

BINGHAMTON
UNIVERSITY
STATE UNIVERSITY OF NEW YORK

PHYSICAL FACILITIES

PO Box 6000
BINGHAMTON, NY 13902
(607) 777-3341 - FAX (607) 777-6643

MEMORANDUM

DATE: April 29, 2024

SUBJECT: Addendum # 3
Project #: C071086
Title: East Gym Addition – All Trades

Bid Opening Date: ~~May 8, 2024~~ May 15, 2024 at 2:30pm

Last Day for Questions: May 8, 2024

Please note the following addendum/changes in the bid proposal. All bids received will be in accordance with this addendum. All other specifications, terms and conditions remain the same.

ADDENDUM ITEMS

GENERAL:

1. The bid date is extended from May 8, 2024 @ 2:30pm to May 15, 2024 @ 2:30pm.
2. Final day for questions is May 8, 2024.
3. Project duration to be 550 days from time contract is awarded, not 365 days as stated in bid documents.
4. Temporary bridge is to be installed for entire duration of project.

CONTRACTOR QUESTIONS:

1. **Question:** Specifications 311000, 312301, 321123, 321216, 321313, 321400, 321723, and 323113 are listed but not in project manual.
Answer: They are located in Volume II of the specifications.
2. **Question:** Please reference drawing A3.100, there are two Drop Down Curtains noted in Basketball Court G09. Please provide a specification for these curtains. These appear to be labeled as gym divider curtains on E.0.000.
Answer: Drop down curtain will be purchased by BU, installed by contractor.
3. **Question:** Please reference detail 2/A8.200. This elevations shows three scoreboards. Are these to be part of this contract? If so, please provide a specification.

Answer: Scoreboards will be purchased by BU. Installation of scoreboards and the electric for scoreboards to be a part of the contract.

4. **Question:** Please reference drawing A3.300. There is a blank section cut on the western edge of the plan.

Answer: Disregard section marker.

5. **Question:** Please reference detail 2/A8.100. This detail calls for a solid surface countertop, apron with edge banding and removable access panels. Please provide specifications for these items.

Answer: Apron and removable access panel is to be ¾” MDPB with HPDL face and PVC edge banding on all exposed edges. Finishes to be selected by architect.

6. **Question:** In the general requirements spec the MWBE goals are listed as 6% MBE, 24% WBE and 6% SDVOB. In the pre-bid meeting it was stated that the goals are 20% MBE, 10% WBE and 6% SDVOB. Please confirm which is correct.

Answer: The goals for this IFB are 10% Minority Business Enterprise (MBE), 20% Women's Business Enterprise (WBE), 6% SDVOB

7. **Question:** The following specifications were included in the project manual but no work for them is shown on the drawings. Please advise.

- a. 082110 Flush Wood Doors
- b. 088300 Mirrors
- c. 104130 Fire Protection Cabinets

Answer: Omit spec sections 082110 – Flush wood doors and 088300 – Mirrors. These sections are not used in this project. Revised A1.100 Code Sheet shows locations of fire protection cabinets.

8. **Question:** Any possibility design team would waive the AISC certifications for fabrication and erection for this project?

Answer: AISC Certification is a requirement for this project.

9. **Question:** Specification 096466 2.1, Conner Sports appears to be the only acceptable manufacturer. Can other manufacturers that meet the specifications be considered? For example: Robbins, Inc.

Answer: This is the basis of design for this project and preferred vendor of BU.

10. **Question:** Please confirm the GC is not providing any Gym equipment (ie. Basketball hoops, wall padding, etc.)

Answer: The GC is not providing any gym equipment.

11. **Question:** Please reference drawings A3.102 & A A3.202. Multi-Activity Room G05, north wall visually appears to be a curtain wall as no wall type is called out on it. If so please provide an elevation of this curtain wall. Does this extend into the first floor space on A3.202?

Answer: New interior elevation 6/A8.200 of curtain wall in Multi-activity room G05. Yes the curtain wall extends into the first floor space.

DRAWINGS:

1. A1.100 – Code Sheet

- a. Addition of fire protection cabinet locations.

2. A3.102 – Ground Floor Plan South

- a. Revision of curtain wall and elevation marker

3. A8.200 – Interior Elevations

- a. 2/A8.200 & 4/A8.200 – Addition of fire extinguisher cabinet
- b. 6/A8.200 – New interior elevation of Corridor G00B curtain wall

4. A9.200 – Door Schedule and Details

- a. Revision to door schedule
 - 1. Doors G02.1, G02.2, G09C.1, G09C.2, G09C.3, G09C.4, G10.1, G12A, G14A, G15A and G20
 - 2. 1/A9.200 – Addition of Type H & I Head and Jamb Details
 - 3. 2/A9.200 – Addition of Type E frame

SPECIFICATIONS:

1. Section 078100 – APPLIED FIREPROOFING

- a. See attached new section.

2. Section 087110 – Door Hardware

- a. See attached revised section – revisions to Hardware Groups 4A, 5, 6, 9, 10, 11, 14, 17, 18, 22 & 23

3. Section 096253 – Synthetic Turf Flooring

- a. See new attached section.

4. Section 096460 – INTUMESCENT PAINTING

- a. See attached new section.

5. Section 142400 – HYDRAULIC ELEVATORS

- a. See attached new section.

6. Section 102800 – TOILET AND BATH ACCESSORIES

- a. See attached revised section - Includes information for Hand dryer, baby changing station and sanitary napkin disposal

ATTACHED DOCUMENTS:

1. East Gym Pre-bid Sign-in Sheet
2. East Gym Pre-bid Minutes 4-25-24

Specifications:

3. 078100 – Applied Fireproofing
4. 087110 – Door Hardware
5. 096253 – Synthetic Turf Flooring
6. 096460 – Intumescent Painting
7. 142400 – Hydraulic Elevators
8. 102800 – Toilet and Bath Accessories

Drawings:

5. A1.00 – Code Sheet
6. A3.102 – Ground Floor Plan South
7. A8.200 – Interior Elevations
8. A9.200 – Door Schedule and Details

End of Addendum

BINGHAMTON UNIVERSITY

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PHYSICAL FACILITIES

PO Box 6000

Binghamton, NY 13902-6000
(607) 777-2224 - Fax (607) 777-2340

April 25, 2024

Meeting Date: April 25, 2024

Project Name: East Gym Renovation

B.U. Project No. WO339455

SUMMARY:

Pre-Bid meeting.

ITEMS DISCUSSED:

1. Johanne Ferraro (jferraro@binhgamton.edu) is the point of contract for all Pre-Bid questions and questions on paperwork completion. All documents to be filled out to be accepted. Bid documents must be purchased through DataFlow to be eligible.

2. Goals for this project are: MBE 10%, WBE 20%, and SDVOB 6%.
3. Bids will be taken at 2:30pm on May 8, 2024 at the McGuire Building. If a bid proposal is late it will be rejected.
4. Bidders must provide a list of (3) projects they have worked on in last 5 years in the proposal that are in similar size and scope.
5. Project will be an 18 Month project not 365 days. The change to the duration days will be issued in Addendum 3.
6. Once the contract is awarded – being multiple primes, typically all contracts will be letted at the same time. The timing depends on how fast contractors get paperwork back to the University. The GC on this project will need to be mobilized ahead of the other primes in order to start and the University will look into if they can be sent to OSC sooner if paperwork is complete.
7. Logistics on site access: No construction traffic to be on the main drive. At the beginning of the project, equipment will be allowed through to install the access bridge to Murray Hill Road. No other traffic will be accepted such as for excavation, etc.
8. Bridge across creek to Murray Hill Road: 3 Agencies are involved - DEC, Army Core of Engineers, and Sunoco Pipeline. The path/bridge is through the Sunoco easement and BU is working on the permit. DEC and ACE – reviewed plans and as long as the creek is undisturbed there is no issue. There shall be no crossing of the creek to building abutments – must be accessed from both sides. The bridge is specified as a rental – BU investigated options such as Acrow. The Main drive is off limits even if waiting for the bridge to be assembled. The easiest access to the site is across the bridge – traffic circle and turning through campus is difficult. The bridge will impact GC the most to get the project started and start site work. These minutes are a record that the bridge shall stay in place for the length of the contract duration – if an extension is needed the prime that causes the delay will be responsible for cost of the extended lease.
9. Project schedule: The addition itself is 18 months (duration dates per Addendum 3 shall override any other discussion/minutes) and the contract start date impacts the schedule. We know we will not be done by Fall 2025 but possibly for January 2026. Will discuss at the beginning of the project. Need to work with recreation for when the connection to the existing building is done – hopefully summer of 2025 contract pending.
10. Submittal Exchange will be an Allowance to the GC for project management. GC to procure – BU will control the SE system. Will be further clarified in an Addendum.
11. The project is a steel frame building with metal panel and masonry. Sage Glass: Sage Glass requires communication to each piece of glass on the west side and will go to a control panel which ties into a sensor on the roof. GC to procure the Sage Glass. Electrician to provide all conduits and electrical connections. Will clarify in an addendum. Previous application at HSC the wire from the glass to a J-box was by Sage Glass and then picked up by the electrician. All windows tested individually. GC purchases glass and Curtain wall installer fishes the wire to window head to a box by the electrical contractor and then taken back to the controller through conduit by the electrical contractor.

12. Site: The new building is about 3' above existing grade on average. A lot of fill on north end of the building. Site work includes a SWPPP plan. There will be a chamber system under the parking lot – coordinate with staging. Parking Lot E1 can be used in its entirety for staging. Sidewalks and asphalt pavement are also part of the project. Excavation by GC.
13. Div 31 and 32 are missing on Dataflow's posting – NB to double check. Dataflow was to swap out the books – BU to check and ensure they are included.
14. Existing building is highly used by students – students can complain about construction workers and this can create issues. There is a lot of traffic with this project that can cause issues as well. The site is adjacent to child care facilities – parent drop offs.
15. BU will likely extend the bid. If bid is taken within the next 3 weeks and it takes approx. 2-3 months for a contract there could be an NTP in August. Hopefully we will be moving through contract phase quickly to avoid having winter conditions.
16. Budget for bonding purposes – BU typically does not state. Budget is 27-30M but this is separate primes who are required to bond for their work.
17. NO ACM present. Everything has been tested including crawl space.
18. No confined space permit needed for crawl space.
19. Tying many utilities into existing building. Temporary power – tie in to existing panels and feed through building for temporary power.
20. Gregg is the point of contact for construction. Can also coordinate walk-throughs during the bid phase with Gregg. Cannot just walk-into the East Gym – card access, occupied, etc.
21. Excavation is GC – Typically GC opens the trench and each trade backfills/beds. Should not have to saw cut out slabs. Primes responsible for own penetrations. Primes responsible for fire caulking and back filling.
22. Most utilities will be overhead. Utility's and plumbing underground. Most is located in one location. Architectural, Structural, Plumbing – most on grade or in crawl space – section has basement on south side – new building is at grade – crawl space is only at existing building.
23. Existing chiller in east gym is a primary pump chiller – will add secondary pump in an addendum – must be planned to tie- in during off season.
24. All to concentrate on front end due to multiple prime contract and responsibilities of each prime. Coordination drawings will be minimal on this project.
25. Electrical and Water will be concentrated by the Electrical Room and will need to be coordinated so panel clearances with piping is not violated for code.
26. GC takes the lead on BIM.
27. Addendum 1 – MEP trades – list all contracts over \$100,000? JF to check if a list is needed for subs less than \$100,000. This is part of the after bid documentation within 48 hours.

SECTION 14240 - HYDRAULIC ELEVATORS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes hydraulic passenger and service elevators.
- B. Division 31 Section "Earth Moving" for disposition of excavated material from cylinder well hole.
- C. See Division 09 Section for finish flooring in elevator cars.

1.2 SUBMITTALS

- A. Product Data: Include capacities, sizes, performances, operations, safety features, finishes, and similar information.
- B. Shop Drawings: Show plans, elevations, sections, and large-scale details indicating service at each landing, machine room layout, coordination with building structure, relationships with other construction, and locations of equipment and signals. Indicate variations from specified requirements, maximum dynamic and static loads imposed on building structure at points of support, and maximum and average power demands.
- C. Samples: For exposed finishes.
- D. Manufacturer Certificates: Signed by elevator manufacturer certifying that hoistway, pit, and machine room layout and dimensions, as shown on Drawings, and electrical service, as shown and specified, are adequate for elevator system being provided.
- E. Operation and maintenance data.
- F. Inspection and Acceptance Certificates and Operating Permits: As required by authorities having jurisdiction for normal, unrestricted elevator use.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with ASME A17.1 and elevator design requirements for earthquake loads in ASCE 7.
- B. Accessibility Requirements: Comply with Section 4.10 in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."

1.4 WARRANTY

- A. Special Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair, restore, or replace defective elevator work within specified warranty period.
1. Warranty Period: One year from date of Substantial Completion.

1.5 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, provide one year's full maintenance service by skilled employees of elevator Installer. Include monthly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation at rated speed and capacity.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following: (Design based on Schindler and framing based on the same)
1. Fujitec America, Inc.
 2. KONE Inc. (Basis of design: Kone MonoSpace 300 DX 2000 lbs side opening)
 3. Otis Elevator Co.
 4. Schindler Elevator Corp.
ThyssenKrupp Elevator.

