2705 T

2. Gasketing:

- a. Rigid jamb weatherstrip with replaceable neoprene insert.
- b. Include self-adhesive two-sided tape in addition to manufacturer's standard fastener.
- c. Meeting-stile gasketing required at exterior pairs of doors and doors in smoke partitions.
- d. TPE adhesive fire/smoke gasketing at fire and smoke "S" labeled openings
- e. Door sweep with neoprene insert for exterior out-swing doors.
- f. Acceptable manufacturers and types:

Type	National Guard	Pemko
Rigid	700 N	2891
Smoke	5075	S773
Door Sweep	200 N	315C

P. Silencers:

1. Grey rubber silencers with injector tool.
2. Three silencers at single doors and two silencers at pairs.
3. Acceptable manufacturers and types:

Trimco	Rockwood	Burns
1229A	608	500

2.3 KEY CONTROL

A. Key cabinet: wall mounted with one hook for each lock or cylinder plus fifty extra hooks.

1. One non-removable security tag and one snap-on link duplicate tag per hook.
2. Furnish tools, instructions sheets and accessories required to complete installation.
3. Owner/Owner's representative will place keys in cabinet and complete index card furnished with key system.
4. Acceptable manufacturers:

Lund	Telkee	MMF
------	--------	-----

2.4 FINISHES (Unless noted in hardware sets)

A. Conform to ANSI/BHMA A156.18.

- |                      |     |                                |
|----------------------|-----|--------------------------------|
| 1. Butt Hinges       | 630 | Stainless Steel                |
| 2. Locks and Latches | 626 | Satin Chrome                   |
| 3. Exit Devices      | 630 | Satin Stainless Steel          |
| 4. Door Closers      | 689 | Spray Painted Aluminum         |
| 5. Pull Plates       | 630 | Satin Stainless Steel          |
| 6. Protection Plates | 630 | Satin Stainless Steel          |
| 7. Stops and Holders | 630 | Satin Stainless Steel          |
| 8. Thresholds/Gasket | AL  | Anodized Mil Finished Aluminum |

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify doors and frames are plumb, square, level and true and free from defects that would prevent proper installation of finish hardware.
- B. Verify power is run to doors requiring electrified hardware.
- C. Wash down masonry walls and complete painting and staining of doors and frames prior to installation of hardware.
- D. Complete finish flooring at doorways.
- E. Correct conditions that inhibit a proper installation before continuing with work.

3.2 INSTALLATION

- A. Install hardware in compliance with the DHI publication, Installation Guide for Doors and Hardware.
- B. Drill and countersink items not factory prepared for fasteners.
- C. Mount closers on room-side of corridor doors, inside of exterior doors, and stair-side of stairway doors. Use necessary arms, brackets, spacers and plates to accommodate auxiliary hardware and special applications.
- D. Install fire door assemblies to maintain clearances at door edge to frame and meeting edge of pairs of doors in compliance with NFPA 80, providing 1/8-inch clearance at the hinge edge, lock edge, head and between pairs. Provide maximum 3/4-inch undercut at door bottom. Where panic thresholds are used, undercut door to allow 1/8-inch clearance between door and threshold.
- E. Trim, cut, and notch thresholds and saddles neatly to minimally fit the profile of the door frame. Set thresholds in bed of mastic sealant, forming tight seal between threshold and surface to which set.
- F. Use only fasteners furnished by manufacturer for installation as recommended by manufacturer.
- G. Install blocking material for all wall mounted door stops at height appropriate to contact door trim.
- H. Install weather-strip prior to installation of door closers and exit devices. Do not cut or notch weather-strip.
- I. Locate electric hinges at second hinge from bottom of frame.
- J. Termination of wiring: Ensure wiring is in place and is connected for proper operation of hardware.

### 3.3 FIELD QUALITY CONTROL

- A. Verify doors open and close smoothly without rubbing or catching and have positive latching where scheduled. Verify fire rated doors are installed with clearances in compliance with NFPA 80.
- B. Test electrified hold open devices tied into fire alarm system to confirm release upon activation of fire alarm. Test electrified hardware and access control to verify systems operate as directed in mode of operation. Where hardware is found to be inoperable, repair or replace with new.

### 3.4 ADJUSTING AND CLEANING

- A. Upon substantial completion, make final adjustments to door closers and other items of hardware after balance of heating and ventilating equipment to ensure doors close and latch properly.
- B. Clean and polish all exposed hardware surfaces in accordance with manufacturer's recommended procedures.
- C. Clean or repair pencil or tool marks from adjacent surfaces damaged or soiled by work of this Section.
- D. Recycle cardboard boxes and paper products used in packaging and transport of finish hardware.

### 3.5 PROTECTION

- A. Remove hardware prior to painting or finishing door and frame. Wrap or mask exposed hardware that cannot be removed until date of substantial completion to avoid exposure to paint, solvents, and abuse.
- B. Repair or replace hardware damaged during construction at least two weeks prior to date of substantial completion.

### 3.6 SCHEDULES

- A. Should items of hardware not definitely specified be required for completion of the Work, furnish such items of type and quality comparable to adjacent hardware and appropriate for service required.
- B. Where items of hardware aren't definitely or correctly specified, are required for completion of the Work, a written statement of such omission, error, or other discrepancy to Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended.

#### Manufacturer List

<b>Code</b>	<b>Name</b>
AB	ABH Manufacturing Inc.
BE	Best Access Systems
BY	By Related Section
DM	Dorma Door Controls
NA	National Guard
PR	BEST Precision Exit Devices
ST	BEST Hinges and Sliding
TR	Trimco

#### Finish List

<b>Code</b>	<b>Description</b>
26D	Satin Chrome
32D	Satin Stainless Steel
605	Bright Brass, Clear Coated
626	Satin Chromium Plated
630	Satin Stainless Steel
689	Aluminum Painted
AL	Aluminum
GREY	Grey
US32D	Stainless Steel, Dull

**Hardware Sets**

**Set #001 - Classroom**

Doors: A101, A102, A103, A104, A105, A106, A107, A108, A201, A202, A203, A204, A205, A206

3	Butt Hinge	FBB179 4.5" x 4.5" NRP	26D	ST
1	Intruder Lockset	9K3-7IN15D STD S3	626	BE
1	Closer	8916 SPA SN1	689	DM
1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR
1	Wall Bumper	1270CX	626	TR
3	Silencer	1229A	GREY	TR

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #002 - Multi-Occ Toilet**

Doors: T201, T202

3	Butt Hinge	FBB179 4.5" x 4.5"	26D	ST
1	Classroom Deadbolt	48H-7R STD	626	BE
1	Push Plate	1001-9CFC	630	TR
1	Pull Plate	1018-3B	630	TR
1	Closer	8916 AF89P SN1	689	DM
1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR
1	Mop Plate	KM050 6" x 1" LDW B4E CSK	630	TR
1	Wall Bumper	1270CX	626	TR
3	Silencer	1229A	GREY	TR

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware. Provide filler / adapter plates as required.

**Set #003 - Faculty Toilet**

Doors: T101, T102, T203, T204

3	Butt Hinge	FBB179 4.5" x 4.5"	26D	ST
1	Dormitory Lockset	45H-7TD15H STD VIB	626	BE
1	Closer	8916 AF89P SN1	689	DM
1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR
1	Mop Plate	KM050 6" x 1" LDW B4E CSK	630	TR
1	Wall Bumper	1270CX	626	TR
3	Silencer	1229A	GREY	TR

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware. Provide filler / adapter plates as required.

**Set #004 - Corridor Entry**

Doors: C101-2, C103-1, C201-3

3	Butt Hinge	FBB179 4.5" x 4.5" NRP	26D	ST
1	Exit Device	2103 X 4903A LD SNB (6)	630	PR
1	Rim Cylinder	12E-72 STD	626	BE
1	Electric Strike	BES-0162		BE
1	Closer	8916 SPA SN1	689	DM
1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR
1	Wall Bumper	1270CX	626	TR
1	Power Supply	DKPS-2A		DM
1	Door Position Switch	DPS BY OWNER'S SECURITY VENDOR		BY
1	Card Reader	CARD READER BY OWNER'S SECURITY VENDOR		BY

1 Request To Exit REX BY OWNERS SECURITY VENDOR BY  
 3 Silencer 1229A GREY TR  
 NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware. Provide filler /  
 adapter plates as required.  
 Operation: Door normally closed and locked. Presentation of valid credential (or Remote Release @  
 C101-2) releases electric strike allowing entry. Mechanical key bypass. Egress always allowed.  
 Coordinate wiring / installation with GC / EC / Security Vendor.