2.02 EQUIPMENT: CONTROL COMPONENTS AND CONTROL SPACE

- A. Controller: Provide microcomputer based control system to perform all of the functions.
- i) All high voltage (110V or above) contact points inside the controller cabinet shall be protected from accidental contact in a situation where the controller doors are open.
 - ii) Controller shall be separated into two distinct halves; Motor Drive side and Control side. High voltage motor power conductors shall be routed and physically segregated from the rest of the controller.
 - iii) Provide a serial cardrack and main CPU board containing a non-erasable EPROM and operating system firmware.
 - iv) Variable field parameters and adjustments shall be contained in a non-volatile memory module.

- B. Drive: Provide Variable Voltage Variable Frequency AC drive system to develop high starting torque with low starting current.
- C. Controller Location: Locate controller{s} in the front wall integrated with the top landing entrance frame, machine side of the elevator. One non-fused three phase permanent power in hoist way at top landing. A separate control space should not be required.

2.03 EQUIPMENT: HOISTWAY COMPONENTS

- A. Machine: AC gearless machine, with permanent magnet synchronous motor, direct current electro-mechanical disc brakes and integral traction drive sheave, mounted to the car guide rail at the top of the hoistway.
- B. Governor: Friction type over-speed governor rated for the duty of the elevator specified.
- C. Buffers, Car and Counterweight: Polyurethane buffer.
- D. Hoistway Operating Devices:
 - i. Emergency stop switch in the pit
 - ii. Terminal stopping switches.
 - iii. Emergency stop switch on the machine
- E. Positioning System: System consisting of magnets and proximity switches.
- F. Guide Rails and Attachments: Steel rails with brackets and fasteners.

2.04 EQUIPMENT: HOISTWAY ENTRANCES

- A. Hoistway Entrances
 - i) Sills: Nickle Silver extruded.
 - ii) Doors: Hollow metal construction with vertical internal channel reinforcements.
 - iii) Fire Rating: Entrance and doors shall be UL fire-rated for 1-1/2 hour.
 - iv) Entrance Finish: Brushed Stainless Steel.
 - v) Entrance Markings Jamb Plates: Provide standard entrance jamb tactile markings on both jambs, at all floors. Plate Mounting: Refer to manufacturer drawings.

2.05 EQUIPMENT: CAR COMPONENTS

- A. Car Frame: Provide car frame with adequate bracing to support the platform and car enclosure.
- B. Platform: Platform shall be all steel construction.
- C. Car Guides: Provide guide-shoes mounted to top and bottom of both car and counterweight frame. Each guide-shoe assembly shall be arranged to maintain constant contact on the rail surfaces. Provide retainers in areas with Seismic design requirements.
- D. Steel Cab
- E. Car Wall Finish:
 - i. Rear Wall: Glass, Type TW1, Transparent.
 - ii. Side Walls: Raised Removable vertical panels Brushed Stainless Steel.
- F. Car Skirting Finish: Brushed Stainless Steel
- G. Car Front Finish: Brushed Stainless Steel
- H. Car Door Finish: Brushed Stainless Steel
- I. Ceiling: Round, LED spotlights, Brushed Stainless Steel
- J. Handrail: Flat, straight ends, Brushed Stainless Steel
 - (1) Rails to be located on Back Wall of car enclosure.
- K. Threshold: Nickel Silver
- L. Flooring: By others. (Not to exceed 6lb/sqft and 1/2" finished depth.)
- M. Emergency Car Signals
 - i) Emergency Siren: Siren mounted on top of cab that is activated when the alarm button in the car operating panel is engaged. Siren shall have rated sound pressure level of 80 dB(A) at a distance of three feet from device. Siren shall respond with a delay of not more than one second after activation of alarm button.
 - ii) Emergency Car Lighting: Provide emergency power unit employing a 12-volt sealed rechargeable battery and totally static circuits shall illuminate the elevator car and provide current to the alarm bell in the event of building power failure.

- iii) Emergency Exit Contact: An electrical contact shall be provided on the car-top exit.

N. Ventilation: Fan

2.06 EQUIPMENT: SIGNAL DEVICES AND FIXTURES

A. Car Operating Panel: Provide car operating panel with all push buttons, key switches, and message indicators for elevator operation. Fixture finish to be: Brushed Stainless Steel

- i) Main Swing mounted car operating panel shall contain a bank of round, mechanical, illuminated buttons marked to correspond to landings served, emergency call button, door open button, door close button, and key switches for lights, inspection, and exhaust fan. Buttons have Blue illumination (halo). All buttons to have raised text and Braille marking on left hand side. The car operating display panel shall be Blue DOT-matrix. All texts, when illuminated, shall be Blue. The car operating panel shall have a Brushed Stainless Steel finish.

ii) Additional features of car operating panel shall include:

- (a) Car Position Indicator within operating panel (Blue).
- (b) Elevator Data Plate marked with elevator capacity and car number on car top.
- (c) Help buttons with raised markings.
- (d) In car stop switch per local code.
- (e) Call Cancel Button.

B. Hall Fixtures: Wall mounted hall fixtures shall be provided with necessary push buttons and key switches for elevator operation. Wall mounted hall fixtures shall have a Brushed Stainless Steel.

- (1) Hall fixtures shall feature round, mechanical, buttons in applied mount face frame. Hall fixtures shall correspond to options available from that landing. Buttons shall be in a vertically mounted fixture. Hall fixtures shall not be jambmounted. Hall lanterns shall feature Blue illumination.

C. Car Lantern and Chime: A directional lantern visible from the corridor shall be provided in the car entrance. When the car stops and the doors are opening, the lantern shall indicate the direction in which the car is to travel and a chime will sound. The chime will sound once for up and twice for down. The car riding lantern face plate shall have a Brushed Stainless Steel finish

- D. Combination Hall Position Indicator and Hall Lantern located at Lobby. Hall lanterns and hall indicators shall feature Blue illumination, all numbers will be Blue display.

2.07 EQUIPMENT: ELEVATOR OPERATION AND CONTROLLER

A. Elevator Operation

- i) Duplex Collective Operation (two cars): Using a microprocessor-based controller, the operation shall be automatic by means of the car and hall buttons. In the absence of system activity, one car can be made to park at the pre-selected main landing. The other car shall remain at the last landing served. Only one car shall respond to a hall call. If either car is removed from service, the other car shall immediately answer all hall calls, as well as its own car calls.
- ii) Zoned Car Parking.
- iii) Relative System Response Dispatching.

B. Standard Operating Features to include:

- i) Full Collective Operation
- ii) Fan and Light Control.
- iii) Load Weighing Bypass.
- iv) Ascending Car Uncontrolled Movement Protection
- v) Top of Car Inspection Station.

C. Additional Operating Features to include:

- i) Independent Service.
- ii) Hoistway Access Bottom Landing
- iii) Hoistway Access Top Landing
- iv) Provision for Card Reader in Car (Card Reader provided and Installed by others).
- v) Provide provisions for coaxial cable for CCTV. CCTV by others.

D. Elevator Control System for Inspections and Emergency

- i) Provide devices within controller to run the elevator in inspection operation.

- ii) Provide devices on car top to run the elevator in inspection operation.
- iii) Provide within controller an emergency stop switch to disconnect power from the brake and prevents motor from running.
- iv) Provide the means from the controller to mechanically lift and control the elevator brake to safely bring car to nearest available landing when power is interrupted.
- v) Provide the means from the controller to reset the governor over speed switch and also trip the governor.
- vi) Provide the means from the controller to reset the emergency brake when set because of an unintended car movement or ascending car over speed.
- vii) Provide the means for the control to reset elevator earthquake operation.

2.08 EQUIPMENT: DOOR OPERATOR AND CONTROL

- A. Door Operator: A closed loop permanent magnet VVVF high-performance door operator shall be provided to open and close the car and hoistway doors simultaneously. Door movement shall be cushioned at both limits of travel. Electro-mechanical interlock shall be provided at each hoistway entrance to prevent operation of the elevator unless all doors are closed and locked. An electric contact shall be provided on the car at each car entrance to prevent the operation of the elevator unless the car door is closed.
- B. The door operator shall be arranged so that, in case of interruption or failure of electric power, the doors can be readily opened by hand from within the car, in accordance with applicable code. Emergency devices and keys for opening doors from the landing shall be provided as required by local code.
- C. Doors shall open automatically when the car has arrived at or is leveling at the respective landings. Doors shall close after a predetermined time interval or immediately upon pressing of a car button. A door open button shall be provided in the car. Momentary pressing of this button shall reopen the doors and reset the time interval.
- D. Door hangers and tracks shall be provided for each car and hoistway door. Tracks shall be contoured to match the hanger sheaves. The hangers shall be designed for power operation with provisions for vertical and lateral adjustment. Hanger sheaves shall have polyurethane tires and pre-lubricated sealed-for-life bearings.
- E. Electronic Door Safety Device. The elevator car shall be equipped with an electronic protective device extending the full height of the car. When activated, this sensor shall prevent the doors from closing or cause them to stop and reopen if they are in the process of closing. The doors shall remain open as long as the

flow of traffic continues and shall close shortly after the last person passes through the door opening.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Field measure and examine substrates, supports, and other conditions under which elevator work is to be performed.
- B. Do not proceed with work until unsatisfactory conditions are corrected.
- C. Prior to start of Work, verify hoistway is in accordance with shop drawings. Dimensional tolerance of hoistway from shop drawings: -0 inches +2 inches. Do not begin work of this section until dimensions are within tolerances.
- D. Prior to start of Work, verify projections greater than 2 inches (4 inches if ASME A17.1/CSA B44 2000 applies) must be beveled not less than 75 degrees from horizontal.
- E. Prior to start of Work, verify landings have been prepared for entrance sill installation. Traditional sill angle or concrete sill support shall not be required.
- F. Prior to start of Work, verify elevator pit has been constructed in accordance with requirements, is dry and reinforced to sustain vertical forces, as indicated in approved submittal. Verify that sumps or sump pumps located within pit will not interfere with installed elevator equipment.
- G. Prior to start of Work, verify control space has been constructed in accordance with requirements, with access coordinated with elevator shop drawings, including Sleeves and penetrations.
- H. Verify installation of GFCI protected 20-amp in pit and adjacent to each signal control cabinet in control space.

3.02 PREPARATION

- A. Coordinate installation of anchors, bearing plates, brackets and other related accessories.

3.03 INSTALLATION

- A. Install equipment, guides, controls, car and accessories in accordance with manufacturer installation methods and recommended practices.
- B. Properly locate guide rails and related supports at locations in accordance with manufacturer's recommendations and approved shop drawings. Anchor to building structure using isolation system to minimize transmission of vibration to structure.

- C. All hoistway frames shall be securely fastened to fixing angles mounted in the hoistway. Coordinate installation of sills and frames with other trades.
- D. Lubricate operating system components in accordance with manufacturer recommendations.
- E. Perform final adjustments, and necessary service prior to substantial completion.

3.04 CONSTRUCTION

A. Interface with Other Work:

- i) Guide rail brackets attached to steel shall be installed prior to application of fireproofing.
- ii) Coordinate construction of entrance walls with installation of door frames and sills. Maintain front wall opening until elevator equipment has been installed.
 - (1) Ensure adequate support for entrance attachment points at all landings.
 - (2) Coordinate wall openings for hall push buttons, signal fixtures and sleeves. Each elevator requires sleeves within the hoistway wall.
 - (3) Coordinate emergency power transfer switch and power change pending signals as required for termination at the primary elevator signal control cabinet in each group.
 - (4) Coordinate interface of elevators and fire alarm system.
 - (5) Coordinate interface of dedicated telephone line.
 - (6) Coordinate the installation of the non fused three phase permanent power disconnect in hoist way at top landing

3.05 TESTING AND INSPECTIONS

- A. Perform recommended and required testing in accordance with authority having jurisdiction.
- B. Obtain required permits and provide originals to Owner's Representative.

3.06 DEMONSTRATION

Prior to substantial completion, instruct Owner's Representative on the proper function and required daily maintenance of elevators. Instruct personnel on emergency procedures

END OF SECTION 142400

SECTION 08711 - DOOR HARDWARE (SCHEDULED BY NAMING PRODUCTS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Commercial door hardware for the following:
 - a. Swinging doors.
 - b. Sliding doors.
 - c. Folding doors.
 - d. Other doors to the extent indicated.
- 2. Cylinders for doors.
- 3. Electrified door hardware.

- B. Related Sections include the following:

- 1. Division 8 Section "Steel Doors and Frames" for astragals provided as part of a fire-rated labeled assembly and for door silencers provided as part of the frame.
- 2. Division 8 Section "Aluminum Entrances and Storefronts" for entrance door hardware, except cylinders.
- 3. Division 8 Section "Power Door Operators" for automatic door operators.

- C. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.

- 1. Cylinders for locks on aluminum and glass entrance doors.
- 2. Final replacement cores, shall be Best, and keys to be installed by Owner.

1.3 DOOR HARDWARE ALLOWANCE

- A. Door Hardware Selection: Follow schedule in this section.
- B. Submittals: Coordinate and process Submittals and templates for door hardware in same manner as Submittals for other Work.
- C. Coordination: Coordinate door hardware with other Work. Furnish Shop Drawings of other Work where required or requested to coordinate installation.

1.4 SUBMITTALS

- A. **Product Data:** Include installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. **Shop Drawings:** Details of electrified door hardware, indicating the following:
 - 1. **Wiring Diagrams:** Detail wiring for power, signal, and control systems and differentiate between manufacturer-installed and field-installed wiring. Include the following:
 - a. System schematic.
 - b. Point-to-point wiring diagram.
 - c. Riser diagram.
 - d. Elevation of each door.
 - 2. Detail interface between electrified door hardware and fire alarm, access control, security, and building control system.
- C. **Samples for Initial Selection:** Manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available for each type of door hardware indicated.
- D. **Samples:** For exposed door hardware of each type indicated below, in specified finish, full size. Tag with full description for coordination with the Door Hardware Schedule. Submit samples before, or concurrent with, submission of the final Door Hardware Schedule.
 - 1. **Door Hardware:** See schedules:
 - 2. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- E. **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. **Organization:** Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening.
 - a. Organize door hardware sets in same order as in the Door Hardware Schedule in Part 2.
 - 2. **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 each 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. Description of each electrified door hardware function, including location, sequence of operation, and interface with other building control systems.
 - 1) Sequence of Operation: Include description of component functions that occur in the following situations: authorized person wants to enter; authorized person wants to exit; unauthorized person wants to enter; unauthorized person wants to exit.
 - 3. 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.
 - 4. Submittal Sequence: Submit initial draft of final schedule along with essential Product Data to facilitate the fabrication of other work that is critical in the Project construction schedule. Submit the final Door Hardware Schedule after Samples, Product Data, coordination with Shop Drawings of other work, delivery schedules, and similar information has been completed and accepted.
 - F. Keying Schedule: Prepared by or under the supervision of supplier, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations.
 - G. Product Certificates: Signed by manufacturers of electrified door hardware certifying that products furnished comply with requirements.
 - 1. Certify that door hardware approved for use on types and sizes of labeled fire doors complies with listed fire door assemblies.
 - H. Qualification Data: For firms and persons specified in "Quality Assurance" Article.
 - 1. Include lists of completed projects with project names and addresses of architects and owners, and other information specified.
 - I. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, indicating current products comply with requirements.
 - J. Maintenance Data: For each type of door hardware to include in maintenance manuals specified in Division 1.
 - K. Warranties: Special warranties specified in this Section.
- 1.5 QUALITY ASSURANCE
- A. Installer Qualifications: An experienced installer who has completed 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.

- B. **Supplier Qualifications:** Door hardware supplier with warehousing facilities in Project's vicinity and who is or employs a qualified Architectural Hardware Consultant, available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
1. **Electrified Door Hardware Supplier Qualifications:** An experienced door hardware supplier who has completed projects with electrified door hardware similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance, and who is acceptable to manufacturer of primary materials.
 - a. **Engineering Responsibility:** Prepare data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
 2. **Scheduling Responsibility:** Preparation of door hardware and keying schedules.
- C. **Architectural Hardware Consultant Qualifications:** A person who is currently certified by the Door and Hardware Institute as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.
1. **Electrified Door Hardware Qualifications:** Experienced in providing consulting services for electrified door hardware installations.
- D. **Source Limitations:** Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that are listed to perform electrical modifications, by a testing and inspecting agency acceptable to authorities having jurisdiction, are acceptable.
- E. **Regulatory Requirements:** Comply with provisions of the following:
1. Where indicated to comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," as follows:
 - a. **Handles, Pulls, Latches, Locks, and other Operating Devices:** Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
 - b. **Door Closers:** Comply with the following maximum opening-force requirements indicated:
 - 1) **Interior Hinged Doors:** 5 lbf applied perpendicular to door.
 - 2) **Sliding or Folding Doors:** 5 lbf applied parallel to door at latch.
 - 3) **Fire Doors:** Minimum opening force allowable by authorities having jurisdiction.

- c. Thresholds: Not more than 1/2 inch high. Bevel raised thresholds with a slope of not more than 1:2.
 2. NFPA 101: Comply with the following for means of egress doors:
 - a. Latches, Locks, and Exit Devices: Not more than 15 lbf to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
 - b. Delayed-Egress Locks: Lock releases within 15 seconds after applying a force not more than 15 lbf for not more than 3 seconds.
 - c. Door Closers: Not more than 30 lbf to set door in motion and not more than 15 lbf to open door to minimum required width.
 - d. Thresholds: Not more than 1/2 inch high.
 3. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
- F. Fire-Rated Door Assemblies: Provide door hardware for 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 NFPA 252.
 1. Test Pressure: Test at atmospheric pressure.
- G. Keying Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings." Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:
 1. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 2. Preliminary key system schematic diagram.
 3. Requirements for key control system.
 4. Address for delivery of keys.
- H. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."
- I. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings." Review methods and procedures related to electrified door hardware including, but not limited to, the following:
 1. Inspect and discuss electrical roughing-in and other preparatory work performed by other trades.
 2. Review sequence of operation for each type of electrified door hardware.
 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Review required testing, inspecting, and certifying procedures.
- J. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.

- K. 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.

1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. Electrical System Roughing-in: Coordinate layout and installation of electrified door hardware with connections to power supplies, fire alarm system, and detection devices access control system, security system, and building control system.

1.7 WARRANTY

- A. General Warranty: 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. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of operators and door hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- C. Warranty Period: Three years from date of Substantial Completion, unless otherwise indicated.
- D. Warranty Period for Electromagnetic Locks: Five years from date of Substantial Completion.
- E. Warranty Period for Manual Closers: 10 years from date of Substantial Completion.
- F. Warranty Period for Concealed Floor Closers: Five years from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide six months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies as used in the manufacture and installation of original products.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

GENERAL DOOR HARDWARE

*******The following hardware is based on the standards of the University. Supply hardware as noted or approved equals. Best cores are required on all locksets.*******

3 Hat and coat hook	IVE
Hinge	Stanley Hardware (STA)
Hinge-dbl acting	Mckinney (MCK)
Electric Hinge	Stanley Hardware (STA)
Flush bolt	Rockwood (ROC)
Automatic Flushbolt	Rockwood (ROC)
Cylinder – Mortise	Best Access Systems (BEST)
Cylinder – Rim	Best Access Systems (BEST)
Cylinder – Dummy	Best Access Systems (BEST)
Lockset	Best Access Systems (BEST)
Passage set	Best Access Systems (BEST)
Mortise privacy	Best Access Systems (BEST)
Exit device	Von Duprin, Inc. (VDI)
Exit device – electrified	Von Duprin, Inc (VDI)
Dead lock	Best Access Systems (BEST)
Electric lock	Best Access Systems (BEST)
Push Plate	Rockwood (ROC)
Pull Plate	Rockwood (ROC)
Coordinator – Bar	Rockwood (ROC)
Door closer	LCN closers (LCN)
Kick plate	Korogard textured plastic sheets (color to be selected) 2.4 mm Mat. Korogard wall protection system (KOR)
Mop plate	Korogard textured plastic sheets (color to be selected) 2.4 mm Mat. Korogard wall protection system (KOR)
Armor plate	Korogard textured plastic sheets (color to be selected) 2.4 mm Mat. Korogard wall protection system (KOR)
Door frame guards	Korogard F360 48” high (color to be selected) – see drawing schedule for locations
Wall bumper	Rockwood (ROC)
Electro Magnetic holder	Security lock distributors (SLD)
Weather-stripping	National Guard Products, Inc. (NGP)
Astragal	National Guard Products, Inc. (NGP)
Door seal	National Guard Products, Inc. (NGP)
Sweep strip	National Guard Products, Inc. (NGP)
Threshold	National Guard Products, Inc. (NGP)
Misc.	BOSCH Security Systems (BOS)
Power supply	Von Duprin, Inc. (VDI)
Card reader	HID (HID)
Silencer	Rockwood (ROC)

120v Magnetic Door Holder

Rixson

Hardware Finishes

<u>Finish</u>	<u>Finish Description</u>
26D	
32D	
<u>Finish</u>	<u>Finish Description</u>
626	Satin chromium plated nickel
689	Aluminum painted
A	
AL	Aluminum
B	
BPC	
GRAY	
MILL	
Mill	
US26D	Satin chromium plated nickel
US26D/US32D	
US32D	Satin stainless steel
White	
White	

Hardware Groups

GROUP: #1 Standard office hardware (single)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
3	EA	STA	Hinge	CB179 4-1/2x4-1/2	26D
1	EA	BEST	Lockset	9K3-7-AB-15-D-S3 x L/C Entrance	626
1	EA	ROC	Wall bumper	409	US32D
3	EA	ROC	Silencer	608	GRAY
1	EA	IVES	Hat and coat Hook	571	26D

GROUP: #3 Standard non-rated classroom hardware (single)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
3	EA	STA	Hinge	CB179 4-1/2x4-1/2	26D
1	EA	BEST	Lockset	9K3-7-R-15-D-STK x CORMAX-Patented	626
1	EA	ROC	Wall bumper	409	US32D
3	EA	ROC	Silencer	608	GRAY

GROUP: #4 Standard fire rated storeroom, janitor, closet hardware (single)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
3	EA	STA	Hinge	CB179 4-1/2x4-1/2	26D
1	EA	BEST	Lockset	9K3-7-D-15-D-S3 x Best Preferred Patented Storeroom	626
1	EA	LCN	Door closure	4040XP REG/PA DEL TBSRT	AL
1	EA	NGP	Door seal	5050Bx17'	B
3	EA	ROC	Silencer	608	GRAY
1	EA	ROC	Wall bumper	409	US32D
1	EA	LCN	Door closure	4040XP REG/PA DEL TBSRT	AL

GROUP: #4A Standard non- rated storeroom, janitor, closet hardware (single)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
3	EA	STA	Hinge	CB179 4-1/2x4-1/2	26D
1	EA	BEST	Lockset	9K3-7-D-15-D-S3 x Best Preferred Patented Storeroom	626
1	EA	NGP	Door seal	5050Bx17'	B
3	EA	ROC	Silencer	608	GRAY
1	EA	ROC	Wall bumper	409	US32D
1	EA	LCN	Door closure	4040XP REG/PA DEL TBSRT	AL

GROUP: #5 Standard single stall toilet room hardware (single)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
3	EA	STA	Hinge	CB179 4-1/2x4-1/2	26D
1	EA	BEST	Mortise privacy	5H-0-LB-15-S Privacy, Deadbolt*	626
1	EA	KOR	Kick plate	34"w 10"h	
1	EA	ROC	Wall bumper	409	US32D
3	EA	ROC	Silencer	608	GRAY
1	EA	LCN	Door closure	4040XP REG/PA DEL TBSRT	AL

GROUP: #6 Standard multi stall toilet room hardware (single)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
3	EA	STA	Hinge	CB179 4-1/2x4-1/2	26D
1	EA	ROC	Push plate	70C-RKW	US32D
1	EA	ROC	Pull plate	07 X 70C x Type 1	US32D
1	EA	KOR	Kick plater	34"w x 10"h	
1	EA	KOR	Mop plate	34"w x 6"h	
1	EA	ROC	Wall bumper	409	US32D
3	EA	ROC	Silencer	608	GRAY
1	EA	LCN	Door closure	4040XP REG/PA DEL TBSRT	AL

GROUP: #9 Standard hardware for non-rated double egress or regular pair openings (pair)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
6	EA	STA	Hinge	CB168NPR 4-1/2x4-1/2	26D
2	EA	VDI	Exit device	9827EO x LBR	US26D both
2	EA	LCN	Door closure	4040XP EDA 30 SHOE Support DEL TBSRT	AU both
2	EA	KOR	Kick plater	34"w x 10"h	
2	EA	ROC	Silencer	608	GRAY

*8ft doors to have 8 hinges

GROUP: #10 Standard fire rated double egress (pair)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
8	EA	STA	Hinge	CB168NPR 4-1/2x4-1/2	26D
2	EA	VDI	Exit device	9827EO x LBR	US26D both
2	EA	LCN	Door closure	4040XP EDA 30 SHOE Support DEL TBSRT	AU both
2	EA	KOR	Kick plater	34w x 10"h	
2	EA	SLD	ElectroMagnetic Hold	1504-AQNS 24VDC "EDWARDS"	689
1	EA	NGP	Door seal	5050Bx21'	B

This opening is designed for the double egress application.
The function for this opening is a labeled pass thru. These

doors will be magnetically held opening with mag holder tie into the fire alarm system only.