**Set #005 - Electrical Panels**

Doors: C201-4  
 6 Butt Hinge FBB179 4.5" x 4.5" NRP 26D ST  
 1 Manual Flushbolt 3917-12 626 TR  
 NOTE: Top Bolt Only  
 1 Storeroom Lockset 9K3-7D15D STD 7/8"LTC 626 BE  
 2 Overhead Stop 9020 Series US32D AB  
 1 Astragal 139 SP 84" NA  
 2 Silencer 1229A GREY TR  
 NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware. Provide filler /  
 adapter plates as required.

**Set #006 - Open Team Space**

Doors: C201-2  
 6 Butt Hinge FBB179 4.5" x 4.5" NRP 26D ST  
 1 Exit Device FL MLR TS 2202 X 4902A LBR SNB (8) 630 PR  
 1 Exit Device FL MLR TS 2203 X 4903A LBR SNB (8) 605 PR  
 1 Rim Cylinder 12E-72 STD 626 BE  
 1 Closer 8916 SPA SN1 689 DM  
 NOTE: @ LHR Leaf  
 1 Closer 8916 S-DS SN1 689 DM  
 NOTE: @ RHR Leaf  
 2 Kick Plate K0050 10" x 1" LDW B4E CSK 630 TR  
 1 Wall Bumper 1270CX 626 TR  
 NOTE: @ LHR Leaf  
 2 Door Position Switch DPS BY OWNER'S SECURITY VENDOR BY  
 1 Card Reader CARD READER BY OWNER'S SECURITY VENDOR BY  
 1 Power Supply RPSMLR2 PR  
 2 Harness WH-192P ST  
 2 Harness WH-XXP LAR ST  
 2 Power Transfer EPT-12C PR  
 2 Harness WH-6E ST  
 1 Gasketing 2525 C @ Head & Jambs NA  
 1 Meeting Stile Seal 5070 C NA  
 NOTE: Operation: Locked Hours: Doors closed and locked. Presentation of valid credential retracts exit  
 device latchbolts allowing entry.  
 Scheduled Hours: Exit device latchbolts held in a retracted position allowing doors to be manually  
 pulled open.  
 Upon activation of the building fire alarm system or loss of power, exit device latchbolts will project and  
 secure the doors. Egress always allowed.  
 Coordinate wiring / installation with GC / EC / Security Vendor.

**Set #007 - Cross Corridor**

Doors: C201-1

6	Butt Hinge	FBB179 4.5" x 4.5" NRP	26D	ST	
1	Exit Device	FL MLR TS 2202 X 4902A LBR SNB (8)	630	PR	
1	Exit Device	FL MLR TS 2203 X 4903A LBR SNB (8)	605	PR	
1	Rim Cylinder	12E-72 STD	626	BE	
2	Closer	8916 SPA SN1	689	DM	
2	Kick Plate	K0050 10" x 1" LDW B4E CSK	630	TR	
2	Wall Bumper	1270CX	626	TR	
2	Door Position Switch	DPS BY OWNER'S SECURITY VENDOR		BY	
1	Card Reader	CARD READER BY OWNER'S SECURITY VENDOR			BY
1	Power Supply	RPSMLR2		PR	
2	Harness	WH-192P		ST	
2	Harness	WH-XXP LAR		ST	
2	Power Transfer	EPT-12C		PR	
2	Harness	WH-6E		ST	
1	Gasketing	2525 C @ Head & Jambs		NA	
1	Meeting Stile Seal	5070 C		NA	

NOTE: Operation: Locked Hours: Doors closed and locked. Presentation of valid credential retracts exit device latchbolts allowing entry.

Scheduled Hours: Exit device latchbolts held in a retracted position allowing doors to be manually pulled open.

Upon activation of the building fire alarm system or loss of power, exit device latchbolts will project and secure the doors. Egress always allowed.

Coordinate wiring / installation with GC / EC / Security Vendor.

**Set #008 - Learning Specialist**

Doors: A112

3	Butt Hinge	FBB179 4.5" x 4.5"	26D	ST	
1	Entrance Lockset	9K3-7AB15D STD S3	626	BE	
1	Closer	8916 IS SN1	689	DM	
1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR	
3	Silencer	1229A	GREY	TR	

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #009 - Offices**

Doors: A100.3, A109.2

3	Butt Hinge	FBB179 4.5" x 4.5"	26D	ST	
1	Entrance Lockset	9K3-7AB15D STD S3	626	BE	
1	Wall Bumper	1270CV	626	TR	
1	Gasketing	2525 C @ Head & Jambs		NA	

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #010 - Office**

Doors: A100.4

3	Butt Hinge	FBB179 4.5" x 4.5"	26D	ST	
1	Entrance Lockset	9K3-7AB15D STD S3	626	BE	
1	Dome Stop	1211	626	TR	
1	Gasketing	2525 C @ Head & Jambs		NA	

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #011 - Conference Room**

Doors: A100.5

3	Butt Hinge	FBB179 4.5" x 4.5" NRP	26D	ST
1	Classroom Lockset	9K3-7R15D STD S3	626	BE
1	Wall Bumper	1270CX	626	TR
1	Gasketing	2525 C @ Head & Jambs		NA

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #012 - Toilet**

Doors: T103, T104-1

3	Butt Hinge	FBB179 4.5" x 4.5"	26D	ST
1	Privacy Set	45H-0LT15H VIB	626	BE
1	Mop Plate	KM050 6" x 1" LDW B4E CSK	630	TR
1	Wall Bumper	1270CX	626	TR
1	Gasketing	2525 C @ Head & Jambs		NA

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #013 - Kitchen Storage**

Doors: A109-1

3	Butt Hinge	FBB179 4.5" x 4.5"	26D	ST
1	Storeroom Lockset	9K3-7D15D STD 7/8"LTC	626	BE
1	Closer	8916 IS SN1	689	DM
1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR
1	Mop Plate	KM050 6" x 1" LDW B4E CSK	630	TR
3	Silencer	1229A	GREY	TR

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #014 - Locker Room**

Doors: A109.1

3	Butt Hinge	FBB179 4.5" x 4.5"	26D	ST
1	Passage Set	9K3-0N15D S3	626	BE
1	Closer	8916 AF89P SN1	689	DM
1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR
1	Mop Plate	KM050 6" x 1" LDW B4E CSK	630	TR
1	Wall Bumper	1270CX	626	TR
3	Silencer	1229A	GREY	TR

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #015 - Kitchen**

Doors: A109-2

6	Butt Hinge	FBB179 4.5" x 4.5" NRP	26D	ST
1	Manual Flushbolt	3917-12	626	TR
	NOTE: Top Bolt Only			
1	Classroom Lockset	9K3-7R15D STD 7/8"LTC	626	BE
2	Overhead Holder	9010 Series	US32D	AB
2	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR
2	Mop Plate	KM050 6" x 1" LDW B4E CSK	630	TR
1	Astragal	139 SP 84"		NA
2	Silencer	1229A	GREY	TR

**Set #016 - Corridor Egress Doors**

Doors: C101-3, C103-2

6	Butt Hinge	FBB168 4.5" x 4.5" NRP	26D	ST	
1	Exit Device	FL 2201 LBR SNB (8)	630	PR	
1	Exit Device	FL 2208 X 4908A LBR SNB (4)	630	PR	
1	Rim Cylinder	12E-72 STD	626	BE	
2	Electromagnetic Door Holder		2100	US32D	AB
2	Closer	8916 SPA SN1	689	DM	
2	Kick Plate	K0050 10" x 1" LDW B4E CSK	630	TR	
1	Gasketing	2525 C @ Head & Jambs		NA	
1	Meeting Stile Seal	5070 C		NA	

NOTE: Operation: Doors may be held open by magnetic wall holders. Upon activation of the building fire alarm system, the magnetic wall holders release allowing doors to close and latch. Coordinate wiring / installation with GC / EC / FAC.

**Set #017 – NOT USED**

**Set #018 - Copy / Work**

Doors: A100.1

3	Butt Hinge	FBB179 4.5" x 4.5" NRP	26D	ST	
1	Dbl Cyl Lockset	9K3-7W15D STD S3	626	BE	
1	Electric Strike	BES-L65ULMKM		BE	
1	Closer	8916 IS SN1	689	DM	
1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR	
1	Power Supply	DKPS-2A		DM	
1	Door Position Switch	DPS BY OWNER'S SECURITY VENDOR		BY	
2	Card Reader	CARD READER BY OWNER'S SECURITY VENDOR			BY
3	Silencer	1229A	GREY	TR	

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.  
 Operation: Door normally closed and locked from both sides. Presentation of valid credential releases electric strike allowing entry / exit from Copy/Work Room.  
 Coordinate wiring / installation with GC / EC / Security Vendor.