GROUP: #11 Card access electric lever lock (single)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
2	EA	STA	Hinge	CB179NPR 4-1/2x4-1/2	26D
1	EA	STA	Electric hinge	CECSCB179-18 4 1/2 X 4 1/2	26D
1	EA	BEST	Electric lock	9KW3-7-DEU-24V-15-D-S3 x Best Preferred	626
				Patented Electrically Unlocked - 24 Volt (Electrified)	
1	EA	LCN	Door closure	4040XP REG/PA DEL TBSRT	AL
1	EA	BOS	Misc	DS-160 x TP-160 REQUEST TO EXIT	white
1	EA	HID	Card reader	920PMNNEKEA003 MOB1384	
3	EA	ROC	Silencer	608	GRAY

*Request-To-Exit and Card Reader By Owner

GROUP: #12 Card access electric lever lock (pair) (rated or non-rated opening)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
4	EA	STA	Hinge	CB179NPR 4-1/2x4-1/2	26D
1	EA	STA	Electric hinge	CECSCB179-18 4 1/2 X 4 1/2	26D
1	EA	STA	Electric hinge	CSCB179 4 1/2 X 4 1/2	26D/Inactive
2	EA	ROC	Auto flushbolt	2842	US26D
1	EA	BEST	Electric lock	9KW3-7-DEU-24V-15-D-S3 x Best Preferred	626
				Patented Electrically Unlocked - 24 Volt (Electrified)	
1	EA	ROC	Coordinator bar	1700	BPC
1	EA	LCN	Door closure	4040XP REG/PA DEL TBSRT	AL
1	EA	LCN	Door closure	4040XP REG/PA DEL TBSRT	AL/Active
1	EA	KOR	Kick plater	10"x22"	
1	EA	KOR	Kick plater	10"x34"	
1	EA	KOR	Kick plater	6"x34"	
1	EA	ROC	Wall bumper	409	US32D
1	EA	BOS	Misc	DS-160 x TP-160 REQUEST TO EXIT	white
1	EA	HID	Card reader	920PMNNEKEA003 MOB1384	
3	EA	ROC	Silencer	608	GRAY

*Request-To-Exit and Card Reader By Owner

GROUP: #13 Card access, standard pair, vertical rods active door (fire) (Electric vertical rod)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
4	EA	STA	Hinge	CB168NPR 4-1/2x4-1/2	26D
1	EA	STA	Electric hinge	CECSCB168-18 4 1/2 X 4 1/2	US26D/Active
1	EA	STA	Electric hinge	CSCB168-18 4 1/2 X 4 1/2	US32D/Inactive
1	EA	VDI	Exit device	9827EO-F x LBR	US26D/Inactive
1	EA	VDI	Exit device electrified	9827L-F x E996L-06 x LBR x FSE	US26D/Active
2	EA	KOR	Mop plater	6"x35"	both
2	EA	KOR	Armor plater	34"x34"	both
1	EA	ROC	Wall bumper	409	US32D
1	EA	BOS	Misc	DS-160 x TP-160 REQUEST TO EXIT	white
1	EA	HID	Card reader	920PMNNEKEA003 MOB1384	
2	EA	ROC	Silencer	608	GRAY

*Request-To-Exit and Card Access By Owner

GROUP: #14 Card access, non-rated, (pair) active leaf (electric mortise exit device)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
4	EA	STA	Hinge	CB179NPR 4-1/2x4-1/2	26D
1	EA	STA	Electric hinge	CECSCB179-18 4 1/2 X 4 1/2	US26D/Active
1	EA	STA	Electric hinge	CSCB179 4 1/2 X 4 1/2	626/Inactive
2	EA	ROC	Flush bolt	555	US26D/Inactive

1	EA	BEST	Cylinder mortise	1 E-7-4-C4-RP3 Standard Mortise	626/Active
1	EA	VDI	Exit device	9875L-E996L	626/Active
1	EA	ROC	Coordinator bar	1700	BPC
2	EA	LCN	Door closure	4040XP EDA 30 SHOE Support DEL TBSRT	AL both
2	EA	KOR	Kick plater	34"w x 10"h	both
1	EA	NGP	Sweep strip	198NA x 6x3/4-TEKS x 36"	A
1	EA	NGP	Threshold	1013 x Spanner 10-24 SSMS/LA	MILL
1	EA	NGP	Weather-stripping		
2	EA	ROC	Wall bumper	409	US32D both
1	EA	BOS	Misc	DS-160 x TP-160 REQUEST TO EXIT	white
1	EA	HID	Card reader	920PMNNEKEA003 MOB1384	

*Request-To-Exit and Card Access By Owner

GROUP: #15 Card Access, fire rated (pair) Active leaf (electric mortise exit device)

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
4	EA	STA	Hinge	CB179NPR 4-1/2x4-1/2	26D
1	EA	STA	Electric hinge	CECSCB179-18 4 1/2 X 4 1/2	US26D/Active
1	EA	STA	Electric hinge	CSCB179 4 1/2 X 4 1/2	626/Inactive
2	EA	ROC	Auto flushbolt	2842	US26D
1	EA	BEST	Cylinder mortise	1 E-7-4-C4-RP3 Standard Mortise	626/Active
1	EA	VDI	Exit device electrified	9875L-F E996L-M 24VDC 825-SNB FSE	US32D/Active
1	EA	ROC	Coordinator bar	1700	BPC
2	EA	LCN	Door closure	4040XP EDA 30 SHOE Support DEL TBSRT	AL both
2	EA	KOR	Kick plater	34"w x 10"h	both
2	EA	ROC	Wall bumper	409	US32D both
1	EA	NGP	Door seal	5050Bx21'	B
1	EA	BOS	Misc	DS-160 x TP-160 REQUEST TO EXIT	white
1	EA	HID	Card reader	920PMNNEKEA003 MOB1384	
2	EA	ROC	Silencer	608	GRAY

*Request-To-Exit and Card Access By Owner

GROUP: #16 Alum Single door card access

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
2	EA	STA	Hinge	CB199NPR 4-1/2x4-1/2	32D
1	EA	STA	Electric hinge	CECSCB199-18 4 1/2 X 4 1/2	US32D
1	EA	BEST	Cylinder – rim	12E-7-2-S2-RP3 Standard Rim	626
1	EA	VDI	Exit device electrified	98L x E996L-R&V 24VDC 299-F 825-SN	US32D
1	EA	LCN	Door closure	4040XP x CUSH x SRT	AL
1	EA	NGP	Sweep strip	198NA x 6x3/4-TEKS x 36"	A
1	EA	NGP	Threshold	1013 x Spanner 10-24 SSMS/LA	MILL
1	EA	BOS	Misc	DS-160 x TP-160 REQUEST TO EXIT	white
1	EA	HID	Card reader	920PMNNEKEA003 MOB1384	

Alum Single Door Card Access

*Request-To-Exit and Card Reader by Owner

GROUP: #17 Alum. Door single for operator operation. Additional Horton operator and push plates as required

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
2	EA	STA	Hinge	CB199NPR 4-1/2x4-1/2	32D
1	EA	STA	Electric hinge	CECSCB199-18 4 1/2 X 4 1/2	US32D
1	EA	BEST	Cylinder – rim	12E-7-2-S2-RP3 Standard Rim	626
1	EA	VDI	Exit device	QEL-98 motorized quiet unit	US26D/US32D
1	EA	LCN	Door closure	4040XP x CUSH x SRT	AL
1	EA	NGP	Sweep strip	198NA x 6x3/4-TEKS x 36"	A

1	EA	NGP	Threshold	1013 x Spanner 10-24 SSMS/LA	MILL
1	EA	BOS	Misc	DS-160 x TP-160 REQUEST TO EXIT	white
1	EA	HID	Card reader	920PMNNEKEA003 MOB1384	

*Request-To-Exit and Card Reader by Owner

GROUP: #18 Stainless steel double door

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
8	EA	STA	Hinge	CB199NPR 4-1/2x4-1/2	32D
2	EA	STA	Electric hinge	CECSCB199-18 4 1/2 X 4 1/2	US32D
2	EA	BEST	Cylinder – rim	12E-7-2-S2-RP3 Standard Rim	626
2	EA	VDI	Exit device	98L x E996L-R&V 24VDC 299-F 825-SNB	US26D/US32D
2	EA	NGP	Sweep strip	198NA x 6x3/4-TEKS x 36"	A
1	EA	NGP	Threshold	1013 x Spanner 10-24 SSMS/LA	MILL
1	EA	NGP	Weather-stripping		
1	EA	BOS	Misc	DS-160 x TP-160 REQUEST TO EXIT	white
1	EA	HID	Card reader	920PMNNEKEA003 MOB1384	

*Request-To-Exit and Card Reader by Owner

GROUP: #22 Classroom greater than 100 people non-rated single

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
3	EA	STA	Hinge	CB168NPR 4-1/2x4-1/2	26D
1	EA	BEST	Cylinder – rim	12E-7-2-S2-RP Standard Rim	626
1	EA	VDI	Exit device	98L-F x 996L(#06) x 299F x 3-0	US26D
1	EA	LCN	Door closure	4040XP x CUSH x WMS	AL
1	EA	KOR	Kick plater	34" x 10"h	
1	EA	NGP	Door seal	5050Bx17'	B

GROUP: #23 Classroom (pair) greater than 100 people non-rated

<u>Qty</u>	<u>UOM</u>	<u>Manf.</u>	<u>Item Type</u>	<u>Item Series/Description</u>	<u>Finish</u>
6	EA	STA	Hinge	CB168NPR 4-1/2x4-1/2	26D
2	EA	BEST	Cylinder – rim	12E-7-2-S2-RP Standard Rim	626 both
2	EA	VDI	Exit device	9827L X 996L(#06) X 299 X LBR X 3-0	US26D both
2	EA	LCN	Door closure	4040XP EDA 30 SHOE SUPPORT DEL TBSRT	AL both
2	EA	KOR	Kick plater	34" w x 10" h	both
2	EA	ROC	Silencer	608	

*8ft doors to have 8 hinges

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to SDI 107.
- B. Wood Doors: Comply with DHI A115-W series.

3.3 INSTALLATION

- A. 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. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each door hardware item to comply with manufacturer's 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.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Key Control System: Place keys on markers and hooks in key control system cabinet, as determined by final keying schedule.
- D. Boxed Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings. Verify location with Architect.
 - 1. Configuration: Provide one power supply for each door opening.
 - 2. Configuration: Provide the least number of power supplies required to adequately serve doors with electrified door hardware.
- E. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

3.4 FIELD QUALITY CONTROL

- A. Independent Architectural Hardware Consultant: Owner will engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
 - 1. Independent Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed 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.
 - 1. Spring Hinges: Adjust to achieve positive latching when door is allowed to close freely from an open position of 30 degrees.
 - 2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 - 3. Door Closers: Adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Six-Month Adjustment: Approximately six months after date of Substantial Completion, Installer shall perform the following:
 - 1. Examine and readjust each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.
 - 2. Consult with and instruct Owner's personnel on recommended maintenance procedures.
 - 3. Replace door hardware items that have deteriorated or failed due to faulty design, materials, or installation of door hardware units.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

END OF SECTION 08711

SECTION 07810 - APPLIED FIREPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

1. Concealed SFRM.
2. Exposed SFRM.
3. Exposed intumescent mastic fire-resistive coatings.

- B. Related Sections include the following:

1. Division 05 Section "Structural Steel Framing" for surface conditions required for structural steel receiving SFRM.
2. Division 07 Section "Thermal Insulation" for fire-safing insulation.
3. Division 07 Section "Board Fireproofing" for mineral-fiber-board fire protection.
4. Division 07 Section "Penetration Firestopping" for fire-resistance-rated firestopping systems.
5. Division 07 Section "Fire-Resistive Joint Systems" for fire-resistance-rated joint systems.
6. Division 09 Section "Intumescent Painting" for intumescent paints that are not fire resistive.

- C.

1.3 DEFINITIONS

- A. SFRM: Sprayed fire-resistive material.
- B. Concealed: Fire-resistive materials applied to surfaces that are concealed from view behind other construction when the Work is completed and have not been defined as exposed.
- C. Exposed: Fire-resistive materials applied to surfaces that are exposed to view when the Work is completed, that are accessible through suspended ceilings, that are in elevator shafts and machine rooms, that are in mechanical rooms, that are in air-handling plenums, and that are identified as exposed on Drawings.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.

- B. Shop Drawings: Structural framing plans indicating the following:
1. Locations and types of surface preparations required before applying SFRM.
 2. Extent of SFRM for each construction and fire-resistance rating, including the following:
 - a. Applicable fire-resistance design designations of a qualified testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1) For steel joist assemblies, include applicable fire-resistance design designations, with each steel joist tested with the same maximum tensile stress as each steel joist indicated on Drawings. Design designations with steel joists tested at lower maximum tensile stress than those indicated are not permitted.
 - b. Minimum thicknesses needed to achieve required fire-resistance ratings of structural components and assemblies.
 3. Treatment of SFRM after application.
- C. Samples for Initial Selection: For each type of colored, exposed SFRM indicated.
- D. Samples for Verification: For each type of colored, exposed SFRM, two Samples, each 4 inches square, of each color, texture, and material formulation to be applied. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.
- E. Product Certificates: For each type of SFRM, signed by product manufacturer.
- F. Qualification Data: For Installer, manufacturer, professional engineer, and testing agency.
- G. Compatibility and Adhesion Test Reports: From SFRM manufacturer indicating the following:
1. Materials have been tested for bond with substrates.
 2. Materials have been verified by SFRM manufacturer to be compatible with substrate primers and coatings.
 3. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- H. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for proposed SFRM.
- I. Research/Evaluation Reports: For SFRM.
- J. Field quality-control test and special inspection reports.
- K. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual certified, licensed, or otherwise qualified by SFRM manufacturer as experienced and with sufficient trained staff to install manufacturer's

products according to specified requirements. A manufacturer's willingness to sell its SFRM to Contractor or to an installer engaged by Contractor does not in itself confer qualification on the buyer.