**Set #019 - Mulit-Purpose / Caf**

Doors: A111-1, A111-2

6	Butt Hinge	FBB168 4.5" x 4.5" NRP	26D	ST	
1	Exit Device	2202 X 4902A CD LBR	630	PR	
1	Exit Device	2203 X 4903A CD LBR	605	PR	
1	Rim Cylinder	12E-72 STD	626	BE	
2	Mortise Cylinder	1E-74 STD	626	BE	
2	Closer	8916 SPA SN1	689	DM	
2	Kick Plate	K0050 10" x 1" LDW B4E CSK	630	TR	
2	Wall Bumper	1270CX	626	TR	
1	Gasketing	2525 C @ Head & Jambs		NA	
1	Meeting Stile Seal	5070 C		NA	

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #020 - Stair Lobby / Caf Entrance**

Doors: A001-2

6	Butt Hinge	FBB168 4.5" x 4.5" NRP	26D	ST
2	Exit Device	FL 2208 X 4908A LBR SNB (4)	630	PR
2	Rim Cylinder	12E-72 STD	626	BE
2	Closer	8916 S-DS SN1	689	DM
2	Kick Plate	K0050 10" x 1" LDW B4E CSK	630	TR
1	Gasketing	2525 C @ Head & Jambs		NA
1	Meeting Stile Seal	5070 C		NA

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #021 - Lobby Entrances**

Doors: A001-1, A100-1

6	Butt Hinge	FBB168 4.5" x 4.5" NRP	26D	ST
1	Exit Device	MLR TS 2202 X 4902A LBR LD SNB (8)	605	PR
1	Exit Device	MLR TS 2203 X 4903A LBR LD SNB (8)	630	PR
1	Rim Cylinder	12E-72 STD	626	BE
1	Closer	8916 SPA SN1	689	DM
1	Closer	8916 S-DS SN1	689	DM
2	Kick Plate	K0050 10" x 1" LDW B4E CSK	630	TR
1	Wall Bumper	1270CX	626	TR
2	Door Position Switch	DPS BY OWNER'S SECURITY VENDOR		BY
1	Card Reader	CARD READER BY OWNER'S SECURITY VENDOR		BY
1	Power Supply	RPSMLR2		PR
2	Harness	WH-192P		ST
2	Harness	WH-XXP LAR		ST
2	Power Transfer	EPT-12C		PR
2	Harness	WH-6E		ST
1	Gasketing	2525 C @ Head & Jambs		NA
1	Meeting Stile Seal	5070 C		NA

NOTE: Operation: Locked Hours: Doors closed and locked. Presentation of valid credential or remote release retracts exit device latchbolts allowing entry.

Scheduled Hours: Exit device latchbolts held in a retracted position allowing doors to be manually pulled open. Upon activation of the building fire alarm system or loss of power, exit device latchbolts will project and secure the doors. Egress always allowed.

Coordinate wiring / installation with GC / EC / Security Vendor.

**Set #022 - Kitchen**

Doors: A110-2, A110-3

3	Butt Hinge	FBB179 4.5" x 4.5" NRP	26D	ST
1	Deadlock	48H-7K STD	626	BE
1	Push Plate	1001-9 (CFC If Req'd)	630	TR
1	Flush Pull	1111C	630	TR
1	Closer	8916 AF89P SN1	689	DM

NOTE: Templated to 180 Degrees

1	Kick Plate	K0050 10" x 2" LDW B4E CSK	630	TR
1	Mop Plate	KM050 6" x 1" LDW B4E CSK	630	TR
1	Wall Stop and Holder	1283-6S	626	TR
3	Silencer	1229A	GREY	TR

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.

**Set #023 - Kitchen Delivery**

Doors: A109-3

6	Hinges	FBB199 4.5" x 4.5" NRP	32D	ST
1	Exit Device	2801 X 4901 CD SNB (2)	630	PR
1	Exit Device	2803 X 4903A CD SNB (2)	630	PR
1	Rim Cylinder	12E-72 STD	626	BE
2	Mortise Cylinder	1E-74 STD	626	BE
2	Closer	8916 S-DST SN1	689	DM
2	Kick Plate	K0050 10" x 1" LDW B4E CSK	630	TR
2	Door Position Switch	DPS BY OWNER'S SECURITY VENDOR		BY
1	Drip Cap	16 A - 4" ODW		NA
1	Astragal Set	115 NA SET 84"		NA
2	Door Sweep	C607 A		NA
1	Gasketing	700 NA @ Head & Jambs		NA
1	Threshold	896HD N 1/4-20 SSMS/EA	AL	NA

NOTE: Prep / modify / repair existing door and/or frame to accept specified hardware.  
 Coordinate wiring / installation with GC / EC / Security Vendor.

**Set #024 - Storeroom**

Doors: C101-4

3	Butt Hinge	FBB179 4.5" x 4.5" NRP	26D	ST
1	Storeroom Lockset	9K3-7D15D STD S3	626	BE
1	Overhead Stop	9020 Series	US32D	AB
3	Silencer	1229A	GREY	TR

**Opening List**

Opening	Hdw Set	Opening Label
A101	001	
A102	001	
A103	001	
A104	001	
A105	001	
A106	001	
A107	001	
A108	001	
A112	008	
A201	001	
A202	001	
A203	001	
A204	001	
A205	001	
A206	001	
T101	003	
T102	003	
T103	012	
T201	002	
T202	002	
T203	003	
T204	003	
A001-1	021	
A001-2	020	
A100-1	021	
A100.1	018	
A100.3	009	
A100.4	010	
A100.5	011	
A109-1	013	
A109-2	015	
A109-3	023	
A109.1	014	
A109.2	009	
A110-2	022	
A110-3	022	
A111-1	019	
A111-2	019	
C101-2	004	
C101-3	016	45
C101-4	024	
C103-1	004	
C103-2	016	45
C201-1	007	45
C201-2	006	45
C201-3	004	
C201-4	005	
T104-1	012	

**END OF SPECIFICATION 087100**

## **SECTION 275123 - PAGING SYSTEM (Addendum 1)**

### **PART 1 – GENERAL**

#### **1.1 SUMMARY**

- A. The Contractor shall furnish and install all materials, labor, permits, equipment, etc. to provide a complete centrally controlled paging system including wire, control cabinet, loudspeakers, administrative telephone system connection, etc. as described herein and illustrated on the drawings for a complete operating system. The paging system shall provide all components necessary to pick-up, process, amplify, and reproduce both voice and or music sources. All equipment and installation material required shall be furnished a whether or not enumerated herein.

#### **1.2 SUBMITTALS**

- A. Submit manufacturer's product literature and installation instructions for all of the major components required for a complete and fully operational system. Submit system wiring diagrams for approval.
- B. Submit manufacturer's printed instructions for maintenance of all installed components, including methods for maintaining proper conditions and environment to provide optimum performance. Provide three complete sets of operating instructions including wiring and circuit diagrams.

#### **1.3 QUALIFICATIONS**

- A. Firms regularly engaged in the manufacture of professional and commercial sound system components with a minimum of five years experience in the design and installation of systems equal in size and type required by this project shall be accepted.
- B. The equipment supplier must maintain a local service organization within a fifty (50) mile radius of the installation with spare service replacement components and accessories as needed to ensure a potential down time of no less than eight (8) hours.
- C. The supplier must be an authorized representative of the equipment specified with authority to provide warranty rights and rebates. Full-time technicians shall be trained and certified in the installation and service of the equipment. A minimum NICET level 2 certification or in Low Voltage Communication Systems, CTS-I, or CTS-D is required for each full-time technician. Qualified installer must provide twenty-four (24) hours a day seven (7) days a week, as needed for system service and instructional procedures.

#### 1.4 MANUFACTURER

- A. The naming of the manufacturer or item is not intended to be restrictive, but rather to establish criteria for system design and quality. Other manufacturers shall be considered for use if submitted for approval ten (10) days prior to the published bid date. The alternate submission shall include all catalog cut sheets and a line-by-line comparison of the specified product, including inter-panel wiring diagrams and schematics. In addition, samples may be required to perform proper evaluation of the proposed alternate at no additional charge. Final approval of the alternate system shall be furnished in an addendum prior to the bid date.
- B. The approved manufacturers of the products are as listed below in the product specifications. An authorized distributor of these products is Berkshire Systems Group, Inc. (610) 775-1200.

#### 1.5 DESCRIPTION OF PAGING AND SOUND SYSTEM

- A. The Paging system shall be capable of reproducing high-quality sound that is free of noise and distortion at all loudspeakers at all times during equipment operation including standby mode with inputs off.
- B. The Paging System shall be tied to the central telephone system. Coordinate with the Telephone system Provider to configure the system for dial access paging from any phone on the system. Note that the contractor shall provide in his bid price any additional equipment required for satisfactory operation.
- C. Supply and install a complete Public Address System supporting 70-volt speakers and horns. The system shall be capable of three zones of paging and shall be configured to support future expansion.
- D. Provide wall mount volume controls in each conference room and as indicated on the drawings.

### PART 2 PRODUCTS

#### 2.1 ZONE CONTROL MODULE

- A. The zone paging system shall be the Bogen PCM2000 Zone Paging System, designed for direct connection to loop start and ground start trunks, to PBX or KEY paging ports which supply DTMF capability, and to analog T/R lines. The unit shall allow total system amplifier power of up to 250W. The unit shall include flanges with keyhole slots for wall mounted installation. Operation shall require a 12V (1.5A) DC power supply. A suitable power supply shall be provided (PCMPS2 power supply). The system shall consist of the appropriate modules as specified and shall be registered under Part 68 of FCC rules.

- B. Modules: All modules shall be designed for wall-mount installation. A rack mount kit shall be provided if the modules are mounted in a standard 19-inch equipment rack. All modules shall be equipped with a ribbon cable and connector and power cable with connector to permit them to be interconnected to each other. The face plates of each module shall be finished in black, with each control/connector clearly labeled in white. Each face plate shall have knockouts to facilitate cable and wire dressing. All connections shall be made using a small regular screwdriver or common jacks (RJ11 or RCA). Provide one (1) PCMTIM module shall be provided per PCM2000 system. The module shall provide for telephone interface selection via slide switches. It shall include a volume control for tone and BGM source, and RJ11 jacks for Override, Page Port/Trunk, and 90V Night Ring/Station inputs. A connector block, using screw terminal connections, shall be provided for BGM source, and two (2) C-form relay contact sets. A power-on LED indicator shall be provided to indicate power-applied status. One (1) PCM CPU module shall be provided for the first nine (9) zones in the system. The module shall provide for satellite system identification via built-in DIP switches. It shall include a locking program/run selector switch (with program LED), satellite data link RCA jack, and 12V DC power source jack. A connector block, using screw terminal connections, shall be provided for paging amplification connection, low-power and high-power BGM connections, emergency/shift change signal activation, AUX contact closure, and 12V DC power source connection. A power-on LED indicator shall be provided to indicate power applied status. Provide two (2) PCMZPM zone modules. Each module shall provide up to three (3) paging zones in the system.
- C. The PCM Zone Paging System shall supply the following features and functions:
1. Simultaneous high-power and low-power paging. Total system high-power audio capacity of 250W.
  2. A minimum of three paging zones and maximum zone capacity of ninety-nine (99) paging zones. The system shall be expandable in groups of three zones.
  3. Up to 32 field-programmable paging zone groups, each consisting of 1 to 99 zones.
  4. Field-programmable Night Ringer Zone Group, consisting of from 1 to 99 zones. This feature shall be activated by high voltage ring signal or contact closure.
  5. Field-programmable Bell Zone Group, consisting of from 1 to 99 zones. This feature shall require activation by a customer-supplied contact closure and sound a user-selected tone. The user shall have the choice of no tone (allowing use of outside tone source), tone burst (1-7 sec. duration, user-selected), single chime, or quad beep.
  6. Emergency All-Facility Page Override. This feature shall be activated through a loop start trunk or through contact closure and dry audio input. It shall override the normal paging features of the system, sound a user-defeatable alert tone in all zones, and open an audio channel for a voice page.
- D. Provide and install an Analog Telephone Adapter (ATA), as necessary, to connect to the Owner's VoIP Telephone System. The ATA set-up and configuration will be provided by the Owner or the Owner's telephone system provider.

## 2.2 PAGING AMPLIFIER

- A. The Paging Amplifier shall be Bogen model TPU100B or equal. The amplifier shall have a frequency response of +/- 1dB from 70Hz to 15kHz, and shall deliver rated power at less than 1% distortion.
- B. The amplifier shall permit paging from a telephone and/or microphone. A night ringer shall be included to alert personnel of incoming calls during non-business hours. The night ringer shall be activated by a contact closure or by 90-volt ring signal from the telephone line.

## 2.3 LOUDSPEAKERS

- A. The ceiling mounted loudspeaker assembly shall be Atlas Sound model SD72W utilizing line matching transformer and white CRS baffle. It shall have a 10 oz. Ceramic magnet and a seamless cone. Frequency response range shall be 45Hz – 19kHz (nominal). Sensitivity shall be 97db 1W/1M. The loudspeaker shall meet the following criteria: 25 watts peak, 15 watts RMS; Sensitivity: 97dB Average; transformer primary voltage: 25V/70.7; Insertion loss <1.5db. Equip each speaker assembly with an Atlas Sound EZ Mount Support System model EZ95-8.

## 2.4 ATTENUATORS

- A. Attenuators shall be Atlas Sound model AT10 auto-transformer or approved equal. The power rating shall be 10 watts and attenuation range shall be 3dB. Attenuation per step shall be 8 steps of 3dB and 6dB each for the last two positions. Provide quantities as shown on the drawings.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Comply with all installation parameters provided by the system manufacturer. Installation shall comply with manufacturer's drawings and printed instructions.
- B. Identify and label all cables on each end of the cable. Provide wire tags and a cross-reference sheet detailing each cable location.
- C. Furnish and install necessary conduit, wiremold, cable trays, pull boxes, outlet boxes, and cable to provide a complete system as herein specified. All wires shall be tested for continuity and freedom of all grounds and short circuits.
- D. All output wiring to the system loudspeakers shall be 18 AWG stranded twisted pair minimum.

### 3.2 SUPERVISION

- A. Installation of these systems shall be supervised by a factory trained representative who shall accompany the Owner's representative on an inspection of the entire system and shall demonstrate the entire systems performance.
- B. A complete operational test of the entire system shall be performed to demonstrate proper system function in accordance with the specified requirements. Correct any malfunctions within the system where necessary.

### 3.4 TRAINING

- A. Upon acceptance of the system by the Owner, arrangements shall be made to provide a minimum of two (2) hours of training for the Owner's representatives in proper and full potential operation of the system. The training session shall be scheduled through the Electrical Contractor, Construction Manager, Electrical Engineer, and Architect.
- B. Provide three (3) complete sets of bound operating instructions including circuit diagrams, part numbers, names, addresses and telephone numbers of parts and equipment sources.

### 3.5 WARRANTY

- A. The Contractor shall provide a system warranty covering the installed system against defects in workmanship, components, and performance, and follow-up support after project completion. The Contractor shall provide a one (1) year written warranty after system acceptance by the Owner.

END OF SECTION 275123

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## **SECTION 275313 - CLOCK SYSTEM (*Addendum 1*)**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. The Contractor shall furnish and install, as hereinafter specified, a complete centrally controlled master and secondary clock system ready for operation.

#### **1.2 SUBMITTALS FOR REVIEW**

- A. Submit under provisions of Section 270010.
- B. Shop Drawings: The following items shall be submitted for review and approval:
  - 1. Submittal booklet to include the following:
    - a. Reference to Specification Section.
    - b. A list of all equipment to be provided and installed in the system.
    - c. Data sheets of all items to be provided with specific item or model number highlighted.
    - d. Basic riser diagram to include all equipment and all wiring required.

#### **1.3 SUBMITTALS FOR CLOSEOUT**

- A. Submit under provisions of Section 270010.
- B. Operation Data: Include instructions for operating equipment. Include instructions for operating equipment under normal conditions.
- C. Maintenance Data: Include data in the Maintenance Manual specified in Non-Technical Specifications and Division 27 Section "Technology General Requirements".
- D. Maintenance Instructions: Submit manufacturer's printed instructions for maintenance of installed work, including methods and frequency recommended for maintaining optimum condition under use conditions. Submit 3 complete sets of operating instructions including wiring and circuit diagrams. All manuals shall be delivered on CD-ROM. Site specific wiring diagrams and installation information shall be in PDF format with book-marked links.
- E. Inventory: Supply with the manuals an inventory of the equipment provided.

#### 1.4 QUALIFICATIONS

- A. Manufacturer: Equipment manufactured by Sapling, Inc. shall be considered as meeting these specifications. The naming of the manufacturer or item of material is not intended to be restrictive, but rather to establish criteria for design and quality. Catalog and model numbers are intended to indicate type, quality of design, material, as well as exact operating features required.
- B. Other manufacturers' shall be considered for use if submitted for approval in accordance with the requirements of Division 1. The alternate system submission shall include all inter-panel wiring diagrams. Any prior approval of an alternate system does not automatically exempt the alternate supplier from meeting the intent of these specifications. Final approval of the alternate system shall be determined at the time of job completion. Failure to provide the "precise functional equivalent" shall result in the removal of the system at the contractor's expense. The submittal shall include published literature which clearly indicates specific compliance of products with requirements of this specification.
- C. Supplier: The supplier must have a minimum of five years experience in the design and installation of systems equal in size and type required by this project. The supplier must maintain a local service organization within a fifty (50) mile radius of the installation with spare service replacement boards, components and accessories.
- D. The supplier must be the authorized representative of the equipment manufacturer supplied and have full-time technicians trained and certified in the installation and service of the equipment supplied.