- B. Source Limitations: Obtain SFRM through one source from a single manufacturer.
- C. SFRM Testing: By a qualified testing and inspecting agency engaged by Contractor or manufacturer to test for compliance with specified requirements for performance and test methods.
 - 1. SFRMs are randomly selected for testing from bags bearing the applicable classification marking of UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
 - 2. Testing is performed on specimens of SFRMs that comply with laboratory testing requirements specified in Part 2 and are otherwise identical to installed fire-resistive materials, including application of accelerant, sealers, topcoats, tamping, troweling, rolling, and water overspray, if any of these are used in final application.
 - 3. Testing is performed on specimens whose application the independent testing and inspecting agency witnessed during preparation and conditioning. Include in test reports a full description of preparation and conditioning of laboratory test specimens.
- D. Compatibility and Adhesion Testing: Engage a qualified testing and inspecting agency to test for compliance with requirements for specified performance and test methods.
 - 1. Test for bond per ASTM E 736 and requirements in UL's "Fire Resistance Directory" for coating materials. Provide bond strength indicated in referenced fire-resistance design, but not less than minimum specified in Part 2.
 - 2. Verify that manufacturer, through its own laboratory testing or field experience, has not found primers or coatings to be incompatible with SFRM.
- E. Fire-Test-Response Characteristics: Provide SFRM with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify bags containing SFRM with appropriate markings of applicable testing and inspecting agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" acceptable to authorities having jurisdiction, for SFRM serving as direct-applied protection tested per ASTM E 119.
 - 2. Surface-Burning Characteristics: ASTM E 84.
- F. Provide products containing no detectable asbestos as determined according to the method specified in 40 CFR 763, Subpart E, Appendix E, Section 1, "Polarized Light Microscopy."
- G. Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Extent of Mockups: Approximately 100 sq. ft. of surface for each product indicated.
 - 2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

- H. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to SFRM including, but not limited to, the following:
1. Review products, exposure conditions, design ratings, restrained and unrestrained conditions, calculations, densities, thicknesses, bond strengths, and other performance requirements.
 2. Review and finalize construction schedule and verify sequencing and coordination requirements.
 3. Review weather predictions, ambient conditions, and proposed temporary protections for SFRM during and after installation.
 4. Review surface conditions and preparations.
 5. Review field quality-control testing procedures.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to Project site in original, unopened packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, shelf life if applicable, and fire-resistance ratings applicable to Project.
- B. Use materials with limited shelf life within period indicated. Remove from Project site and discard materials whose shelf life has expired.
- C. Store materials inside, under cover, and aboveground; keep dry until ready for use. Remove from Project site and discard wet or deteriorated materials.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not apply SFRM when ambient or substrate temperature is 40 deg F or lower unless temporary protection and heat are provided to maintain temperature at or above this level for 24 hours before, during, and for 24 hours after product application.
- B. Ventilation: Ventilate building spaces during and after application of SFRM. Use natural means or, if they are inadequate, forced-air circulation until fire-resistive material dries thoroughly.

1.8 COORDINATION

- A. Sequence and coordinate application of SFRM with other related work specified in other Sections to comply with the following requirements:
1. Provide temporary enclosure as required to confine spraying operations and protect the environment.
 2. Provide temporary enclosures for applications to prevent deterioration of fire-resistive material due to exposure to weather and to unfavorable ambient conditions for humidity, temperature, and ventilation.
 3. Avoid unnecessary exposure of fire-resistive material to abrasion and other damage likely to occur during construction operations subsequent to its application.

4. Do not apply fire-resistive material to metal roof deck substrates until concrete topping, if any, has been completed. For metal roof decks without concrete topping, do not apply fire-resistive material to metal roof deck substrates until roofing has been completed; prohibit roof traffic during application and drying of fire-resistive material.
5. Do not apply fire-resistive material to metal floor deck substrates until concrete topping has been completed.
6. Do not begin applying fire-resistive material until clips, hangers, supports, sleeves, and other items penetrating fire protection are in place.
7. Defer installing ducts, piping, and other items that would interfere with applying fire-resistive material until application of fire protection is completed.
8. Do not install enclosing or concealing construction until after fire-resistive material has been applied, inspected, and tested and corrections have been made to defective applications.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form, signed by Contractor and by Installer, in which manufacturer agrees to repair or replace SFRMs that fail in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Cracking, flaking, spalling, or eroding in excess of specified requirements; peeling; or delaminating of SFRM from substrates.
 - b. Not covered under the warranty are failures due to damage by occupants and Owner's maintenance personnel, exposure to environmental conditions other than those investigated and approved during fire-response testing, and other causes not reasonably foreseeable under conditions of normal use.
 2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CONCEALED SFRM

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- B. Products: Subject to compliance with requirements, provide one of the following:
 1. Concealed Cementitious SFRM:
 - a. Carbolite Co., Fireproofing Products Div.; Pyrolite 15 High Yield.
 - b. Grace, W. R. & Co. - Conn., Construction Products Div.; Monokote Type MK-6 MK-6/HY and MK-6s.
 - c. Isolatek International Corp.; Cafco 300.
 - d. Southwest Vermiculite Co., Inc.; Type 5.
 - e. Carbolite Co., Fireproofing Products Div.; Pyrolite 15 Blue.

- f. Grace, W. R. & Co. - Conn., Construction Products Div.; Retro-Gard.
 - g. Isolatek International Corp.; Cafco 300 SB.
 2. Concealed Sprayed-Fiber Fire-Resistive Material:
 - a. Isolatek International Corp.; Cafco Blaze-Shield II.
- C. Material Composition: Manufacturer's standard product, as follows or either of the following:
 1. Concealed Cementitious SFRM: Factory-mixed, dry formulation of gypsum or portland cement binders, additives, and lightweight mineral or synthetic aggregates mixed with water at Project site to form a slurry or mortar for conveyance and application.
 2. Concealed Sprayed-Fiber Fire-Resistive Material: Factory-mixed, dry formulation of inorganic binders, mineral fibers, fillers, and additives conveyed in a dry state by pneumatic equipment and mixed with water at spray nozzle to form a damp, as-applied product.
- D. Physical Properties: Minimum values, unless otherwise indicated, or higher values required to attain designated fire-resistance ratings, measured per standard test methods referenced with each property as follows:
 1. Dry Density: 15 lb/cu. ft. for average and individual densities, or greater if required to attain fire-resistance ratings indicated, per ASTM E 605 or AWCI Technical Manual 12-A, Section 5.4.5, "Displacement Method."
 2. Thickness: Minimum average thickness required for fire-resistance design indicated according to the following criteria, but not less than 0.375 inch, per ASTM E 605:
 - a. Where the referenced fire-resistance design lists a thickness of 1 inch or more, the minimum allowable individual thickness of SFRM is the design thickness minus 0.25 inch.
 - b. Where the referenced fire-resistance design lists a thickness of less than 1 inch but more than 0.375 inch, the minimum allowable individual thickness of SFRM is the greater of 0.375 inch or 75 percent of the design thickness.
 - c. No reduction in average thickness is permitted for those fire-resistance designs whose fire-resistance ratings were established at densities of less than 15 lb/cu. ft..
 3. Bond Strength: 150 lbf/sq. ft. minimum per ASTM E 736 based on laboratory testing of 0.75-inch minimum thickness of SFRM.
 4. Compressive Strength: 5.21 lbf/sq. in. minimum per ASTM E 761. Minimum thickness of SFRM tested shall be 0.75 inch and minimum dry density shall be as specified but not less than 15 lb/cu. ft..
 5. Corrosion Resistance: No evidence of corrosion per ASTM E 937.
 6. Deflection: No cracking, spalling, or delamination per ASTM E 759.
 7. Effect of Impact on Bonding: No cracking, spalling, or delamination per ASTM E 760.
 8. Air Erosion: Maximum weight loss of 0.025 g/sq. ft. in 24 hours per ASTM E 859. For laboratory tests, minimum thickness of SFRM is 0.75 inch, maximum dry density is 15 lb/cu. ft., test specimens are not prepurged by mechanically induced air velocities, and tests are terminated after 24 hours.
 9. Fire-Test-Response Characteristics: Provide SFRM with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

- a. Flame-Spread Index: 10 or less.
- b. Smoke-Developed Index: 0.

10. Fungal Resistance: No observed growth on specimens per ASTM G 21.

2.2 EXPOSED SFRM

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- B. Products: Subject to compliance with requirements, provide one of the following:
 1. Exposed Cementitious SFRM:
 - a. Carbolite Co., Fireproofing Products Div.; Pyrolite 22.
 - b. Carbolite Co., Fireproofing Products Div.; Pyrocrete 239.
 - c. Carbolite Co., Fireproofing Products Div.; Pyrocrete 40.
 - d. Carbolite Co., Fireproofing Products Div.; Pyrocrete 240 High Yield.
 - e. Carbolite Co., Fireproofing Products Div.; Pyrocrete 241.
 - f. Grace, W.R. & Co. - Conn., Construction Products Div.; Monokote Type Z106G.
 - g. Grace, W.R. & Co. - Conn., Construction Products Div.; Monokote Type Z106.
 - h. Grace, W.R. & Co. - Conn., Construction Products Div.; Monokote Type Z106/HY.
 - i. Grace, W.R. & Co. - Conn., Construction Products Div.; Monokote Type Z146.
 - j. Isolatek International Corp.; Cafco 400.
 - k. Isolatek International Corp.; Fendolite M-II.
 - l. Pyrok, Inc.; Pyrok-HD.
 - m. Pyrok, Inc.; Pyrok-MD.
 - n. Southwest Vermiculite Co., Inc.; 5MD.
 - o. Southwest Vermiculite Co., Inc.; 7GP.
 - p. Southwest Vermiculite Co., Inc.; 1XR.
 2. Exposed Sprayed-Fiber Fire-Resistive Material:
 - a. Isolatek International Corp.; Cafco Blaze-Shield HP.
- C. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 1. Insert, in separate subparagraphs, manufacturer's name.
- D. Material Composition: Manufacturer's standard product, as follows:
 1. Exposed Cementitious SFRM: Factory-mixed, dry, cement aggregate formulation; or chloride-free formulation of gypsum or portland cement binders, additives, and inorganic aggregates mixed with water at Project site to form a slurry or mortar for conveyance and application.
 2. Exposed Sprayed-Fiber Fire-Resistive Material: Factory-mixed, dry formulation of inorganic binders, mineral fibers, fillers, and additives conveyed in a dry state by

pneumatic equipment and mixed with water at spray nozzle to form a damp, as-applied product.

- E. Physical Properties: Minimum values, unless otherwise indicated, or higher values required to attain designated fire-resistance ratings, measured per standard test methods referenced with each property as follows:
1. Dry Density: Values for average and individual densities as required for fire-resistance ratings indicated, per ASTM E 605 or AWCI Technical Manual 12-A, Section 5.4.5, "Displacement Method," but with an average density of not less than 22 lb/cu. ft..
 2. Bond Strength: 434 lbf/sq. ft. minimum per ASTM E 736.
 3. Compressive Strength: 51 lbf/sq. in. minimum per ASTM E 761.
 4. Dry Density: Values for average and individual densities as required for fire-resistance ratings indicated, per ASTM E 605 or AWCI Technical Manual 12-A, Section 5.4.5, "Displacement Method," but with an average density of not less than 39 lb/cu. ft..
 5. Bond Strength: 1000 lbf/sq. ft. minimum per ASTM E 736.
 6. Compressive Strength: 300 lbf/sq. in. minimum per ASTM E 761.
 7. Corrosion Resistance: No evidence of corrosion per ASTM E 937.
 8. Deflection: No cracking, spalling, or delamination per ASTM E 759.
 9. Effect of Impact on Bonding: No cracking, spalling, or delamination per ASTM E 760.
 10. Air Erosion: Maximum weight loss of 0.025 g/sq. ft. per ASTM E 859.
 11. Combustion Characteristics: Passes ASTM E 136.
 12. Fire-Test-Response Characteristics: Provide SFRM with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - a. Flame-Spread Index: 10 or less.
 - b. Smoke-Developed Index: 0.
 13. Fungal Resistance: No observed growth on specimens per ASTM G 21.
 14. For exterior applications of SFRM, provide formulation listed and labeled by testing and inspecting agency acceptable to authorities having jurisdiction for surfaces exposed to exterior.

2.3 AUXILIARY FIRE-RESISTIVE MATERIALS

- A. General: Provide auxiliary fire-resistive materials that are compatible with SFRM and substrates and are approved by UL or another testing and inspecting agency acceptable to authorities having jurisdiction for use in fire-resistance designs indicated.
- B. Substrate Primers: For use on each substrate and with each sprayed fire-resistive product, provide primer that complies with one or more of the following requirements:
1. Primer's bond strength complies with requirements specified in UL's "Fire Resistance Directory" for coating materials based on a series of bond tests per ASTM E 736.
 2. Primer is identical to those used in assemblies tested for fire-test-response characteristics of SFRM per ASTM E 119 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
- C. Adhesive for Bonding Fire-Resistive Material: Product approved by manufacturer of SFRM.