#### 1.5 REGULATORY REQUIREMENTS

- A. Electrical Code Compliance: Comply with applicable local code requirements of the authority having jurisdiction, and that portion of the NEC which pertains to installation and construction of specified products.
- B. FCC Compliance: Comply with U.S. Federal Communication Class B standard for allowable radiation from equipment and wiring.
- C. Institute for Electrical and Electronic Engineers (IEEE): Comply with all applicable standards for audio, video, and data networks.
- D. Americans with Disabilities Act (ADA): - Accessibility Guidelines for buildings and Facilities.

#### 1.6 WARRANTY

- A. Provide the warranty specified in Section 270010.

## PART 2 - PRODUCTS

### 2.1 WIRELESS MASTER CLOCK

- A. The central control console shall include a Master Clock Control System, Sapling model SMA-3R0-1004-1. It shall be microprocessor-based and user-programmable through its electronic keypad. The unit will permit programming, diagnostics, and activity logging through connection to the Administrative Computer. Provide all necessary power supplies, buffer relays, and interconnection wiring that is required for the complete system operation.
- B. The system shall provide the following functions:
1. Capacity for storing 800 events in non-volatile memory.
  2. Ability to review, edit and delete events.
  3. Review of events from any entered time of day.
  4. Events shall be programmable to any one or all of eight (8) zone circuits.
  5. Selection of any one of eight (8) schedules to allow flexibility due to seasonal changes or special events.
  6. Fully automatic holiday program execution. Bells can be silenced or special schedules can be implemented. Normal bells will resume after the holiday period.
  7. User-programmable Automatic Daylight Savings Time Change.
  8. Programmable Music-on-Class-Change, This feature shall be programmable from 1 to 15 minutes.
  9. Separate bell duration for each zone circuit.
  10. Latched operation of zones to control lighting or other devices.
  11. Ability to test all output zone circuits.
  12. Accumulation of down time during power outage to reset slave clocks, both minute-impulse and synchronous types after the power has been restored.
  13. User-programmable custom slave clock correction.
  14. Output relays rated at 5 amperes shall be provided on all four (4) zone circuits.
  15. Crystal-controlled timebase for assured accuracy.
  16. Lithium battery will provide not less than 10 years battery back-up for timekeeping function.
- C. Provide interface with modules and power supplies as required for synchronization of the Master Clock with an Internet national atomic time source. Provide for synchronization of Master Clock time base with Sapling secondary clock correction transmitter(s). Provide Sapling SMA-1000 series repeaters, as necessary for a complete and first class operating system.

### 2.2 WIRELESS ANALOG SECONDARY CLOCKS

- A. The following equipment shall be furnished and installed in all locations and quantities as shown on the plans:

1. Secondary Clocks shall be Sapling Model SBL-31S-254-1R wireless 2.5" secondary digital clocks. The clocks shall be powered 120VAC.
2. Provide Sapling model SBL-31S-404-1R wireless 4" digital clocks in the Gym, Cafeteria and Academic Commons.
3. Provide wireguards for clocks in the Gym.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Comply with installation instructions provided by system manufacturer.
- B. Install system to comply with drawings and final shop drawings in compliance with manufacturer's printed instructions.

### 3.2 DEMONSTRATION

- A. Programming: Review all system programming with the owner's representative and the engineer, and obtain written approval before system is put on line. Telephone service interface shall be arranged by the Owner.
- B. Subsequent to hookups of equipment, test the entire system and demonstrate proper functioning in accordance with requirements. Where necessary, correct malfunctioning units, and then retest to demonstrate compliance.
- C. Documentation: Bind the test results and cable identification in a cable record book indexed for easy reference during future maintenance operations. Turn book over to the owner's authorized representative upon completion of commissioning.

### 3.3 TRAINING

- A. Personnel Training: Provide and pay for the services of a factory-authorized service representative to demonstrate the system and train Owners personnel.
  1. Provide training for operating, testing, troubleshooting and general maintenance of the system.
  2. Provide a minimum of two, 2 hour sessions with at least 2 weeks advance notice and 2 weeks apart.
  3. Provide documentation of sessions to Architect/Engineer with signatures of at least 3 Owners Representatives present at demonstration.

END OF SECTION 275313

## **SECTION 282000 - VIDEO SURVEILLANCE (*Addendum 1*)**

### **PART 1 GENERAL**

#### **1.1 SECTION INCLUDES**

- A. Video surveillance system requirements.
- B. Video recording and viewing equipment.
- C. Cameras.
- D. Accessories.

#### **1.2 RELATED REQUIREMENTS**

- A. Section 07 8400 - Firestopping.
- B. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- C. Section 26 0529 - Hangers and Supports for Electrical Systems.
- D. Section 26 0533.13 - Conduit for Electrical Systems.
- E. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.
- F. Section 27 1000 - Structured Cabling: Data cables for IP video surveillance system network connections.
- G. Section 28 1000 - Access Control: For interface with video surveillance system.
- H. Section 28 3111 - Building Intrusion Detection: For interface with video surveillance system.

#### **1.3 REFERENCE STANDARDS**

- A. 47 CFR 15 - Radio Frequency Devices; current edition.
- B. IEEE C2 - National Electrical Safety Code(R) (NESC(R)); 2023.
- C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- D. NECA 303 - Standard for Installing and Maintaining Closed-Circuit Television (CCTV) Systems; 2019.
- E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate the placement of cameras with structural members, ductwork, piping, equipment, luminaires, diffusers, fire suppression system components, and other potential conflicts installed under other sections or by others.
  - 2. Coordinate the work with other installers to provide power for cameras and equipment at required locations.
  - 3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.
- B. Preinstallation Meetings:
  - 1. Conduct meeting with facility representative to review camera and equipment locations and camera field of view objectives.
  - 2. Conduct meeting with facility representative and other related equipment manufacturers to discuss video surveillance system interface requirements.

#### 1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Include plan views indicating locations of system components and proposed size, type, and routing of conduits and/or cables. Include elevations and details of proposed equipment arrangements. Include system interconnection schematic diagrams. Include requirements for interface with other systems.
- C. Product Data: Provide manufacturer's standard catalog pages and data sheets for each system component. Include ratings, configurations, standard wiring diagrams, dimensions, finishes, service condition requirements, and installed features.
- D. Design Data:
  - 1. Video storage capacity calculations.
- E. Certify that proposed system design and components meet or exceed specified requirements.
- F. Evidence of qualifications for installer.
- G. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and operation of product.
- H. Manufacturer's detailed field testing procedures.
- I. Field quality control test reports.
- J. Project Record Documents: Record actual locations of system components and installed wiring arrangements and routing.

- K. Operation and Maintenance Data: Include detailed information on system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.
- L. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.
- M. Software: One copy of software not resident in read-only memory.

#### 1.6 QUALITY ASSURANCE

- A. Comply with the following:
  - 1. NFPA 70.
  - 2. Applicable TIA/EIA standards.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience with video surveillance systems of similar size, type, and complexity and providing contract maintenance service as a regular part of their business; authorized manufacturer's representative.
- C. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions and NECA 303.
- B. Store products in manufacturer's unopened packaging, keep dry and protect from damage until ready for installation.

#### 1.8 FIELD CONDITIONS

- A. Maintain field conditions within manufacturer's required service conditions during and after installation.

#### 1.9 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide minimum one year manufacturer warranty covering repair or replacement due to defective materials or workmanship.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Video Recording and Viewing Equipment - Basis of Design: Hikvision/LTS.
- B. Video Recording and Viewing Equipment - Other Acceptable Manufacturers:
  - 1. None. Contractor shall expand the existing system.
- C. Cameras - Basis of Design: Hikvision.
- D. Cameras - Other Acceptable Manufacturers:
  - 1. None. Contractor shall utilize District standard and expand existing system.