- D. Metal Lath: Expanded metal lath fabricated from material of weight, configuration, and finish required to comply with fire-resistance designs indicated and fire-resistive material manufacturer's written recommendations. Include clips, lathing accessories, corner beads, and other anchorage devices required to attach lath to substrates and to receive SFRM.
- E. Reinforcing Fabric: Glass- or carbon-fiber fabric of type, weight, and form required to comply with fire-resistance designs indicated; approved and provided by manufacturer of SFRM.
- F. Reinforcing Mesh: Metallic mesh reinforcement of type, weight, and form required to comply with fire-resistance designs indicated; approved and provided by manufacturer of intumescent mastic coating fire-resistive material. Include pins and attachment.
- G. Sealer for Sprayed-Fiber Fire-Resistive Material: Transparent-drying, water-dispersible, tinted protective coating recommended in writing by manufacturer of sprayed-fiber fire-resistive material.
 - 1. Product: Subject to compliance with requirements, provide "Cafco Bond-Seal" by Isolatek International Corp.
- H. Topcoat: Type recommended in writing by manufacturer of each SFRM for application over concealed and exposed SFRM.
- I. Cement-Based Topcoat: Factory-mixed, cementitious hardcoat formulation recommended in writing by manufacturer of SFRM for trowel or spray application over concealed and exposed SFRM.
 - 1. Product: Subject to compliance with requirements, provide "Hardcoat 4500" by Carboline Co.; Fireproofing Products Div. "Cafco 800" by Isolatek International Corp.
- J. Veneer-Plaster Topcoat: Factory-mixed formulation of a latex-modified, portland cement-based veneer plaster recommended in writing by manufacturer of SFRM for trowel or spray application over concealed and exposed SFRM.
 - 1. Product: Subject to compliance with requirements, provide "Topkrete Type TK-610L" by Grace, W. R. & Co.--Conn.; Construction Products Div.
- K. Water-Based Permeable Topcoat: Factory-mixed formulation recommended in writing by manufacturer of SFRM for brush, roller, or spray application over concealed and exposed SFRM. Provide application at a rate of 120 sq. ft./gal..
 - 1. Product: Subject to compliance with requirements, provide "Cafco Topcoat" by Isolatek International Corp.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrates and other conditions affecting performance of work. A substrate is in satisfactory condition if it complies with the following:

1. Substrates comply with requirements in the Section where the substrate and related materials and construction are specified.
 2. Substrates are free of dirt, oil, grease, release agents, rolling compounds, mill scale, loose scale, incompatible primers, incompatible paints, incompatible encapsulants, or other foreign substances capable of impairing bond of fire-resistive materials with substrates under conditions of normal use or fire exposure.
 3. Objects penetrating fire-resistive material, including clips, hangers, support sleeves, and similar items, are securely attached to substrates.
 4. Substrates are not obstructed by ducts, piping, equipment, and other suspended construction that will interfere with applying fire-resistive material.
- B. Verify that concrete work on steel deck has been completed.
- C. Verify that roof construction, installation of roof-top HVAC equipment, and other related work are completed.
- D. Conduct tests according to fire-resistive material manufacturer's written recommendations to verify that substrates are free of substances capable of interfering with bond.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Cover other work subject to damage from fallout or overspray of fire-resistive materials during application.
- B. Clean substrates of substances that could impair bond of fire-resistive material, including dirt, oil, grease, release agents, rolling compounds, mill scale, loose scale, and incompatible primers, paints, and encapsulants.
- C. Prime substrates where recommended in writing by SFRM manufacturer unless compatible shop primer has been applied and is in satisfactory condition to receive SFRM.
- D. For exposed applications, repair substrates to remove surface imperfections that could affect uniformity of texture and thickness in finished surface of SFRM. Remove minor projections and fill voids that would telegraph through fire-resistive products after application.

3.3 APPLICATION, GENERAL

- A. Comply with fire-resistive material manufacturer's written instructions for mixing materials, application procedures, and types of equipment used to mix, convey, and spray on fire-resistive material, as applicable to particular conditions of installation and as required to achieve fire-resistance ratings indicated.
- B. Apply SFRM that is identical to products tested as specified in Part 1 "Quality Assurance" Article and substantiated by test reports, with respect to rate of application, accelerator use, sealers, topcoats, tamping, troweling, water overspray, or other materials and procedures affecting test results.

- C. Install metal lath and reinforcing fabric, as required, to comply with fire-resistance ratings and fire-resistive material manufacturer's written recommendations for conditions of exposure and intended use. Securely attach lath and fabric to substrate in position required for support and reinforcement of fire-resistive material. Use anchorage devices of type recommended in writing by SFRM manufacturer. Attach accessories where indicated or required for secure attachment of lath and fabric to substrate.
- D. Coat substrates with bonding adhesive before applying fire-resistive material where required to achieve fire-resistance rating or as recommended in writing by SFRM manufacturer for material and application indicated.
- E. Extend fire-resistive material in full thickness over entire area of each substrate to be protected. Unless otherwise recommended in writing by SFRM manufacturer, install body of fire-resistive covering in a single course.
- F. Spray apply fire-resistive materials to maximum extent possible. Following the spraying operation in each area, complete the coverage by trowel application or other placement method recommended in writing by SFRM manufacturer.
- G. For applications over encapsulant materials, including lockdown (post-removal) encapsulants, apply SFRM that differs in color from that of encapsulant over which it is applied.
- H. Where sealers are used, apply products that are tinted to differentiate them from SFRM over which they are applied.

3.4 APPLICATION, CONCEALED SFRM

- A. Apply concealed SFRM in thicknesses and densities not less than those required to achieve fire-resistance ratings designated for each condition, but apply in greater thicknesses and densities if specified in Part 2 "Concealed SFRM" Article.
- B. Apply water overspray to concealed sprayed-fiber fire-resistive material as required to obtain designated fire-resistance rating and where indicated.
- C. Cure concealed SFRM according to product manufacturer's written recommendations.
- D. Apply sealer to concealed SFRM.
- E. Apply topcoat to concealed SFRM.

3.5 APPLICATION, EXPOSED SFRM

- A. Apply exposed SFRM in thicknesses and densities not less than those required to achieve fire-resistance ratings designated for each condition, but apply in greater thicknesses and densities if indicated.
 - 1. For steel beams and bracing, provide a thickness of not less than 1 inch.
 - 2. For metal floor or roof decks, provide a thickness of not less than 1/2 inch.

- B. Provide a uniform finish complying with description indicated for each type of material and matching Architect's sample or, if none, finish approved for field-erected mockup.
- C. Apply exposed cementitious SFRM to produce the following finish:
 - 1. Spray-textured finish with no further treatment.
 - 2. Even, spray-textured finish, produced by rolling flat surfaces of fire-protected members with a damp paint roller to remove drippings and excessive roughness.
 - 3. Skip-troweled finish with leveled surface, smoothed-out texture, and neat edges.
 - 4. Smooth, troweled finish with surface markings eliminated and edges squared.
- D. Apply exposed sprayed-fiber fire-resistive material to produce the following finish:
 - 1. Spray-textured finish.
 - 2. Sealer.
 - 3. Topcoat.
- E. Cure exposed SFRM according to product manufacturer's written recommendations.
 - 1.

3.6 FIELD QUALITY CONTROL

- A. Special Inspections: Engage a qualified special inspector to perform the following special inspection and prepare reports:
 - 1. SFRM.
- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections and prepare test reports.
 - 1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.
- C. Tests and Inspections: Testing and inspecting of completed applications of SFRM shall take place in successive stages, in areas of extent and using methods as follows. Do not proceed with application of SFRM for the next area until test results for previously completed applications of SFRM show compliance with requirements. Tested values must equal or exceed values indicated and required for approved fire-resistance design.
 - 1. Thickness for Floor, Roof, and Wall Assemblies: For each 1000-sq. ft. area, or partial area, on each floor, from the average of 4 measurements from a 144-sq. in. sample area, with sample width of not less than 6 inches per ASTM E 605.
 - 2. Thickness for Structural Frame Members: From a sample of 25 percent of structural members per floor, taking 9 measurements at a single cross section for structural frame beams or girders, 7 measurements of a single cross section for joists and trusses, and 12 measurements of a single cross section for columns per ASTM E 605.
 - 3. Density for Floors, Roofs, Walls, and Structural Frame Members: At frequency and from sample size indicated for determining thickness of each type of construction and structural framing member, per ASTM E 605 or AWCI Technical Manual 12-A, Section 5.4.5, "Displacement Method."

4. Bond Strength for Floors, Roofs, Walls, and Structural Framing Members: For each 10,000-sq. ft. area, or partial area, on each floor, cohesion and adhesion from one sample of size indicated for determining thickness of each type of construction and structural framing member, per ASTM E 736.
 - a. Field test SFRM that is applied to flanges of wide-flange, structural-steel members on surfaces matching those that will exist for remainder of steel receiving fire-resistive material.
 - b. If surfaces of structural steel receiving SFRM are primed or otherwise painted for coating materials, perform series of bond tests specified in UL's "Fire Resistance Directory." Provide bond strength indicated in referenced UL fire-resistance criteria, but not less than 150 lbf/sq. ft. minimum per ASTM E 736.
 5. If testing finds applications of SFRM are not in compliance with requirements, testing and inspecting agency will perform additional random testing to determine extent of noncompliance.
- D. Remove and replace applications of SFRM that do not pass tests and inspections for cohesion and adhesion, for density, or for both and retest as specified above.
 - E. Apply additional SFRM, per manufacturer's written instructions, where test results indicate that thickness does not comply with specified requirements, and retest as specified above.

3.7 CLEANING, PROTECTING, AND REPAIR

- A. Cleaning: Immediately after completing spraying operations in each containable area of Project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.
- B. Protect SFRM, according to advice of product manufacturer and Installer, from damage resulting from construction operations or other causes so fire protection will be without damage or deterioration at time of Substantial Completion.
- C. Coordinate application of SFRM with other construction to minimize need to cut or remove fire protection. As installation of other construction proceeds, inspect SFRM and patch any damaged or removed areas.
- D. Repair or replace work that has not successfully protected steel.

END OF SECTION 078100

SECTION 096253 - SYNTHETIC TURF FLOORING**PART 1 - GENERAL****1.1 SUMMARY**

A. Section includes indoor synthetic turf flooring.

1.2 ACTION SUBMITTALS

A. Product Data: For each product specified. Include details of construction relative to materials, dimensions of individual components.

B. Sustainable Design Submittals:

1. Product Data: For adhesive, including printed statement of VOC content.

C. Shop Drawings: Show details of installation, including plans, sections, and interfaces with adjacent construction.

1.3 INFORMATIONAL SUBMITTALS

A. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For synthetic turf flooring to include in maintenance manuals.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions by field measurements before manufacture and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Environmental Limitations: Do not deliver or install surfacing material if either ambient air temperature or material temperature is below 32 degrees F.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer who is trained and approved by manufacturer.

1.7 WARRANTY

A. Special Warranty: Submit a written non-prorated, unlimited usage, non-cancelable warranty executed by the manufacturer and installer agreeing to repair or replace synthetic surfacing that fails in materials or workmanship within the specified warranty period. Failures include, but are not limited to, the following:

1. Premature wear and tear, provided the material is maintained in accordance with manufacturer's written maintenance instructions.

B. Warranty Period: 5 years from date of Substantial Completion.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, SpeedTurf40 or a comparable product by one of the following:

1. Ecore Rage Turf Motivate.
2. AstroTurf, LLC.
3. Amarco Products

B. Comparable Products: Comparable products will be evaluated against the basis-of-design by the following attributes:

1. Material composition.
2. Pile weight and height.
3. Tufting Gauge.
4. Backing.
5. Thickness.
6. Color and pattern.

2.2 SYSTEM COMPONENTS

A. Trim and Edge: Provide rubber transition ramps along edge of synthetic surfacing where it interfaces with unfinished concrete surfaces.

1. Dimensions: 12 inches wide by 96 inches long by thickness of synthetic surfacing.

B. Adhesives and Seam Sealers: Manufacturer's standard VOC compliant materials.

1. VOC Limits: Provide adhesives with VOC content not more than 50g/L.

C. Markings: Tufted in place.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where playing surface will be installed, with Installer present, for compliance with requirements for conditions affecting performance of installed playing surface.

1. Verify that substrates for placing playing surface are firm; dry; clean; free from oil, and waxy films.
2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located under playing surface has been completed before installing turf.
3. Verify that joints and cracks in substrates will not adversely affect installed playing surface.

B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Over concrete substrate, install synthetic flooring according to manufacturer's written instructions.

B. Ensure edges and seams are securely adhered. Apply seam sealer to secure cut edges of turf material at both seams and exposed edges of turf.

C. Install transitions to unfinished concrete.

3.3 CLEANING AND PROTECTING

A. Protect flooring from other construction and debris until Substantial Completion.

END OF SECTION

SECTION 09646 - INTUMESCENT PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes surface preparation and application of fire-retardant intumescent paint to interior items and surfaces.
- B. Related Requirements:
 - 1. Section 078100 "Applied Fireproofing" for fire-resistance-rated intumescent mastic materials.
 - 2. Section 099113 "Exterior Painting" for primers and finish coats that may be used with intumescent paint finishes.
 - 3. Section 099123 "Interior Painting" for primers and finish coats that may be used with intumescent paint finishes.
 - 4. Section 099300 "Staining and Transparent Finishing" for primers, finish coats, and wood stains that may be used with intumescent paint finishes.
 - 5. Section 099633 "High-Temperature-Resistant Coatings" for special coatings designed for use on steel subject to extremely high temperatures.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Sustainable Design Submittals:
 - 1. [Product Data](#): For paints and coatings, indicating VOC content.
 - 2. Laboratory Test Reports: For paints and coatings, indicating compliance with requirements for low-emitting materials.
- C. Samples for Initial Selection: For each intumescent paint finish indicated.

- D. Samples for Verification: For each type of coating system and each color and gloss of intumescent paint finish indicated.
1. Submit Samples on rigid backing, not less than 8 inches square.
 2. Apply coats on Samples in steps to show each coat required for system.
 3. Label each coat of each Sample.
 4. Label each Sample for location and application area.
- E. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Test Reports: For each intumescent paint listing 1 & 2 hour installation.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that are from same production run (batch mix) as materials applied and that are packaged with protective covering for storage and identified with labels describing contents.
1. Quantity: Furnish an additional 5 percent of each color applied, but not less than 1 gal. of each material and color applied.

1.7 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Architect will select one surface to represent surfaces and conditions for application of each coating system.
 - a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft..
 - b. Other Items: Architect will designate items or areas required.
 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.9 FIELD CONDITIONS

- A. Apply waterborne intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 50 and 90 deg F.
- B. Apply solvent-thinned intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 45 and 95 deg F.
- C. Do not apply intumescent paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- D. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before starting or continuing coating operation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Ameron; Comex Group.
 - 2. Benjamin Moore & Co.
 - 3. Columbia Paint & Coatings.
 - 4. PPG Architectural Finishes, Inc.

2.2 INTUMESCENT PAINT MATERIALS, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Surface-Burning Characteristics of Fire-Retardant Systems: As tested according to ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 75 or less.
 - 2. Smoke-Developed Index: 450 or less.
- C. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each material or coat, products and spreading rates shall be as recommended in writing by intumescent paint manufacturer for use on substrate indicated. Comply with requirements for fire-retardant coating classification and surface-burning characteristics indicated.
- D. **VOC Content:** For field applications that are inside the weatherproofing system, paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:
1. Flat Paints and Coatings: 50 g/L.
 2. Nonflat Paints and Coatings: 150 g/L.
 3. Primers, Sealers, and Undercoaters: VOC not more than 200 g/L.
 4. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.
- E. **Low-Emitting Materials:** Interior paints and coatings shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- F. **Colors and Gloss:** As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with manufacturer's requirements for surface treatments, shop-primed surfaces, maximum moisture content, and other conditions affecting performance of the Work.
- B. Begin coating only when moisture content of wood substrate is 15 percent or less when measured with an electronic moisture meter.
- C. Begin coating no sooner than 28 days after substrate is constructed and is visually dry on both sides.
- D. Verify suitability of substrates, including surface conditions, and compatibility with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in the "MPI Architectural Painting Specification Manual" applicable to substrates and coating systems indicated.

- B. Remove hardware and hardware accessories, plates, machined surfaces, light fixtures, and similar items already installed that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.
 - 1. After completing coating operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants. Do not coat surfaces if surface moisture content or alkalinity exceeds that permitted in manufacturer's written instructions.
 - 1. Remove incompatible primers, and reprime substrate with compatible primers as required to produce coating systems indicated.
 - 2. Perform cleaning and coating application so dust and other contaminants from cleaning process do not fall on wet, newly coated surfaces.

3.3 APPLICATION

- A. General: Apply intumescent paints according to manufacturer's written instructions and to comply with requirements for listing and labeling for surface-burning characteristics specified.
 - 1. Use equipment and techniques best suited for substrate and type of material being applied.
 - 2. Coat surfaces behind movable items the same as similar exposed surfaces.
 - 3. Apply each coat separately according to manufacturer's written instructions.
 - 4. Finish doors on faces with intumescent finish. Paint tops, bottoms, and side edges with fire-inert finish.
- B. Apply coatings to prepared surfaces as soon as practical after preparation and before subsequent surface soiling or deterioration.
- C. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Produce sharp lines and color breaks.
 - 1. Pigmented Finishes: If undercoats or other conditions show through pigmented topcoat/overcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

- C. Protect work of other trades against damage from coating application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

END OF SECTION 099646

SECTION 102800 – TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

- 1. Public-use washroom accessories.
- 2. Private-use bathroom accessories.
- 3. Custodial accessories.

B. Related Requirements:

- 1. Section 093013 "Ceramic Tiling" for ceramic toilet and bath accessories.
- 2. Section 102813.63 "Detention Toilet Accessories" for accessories designed for installation in detention facilities.

1.3 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
- 3. Include electrical characteristics.

B. Samples: Full size, for each exposed product and for each finish specified.

- 1. Approved full-size Samples will be returned and may be used in the Work.

- C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated.
 - 2. Identify accessories using designations indicated.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For accessories to include in maintenance manuals.

1.7 WARRANTY

- A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, visible silver spoilage defects.
 - 2. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED MATERIALS

- A. Owner-Furnished Materials: Toilet Paper dispenser and soap dispenser

2.2 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 PUBLIC-USE WASHROOM ACCESSORIES

- A. Source Limitations: Obtain public-use washroom accessories from single source from single manufacturer.
- B. Grab Bar:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.

- c. [Bradley Corporation](#).
 2. Mounting: Flanges with concealed fasteners.
 3. Material: Stainless steel, 0.05 inch thick.
 - a. Finish: Smooth, No. 4 finish (satin) on ends and slip-resistant texture in grip area.
 4. Outside Diameter: 1-1/4 inches.
 5. Configuration and Length: As indicated on Drawings.
- C. Mirror Unit
1. [Manufacturers](#): Subject to compliance with requirements, provide products by one of the following:
 - a. [American Specialties, Inc.](#)
 - b. [Bobrick Washroom Equipment, Inc.](#)
 - c. [Bradley Corporation](#).
 2. Frame: Stainless-steel channel Stainless steel, fixed tilt.
 - a. Corners: Manufacturer's standard.
 3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.
 - a. One-piece, galvanized-steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.
 - b. Wall bracket of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.
 4. Size: As indicated on Drawings.
- D. Coat Hook
1. [Manufacturers](#): Subject to compliance with requirements, provide products by one of the following:
 - a. [American Specialties, Inc.](#)
 - b. [Bobrick Washroom Equipment, Inc.](#)
 - c. [Bradley Corporation](#).
 2. Description: Double-prong unit.
 3. Material and Finish: Stainless steel, No. 4 finish (satin).
- E. Hand Dryer

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bobrick Washroom Equipment, Inc.
2. Description: Xlerator XL-SB-ECO high speed hand dryer 110-120V
3. Material and Finish: Brushed Stainless Steel

F. Baby Changing Station

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
2. Description: Surface mounted horizontal unit that folds open with pneumatic shock-absorbing mechanism.
 - a. Complies with ADA and ASTM F2285.
3. Material and Finish: Stainless steel

G. Sanitary-Napkin Disposal Unit

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
2. Description: Surface mounted, hinged top cover
3. Material and Finish: Stainless steel satin finish

2.4 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch minimum nominal thickness unless otherwise indicated.
- B. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip zinc coating.
- C. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

- D. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- E. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

2.5 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

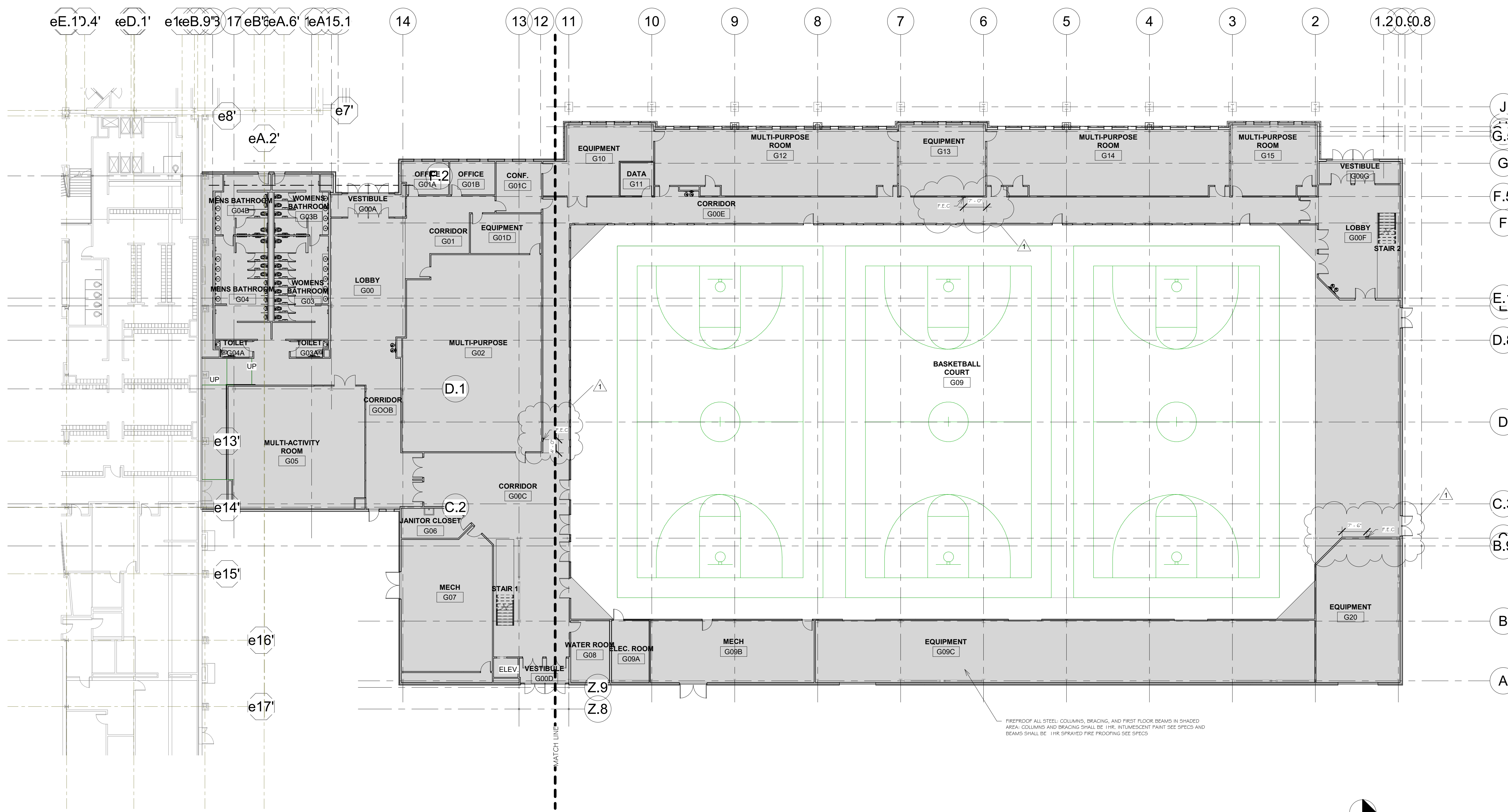
3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

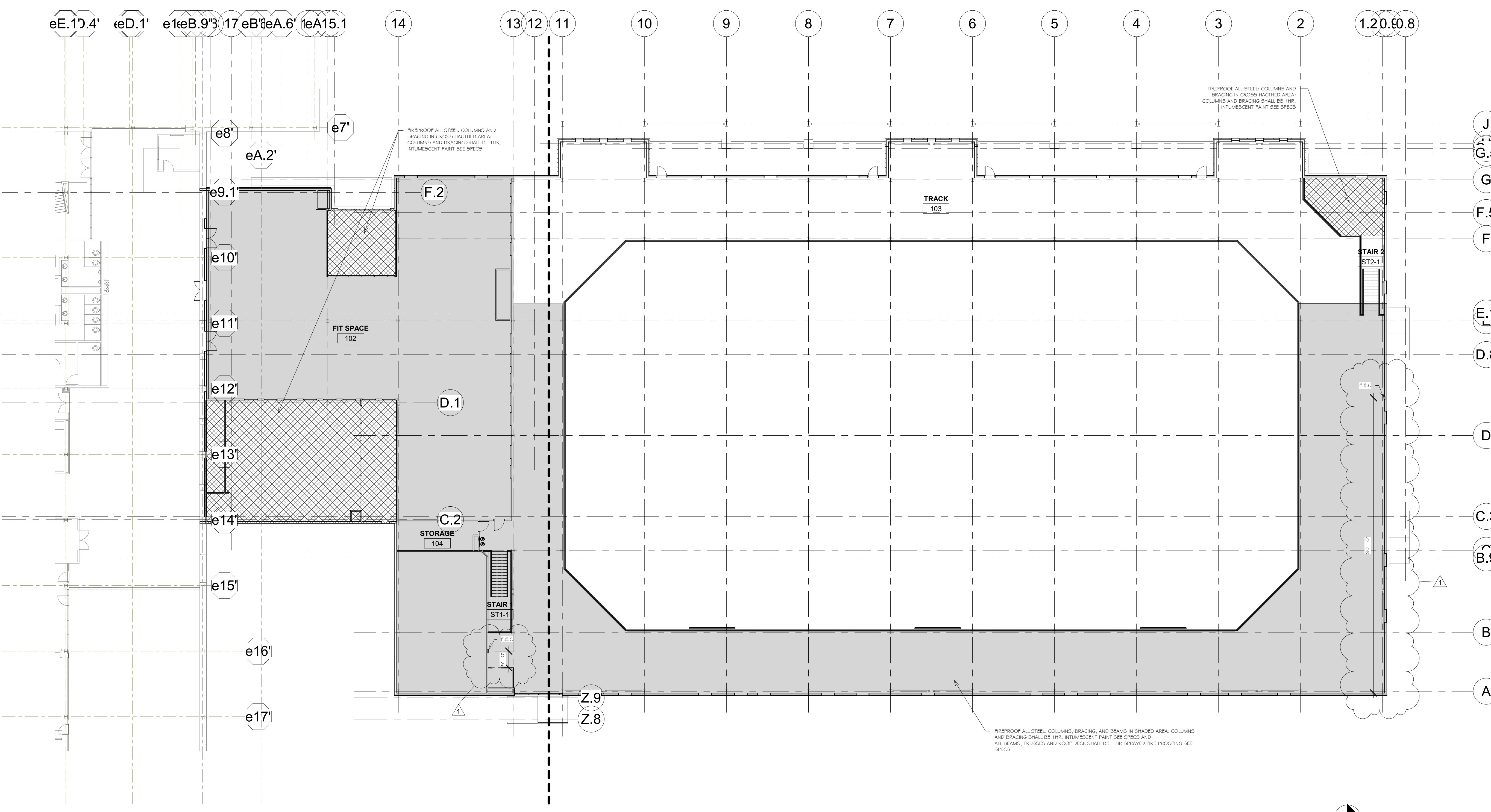
3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written instructions.