### 2.2 VIDEO SURVEILLANCE SYSTEM

- A. Provide modifications and extensions to existing video surveillance system consisting of all required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.
- B. System Description: IP system with connection to network (IP) cameras.
  - 1. Video Storage Capacity: Suitable for storing video from all cameras for 30 days.
  - 2. System Battery Backup: Provide batteries/uninterruptible power supplies (UPS) as required for 30 minutes full operation.
  - 3. Surge Protection:
    - a. Provide surge protection for exterior cameras.
- C. Cameras Required:
  - 1. See article "CAMERAS" below for product descriptions.
- D. Video Recording and Viewing Equipment Required:
  - 1. See article "VIDEO RECORDING AND VIEWING EQUIPMENT" below for product descriptions.
- E. Interface with Other Systems:
  - 1. Provide products compatible with other systems requiring interface with video surveillance system.
  - 2. Interface with access control system as specified in Section 28 1000.
- F. Provide products listed, classified, and labeled as suitable for the purpose intended.
- G. Electromagnetic Interference/Radio Frequency Interference (EMI/RFI) Limits: Comply with FCC requirements of 47 CFR 15, for Class B, consumer application.

## 2.3 VIDEO RECORDING AND VIEWING EQUIPMENT

- A. Provide video recording and viewing equipment compatible with cameras to be connected.
- B. Network Video Recorders (NVRs):
  - 1. Supports connection of network (IP) cameras.
  - 2. Supports continuous and event-based recording.
  - 3. Network Video Recorder:
    - a. Capacity: Capacity for all new cameras installed under this project plus a minimum of (6) additional future cameras..
    - b. Recording and Viewing Performance: 30 fps at 8MP resolution.
    - c. Storage Capacity: As required for 30 Day Storage..
    - d. Removable Media: DVD-RW, USB.
    - e. Network: Single 1 Gigabit Ethernet.
    - f. Features:
      - 1) Supports PTZ camera control.
      - 2) Supports remote access via desktop and mobile device.
- C. Computers:
  - 1. Workstation Computers: Unless otherwise indicated, workstation computer hardware not furnished by video surveillance system manufacturer to be provided by others, meeting video surveillance system equipment manufacturer's minimum requirements.
  - 2. Servers: Unless otherwise indicated, server hardware not furnished by video surveillance system manufacturer to be provided by Contractor as part of work of this section, meeting video surveillance system equipment manufacturer's minimum requirements.
- D. Software:
  - 1. Unless otherwise indicated, provide all software and licenses required for fully operational system.
  - 2. Video Management System:
- E. Monitors:
  - 1. Unless otherwise indicated, monitors to be provided by Contractor as part of work of this section.

## 2.4 CAMERAS

- A. Provide cameras and associated accessories suitable for operation under the service conditions at the installed location. Provide additional components (e.g. enclosures, heaters, blowers, etc.) as required.
- B. Where not factory-installed, provide additional components (e.g. lenses, mounting accessories, etc.) as necessary for complete installation.

- C. Network (IP) Cameras:
  - 1. Signal-to-Noise Ratio: Not less than 50 dB.
  - 2. Provide the following standard features:
    - a. Automatic electronic shutter.
    - b. Automatic gain control.
    - c. Automatic white balance.
    - d. Web-based interface for remote viewing and setup.
    - e. Password protected security access.
  - 3. Network (IP) Indoor Fixed Dome Camera Type POE Indoor:
    - a. Basis of Design: Hikvision Model: DS-2CD2745FWD-IZS.
    - b. Resolution: 4MP.
    - c. Lens: Motorized varifocal lens.
    - d. Power: Power over Ethernet (IEEE 802.3af).
  - 4. Network (IP) Outdoor Fixed Bullet Camera.
    - a. Basis of Design: Hikvision Model: DS-2CD2665G0-IZS.
    - b. Resolution: 6MP
    - c. Lens: Motorized varifocal lens.
    - d. Power: Power over Ethernet (IEEE 802.3af).

## 2.5 ACCESSORIES

- A. Camera Enclosures: Where not factory-installed, provide camera enclosures suitable for operation under service conditions at installed location.
- B. Camera Mounting Supports: Where not factory installed, provide mounting supports necessary for installation.
- C. Provide components as indicated or as required for connection of video surveillance system to devices and other systems indicated.
- D. Provide components as indicated or as required for system power and network connections.
- E. Provide cables as indicated or as required for connections between system components.
- F. Provide accessory racks/cabinets as indicated or as required for equipment mounting.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that field measurements are as indicated.

- B. Verify that ratings and configurations of system components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive system components.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to system where applicable.
- E. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 INSTALLATION

- A. Install video surveillance system in accordance with NECA 1 (general workmanship) and NECA 303.
- B. Install products in accordance with manufacturer's instructions.
- C. Provide required support and attachment in accordance with Section 26 0529.
- D. Wiring Method: Unless otherwise indicated, use cables (not in conduit).
  - 1. Use suitable listed cables in wet locations, including underground raceways.
  - 2. Use suitable listed cables for vertical riser applications.
  - 3. Use listed plenum rated cables in spaces used for environmental air.
  - 4. Install wiring in conduit for the following:
    - a. Where required for rough-in.
    - b. Where required by authorities having jurisdiction.
    - c. Where exposed to damage.
    - d. Where installed outside the building.
    - e. For exposed connections from outlet boxes to cameras.
  - 5. Conduit: Comply with Section 26 0533.13.
  - 6. Conceal all cables unless specifically indicated to be exposed.
  - 7. Cables in the following areas may be exposed, unless otherwise indicated:
    - a. Equipment closets.
  - 8. Route exposed cables parallel or perpendicular to building structural members and surfaces.
  - 9. Include service loop cable lengths to allow relocation of cameras within 30 ft of installed location.
- E. Provide grounding and bonding in accordance with Section 26 0526.
- F. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
- G. Identify system wiring and components in accordance with Section 26 0553.

### 3.3 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Prepare and start system in accordance with manufacturer's instructions.
- C. Adjust cameras to provide desired field of view and produce suitable images under all service lighting conditions.
- D. Program system parameters according to requirements of Owner.
- E. Test for proper interface with other systems.
- F. Correct defective work, adjust for proper operation, and retest until entire system complies with Contract Documents.

### 3.4 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

### 3.5 CLOSEOUT ACTIVITIES

- A. See Section 01 7800 - Closeout Submittals, for closeout submittals.
- B. Demonstration: Demonstrate proper operation of system to Owner, and correct deficiencies or make adjustments as directed.
- C. Training: Train Owner's personnel on operation, adjustment, and maintenance of system.
  - 1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
  - 2. Provide minimum of four hours of training.
  - 3. Instructor: Manufacturer's authorized representative.
  - 4. Location: At project site.

### 3.6 PROTECTION

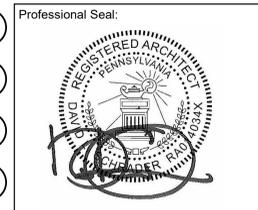
- A. Protect installed system components from subsequent construction operations.

END OF SECTION 282000

Consultants:  
 Civil:  
**T&M Associates**  
 74 West Broad Street, Suite 530  
 Bethlehem, PA 18018  
 (610) 625-2999

MEP:  
**SNYDER HOFFMAN**  
 1005 West Lehigh Street  
 Bethlehem, PA 18018  
 (610) 694-8020

Structural Engineer:  
**SCHRADERGROUP**  
 153 East King Street, Suite 211-212  
 Lancaster, PA 17602  
 717.299.8965



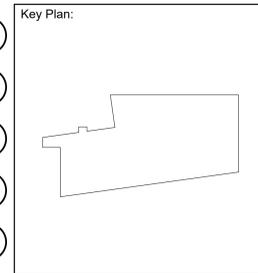
Owner:  
**CHESTER UPLAND  
 SCHOOL DISTRICT**  
 232 W. 9th Street  
 Chester, PA 19013

**1350 EDMONT AVENUE  
 RENOVATIONS**  
**1350 EDMONT AVENUE  
 CHESTER, PA 19013**

ISSUED FOR:

NO.	DESCRIPTION	DATE
	BUILDING PERMIT SET	01/30/2023
	ISSUED FOR BIDDING	01/30/2023
AD1	ADDENDUM #1	Date 3

DATE: 01/30/2023  
 SG PROJECT NUMBER: 22-023.1

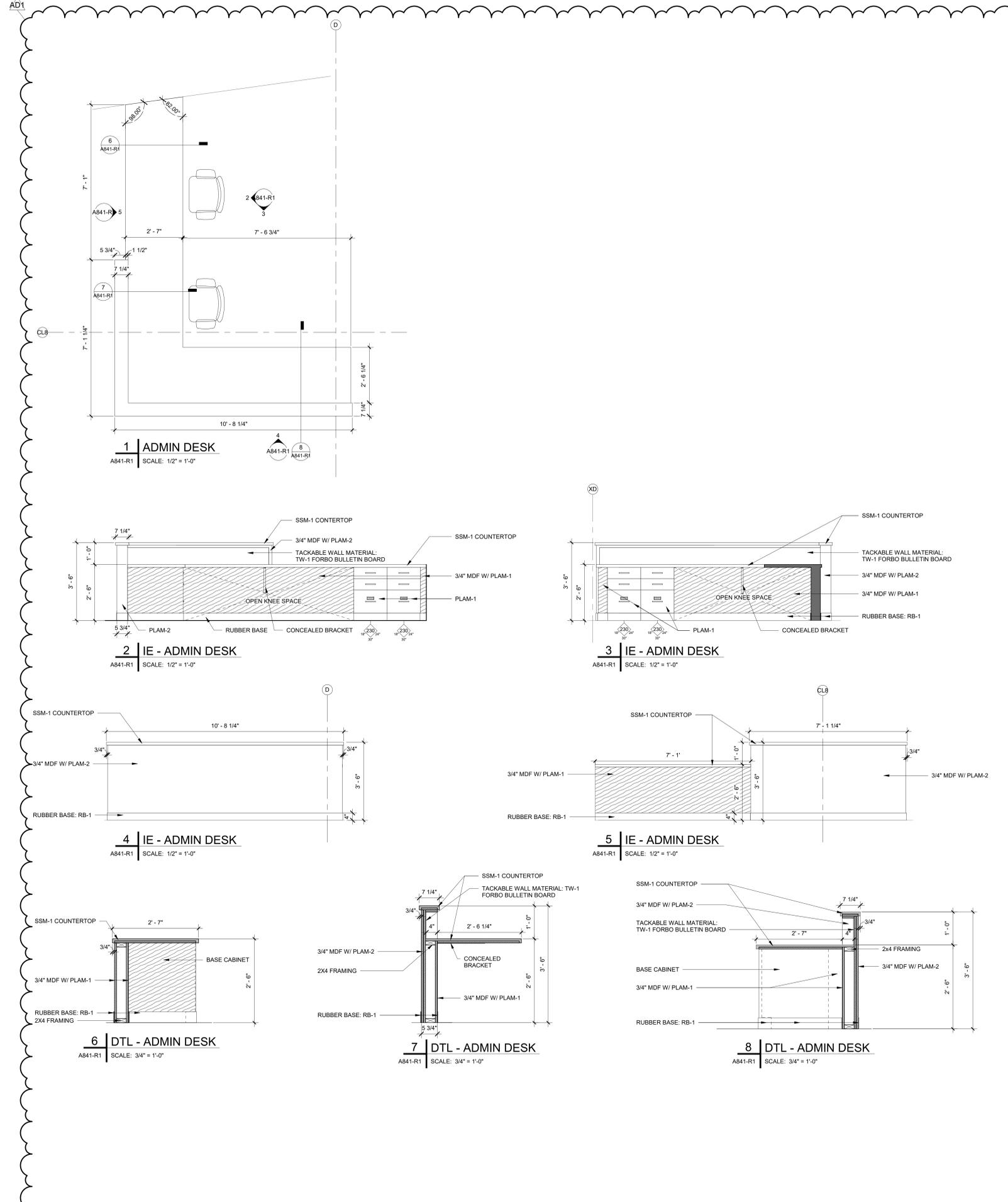


Drawing Title:  
**CASEWORK LEGEND**

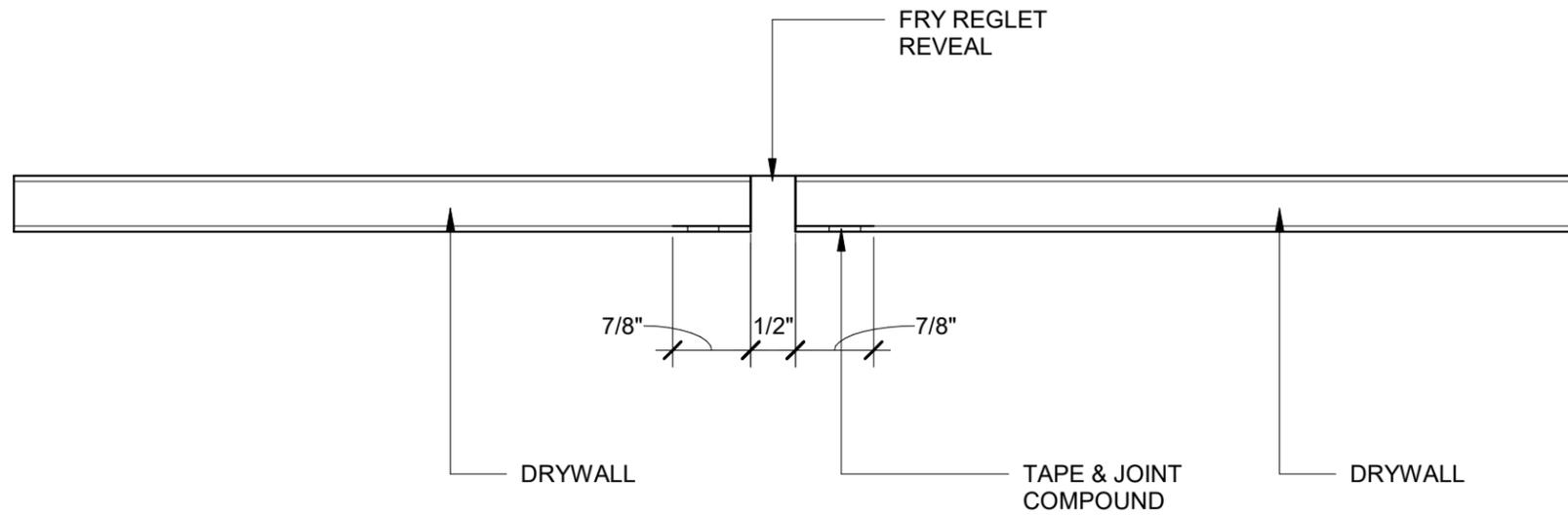
Drawing Number:  
**A841-R1**

Model	Height	Width	Depth
100	2'-10"	1'-9"	2'-0"
101	2'-10"	2'-0"	2'-0"
102	2'-10"	2'-6"	2'-0"
102	2'-10"	2'-9"	2'-0"
102	2'-10"	3'-0"	2'-0"
130	2'-6"	3'-6"	1'-2"
140A	2'-10"	3'-0"	2'-0"
230	2'-6"	1'-6"	2'-0"
240	2'-10"	1'-9"	2'-0"
240	2'-10"	2'-0"	2'-0"
240	2'-10"	2'-6"	2'-0"
300	4'-2"	3'-0"	1'-6"
301	1'-2"	1'-9"	1'-2"
301	2'-6"	1'-9"	1'-2"
301	2'-6"	2'-0"	1'-2"
302	1'-6"	2'-6"	1'-2"
302	2'-6"	3'-0"	1'-2"
302	2'-6"	3'-0"	1'-6"
400	7'-0"	3'-0"	2'-0"
402	7'-0"	3'-0"	2'-0"
500	7'-0"	3'-0"	2'-0"

NOTES:  
 1. CONTRACTOR TO PROVIDE CASEWORK FILLER PANELS TO MATCH CASEWORK FINISH WHERE NECESSARY TO COMPLETE A LINE OF CASEWORK.  
 2. CONTRACTOR TO REVIEW ALL MECHANICAL, PLUMBING, ELECTRICAL, AND AV DRAWINGS TO COORDINATE LOCATION OF ALL SERVICES THAT MAY BE ROUTED THROUGH AND AROUND CASEWORK.  
 3. FOR EXACT ELEVATION OF DOORS AND WINDOWS, REFER TO DOOR AND WINDOW ELEVATION DRAWINGS.  
 4. ALL BASE CASEWORK WITH HEIGHT @ 2'-10" SHALL HAVE ACTUAL DIMENSIONS TO ENSURE HEIGHT OF SINK DOES NOT EXCEED 34" A.F.F. THIS APPLIES TO ALL BASE CASEWORK WITH AND WITHOUT SINKS OR TO KEEP HEIGHTS IN VIEW.

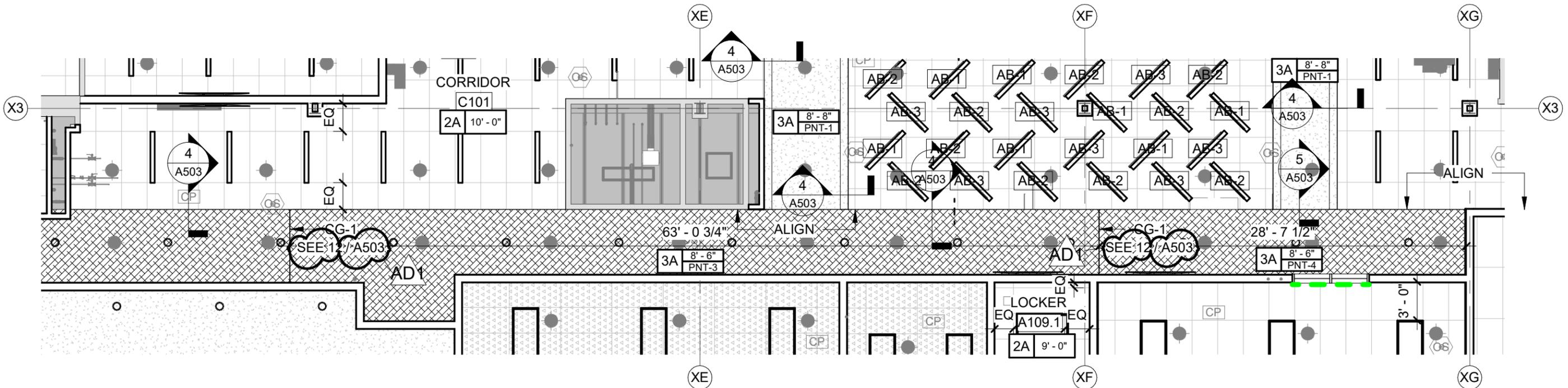


AD1



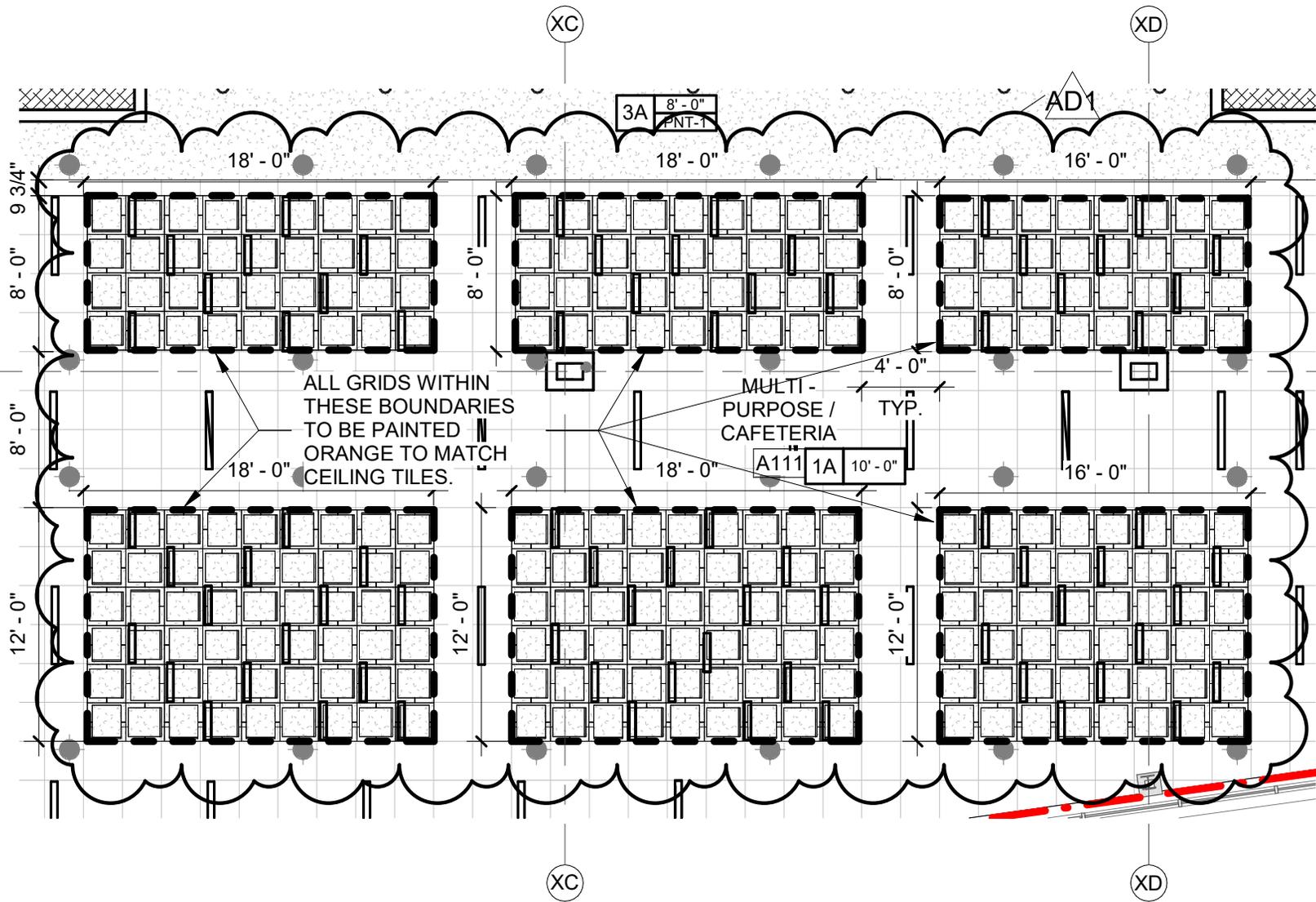
# 1 FRY REGLET DRYWALL REVEAL

AD1-A01 SCALE: 6" = 1'-0" REFERENCE: 12/A503



# 2 FIRST FLOOR REFLECTED CEILING PLAN

AD1-A01 SCALE: 1/8" = 1'-0"



Drawing Number:  
**AD1-**  
**A02**

Drawing Title:  
**FIRST FLOOR REFLECTED CEILING PLAN**

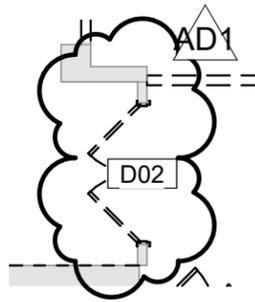
Date: 02/15/23  
 Scale: 1/8" = 1'-0"

New Construction of:  
**1350 EDMONT AVENUE RENOVATIONS**

1350 EDMONT AVENUE  
 CHESTER, PA 19013

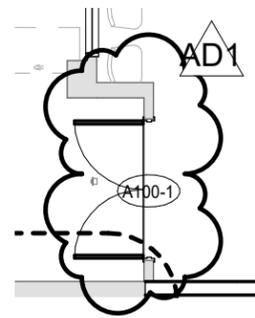
**SCHRADERGROUP**  
 161 Leverington Ave Suite 105  
 Philadelphia, Pennsylvania 19127  
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 F 215 482 7441  
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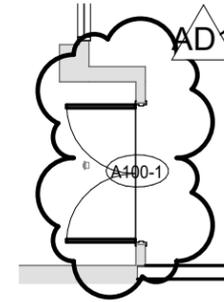
### FIRST FLOOR DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



### FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"



### FIRST FLOOR DIMENSION PLAN

SCALE: 1/8" = 1'-0"

A001-1	A	6' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	-	SALVAGED DOORS ARE TO BE SANDED AND REFINISHED
A001-2	A	6' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 6"	-	45	FINISHES TO MATCH SALVAGED EXG DOORS
A100-1	A	6' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 6"	-	45	FINISHES TO MATCH SALVAGED EXG DOORS
A100-1	A	3' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	-	SALVAGED DOORS ARE TO BE SANDED AND REFINISHED
A100-3	A	3' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	-	SALVAGED DOORS ARE TO BE SANDED AND REFINISHED

REFERENCE DOOR SCHEDULE A601

C101-2	A	3' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	-	SALVAGED DOORS ARE TO BE SANDED AND REFINISHED
C101-3	A	6' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	45	FINISHES TO MATCH SALVAGED EXG DOORS
C101-4	A	3' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 5 5/8"	-	-	FINISHES TO MATCH SALVAGED EXG DOORS
C103-1	A	3' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	-	FINISHES TO MATCH SALVAGED EXG DOORS
C103-2	A	6' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	45	FINISHES TO MATCH SALVAGED EXG DOORS

REFERENCE DOOR SCHEDULE A601

C201-1	A	6' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	45	FINISHES TO MATCH SALVAGED EXG DOORS
C201-2	A	6' - 0"	8' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 6"	-	45	FINISHES TO MATCH SALVAGED EXG DOORS
C201-3	A	3' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	-	SALVAGED DOORS ARE TO BE SANDED AND REFINISHED
C201-4	A	6' - 0"	8' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 5 5/8"	-	-	SALVAGED DOORS ARE TO BE SANDED AND REFINISHED
T101	A	3' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 6 1/4"	-	-	SALVAGED DOORS ARE TO BE SANDED AND REFINISHED
T102	A	3' - 0"	7' - 0"	0' - 1 3/4"	Wood	Stain	1	Hollow Metal	Paint	0' - 8 1/4"	-	-	SALVAGED DOORS ARE TO BE SANDED AND REFINISHED

REFERENCE DOOR SCHEDULE A601