END OF SECTION 102800



1 CODE PLAN - GROUND FLOOR
1/16" = 1'-0"



2 CODE PLAN - FIRST FLOOR
1/16" = 1'-0"

CODE INFORMATION

BUILDING TYPE	TYPE 2A			
OCCUPANCY CLASSIFICATION	ALLOWABLE HEIGHT	SPRINKLER	ALLOWABLE STORES	SPRINKLERED
	ALLOWED	ACTUAL	ALLOWED	ACTUAL
ASSEMBLY GROUP "A-3"	B5	43	3	2
FIRE RATING OF BUILDING ELEMENTS	STRUCTURAL FRAMING	1HR		
	EXTERIOR BEARING WALLS	1HR		
	FLOOR CONSTRUCTION	1HR		
	ROOF CONSTRUCTION AND MEMBERS	1HR		
BUILDING AREA	TOTAL	66836	54956	
	MEZZ. SECTION 505			
STAR TOWER ELEVATOR SHAFT	2HR			
	2HR			
TRAVEL DISTANCE WITH SPRINKLER GROUP A	250'			
	100'	100'		
AREAS OF REFUGE				
1009.3 STAIRWAYS, EXCEPTION 5. AREA OF REFUGE ARE NOT REQUIRED AT STAIRWAYS IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.				
1009.4 ELEVATORS, EXCEPTION 2. AREAS OF REFUGE ARE NOT REQUIRED IN BUILDINGS AND FACILITIES EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM...				
TWO-STORY OPENINGS				
TWO STORY OPEN BETWEEN FLOORS G AND MEZZ. MEET CODE SECTION 712.1.9				
FIRE EXTINGUISHERS				
GREATEST DISTANCE IN BUILDING 75' TO EXTINGUISHER				
OCCUPANCY SIGNAGE				
INSTALL SIGNAGE ALL A3 SPACES				
REQUIRED NUMBER OF EXIT DOORS				
ALL ROOMS WITH MORE THAN 49 PEOPLE SHALL HAVE 2 DOORS, SWING IN DIRECTION OF TRAVEL				
1005 MEANS OF EGRESS SIZING				
1005.3.1 STAIRS, EXCEPTION 1. REQUIRED WIDTH .15 INCH PER OCCUPANT				
	REQ. WIDTH	ACTUAL WIDTH		
GROUND FLOOR LOAD	1500	225'	750'	
FIT SPACE	250	36"	76"	
ROOM USE SEE FLOOR PLANS				
ROOF				
ROOF SHALL BE CLASS A MATERIAL				
SAFEGUARDS DURING CONSTRUCTION				
MAINTAIN ALL EXITS				
FIRE EXTINGUISHERS AS REQUIRED				

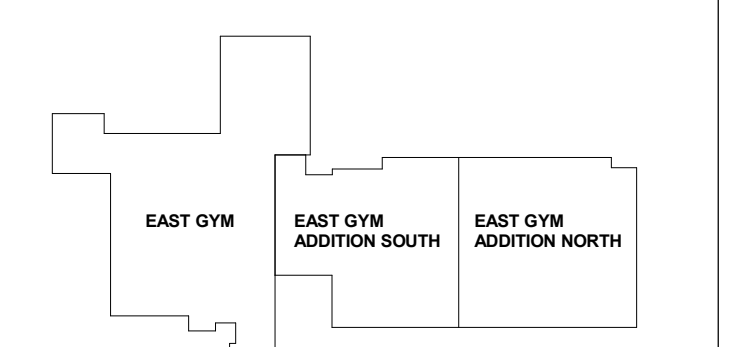


Email: mail@delta-eas.com
www.delta-eas.com

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER DIRECTION OF A LICENSED ARCHITECT OR ENGINEER, TO ALTER THIS DRAWING IN ANY WAY. ALTERATIONS MUST HAVE THE SEAL AFFIXED ALONG WITH A DESCRIPTION OF THE ALTERATION, SIGNATURE, AND DATE.

EAST GYM ADDITION

KEY PLAN



BINGHAMTON UNIVERSITY
P.O. BOX 6000
4400 VESTAL PARKWAY EAST
BINGHAMTON, NY 13902-6000

PHYSICAL FACILITIES
PH (607) 777-2224
FAX (607) 777-2340

CAMPUS BUILDING NAME:
"EAST GYM"

CAMPUS BUILDING NO. 001

REVISIONS

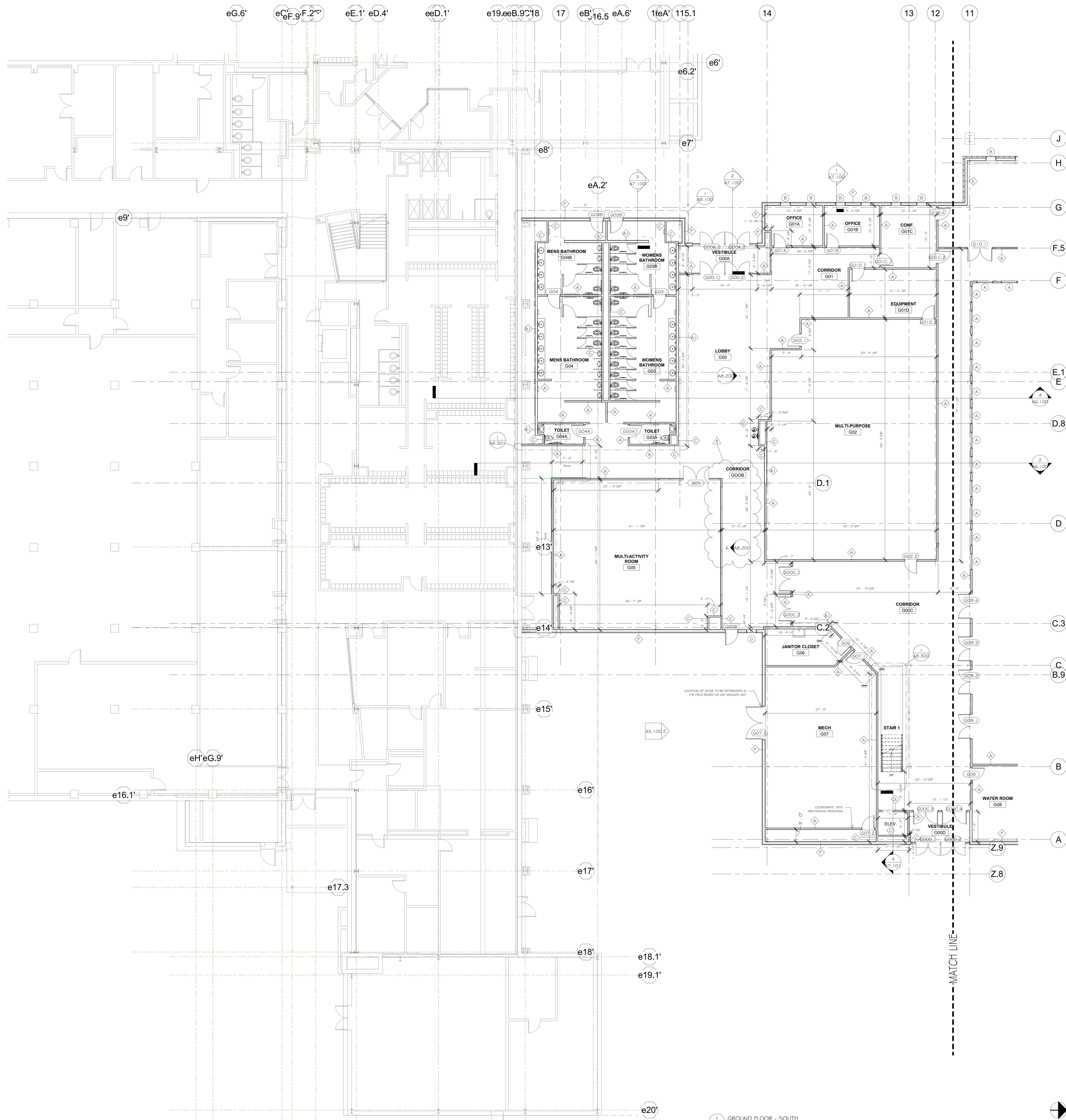
No.	Description	Date
1	ADDENDUM #5	04.29.2024

Code Sheet

Project No. WO339455
Date 2024.04.15
Drawn By William Hall
Checked By William Hall

A1.100

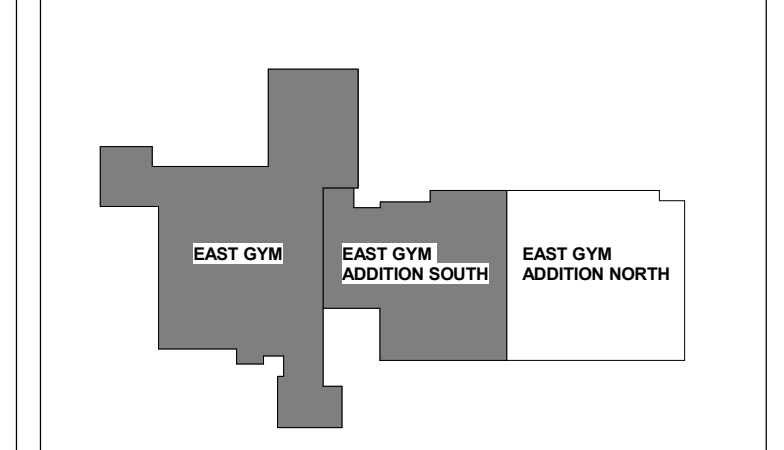
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EAST GYM ADDITION

KEY PLAN



BINGHAMTON UNIVERSITY
P.O. BOX 6000
4400 VESTAL PARKWAY EAST
BINGHAMTON, NY 13902-6000

PHYSICAL FACILITIES
PH (607) 777-2224
FAX (607) 777-2340

CAMPUS BUILDING NAME:
"EAST GYM"

CAMPUS BUILDING NO. 001

REVISIONS

No.	Description	Date
1	ADDENDUM #5	04.29.2024

Ground Floor Plan South

Project No. WO339455
Date 2024.04.15
Drawn By Nicolette Burch
Checked By William Hall

A3.102
Scale: AS NOTED

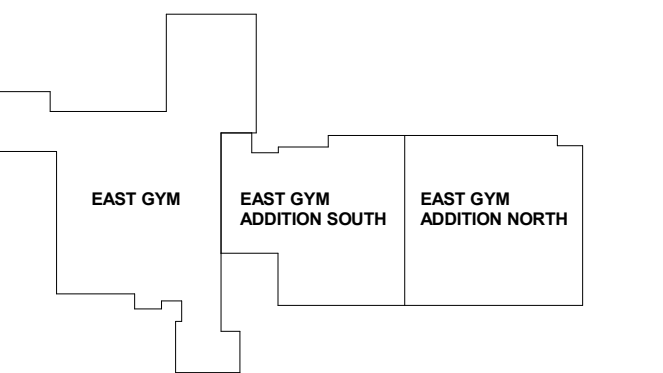


Email: mail@delta-eas.com
www.delta-eas.com

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EAST GYM ADDITION

KEY PLAN



BINGHAMTON UNIVERSITY
P.O. BOX 6000
4400 VESTAL PARKWAY EAST
BINGHAMTON, NY 13902-6000

PHYSICAL FACILITIES
PH (607) 777-2224
FAX (607) 777-2340

CAMPUS BUILDING NAME:
"EAST GYM"
CAMPUS BUILDING NO. 001

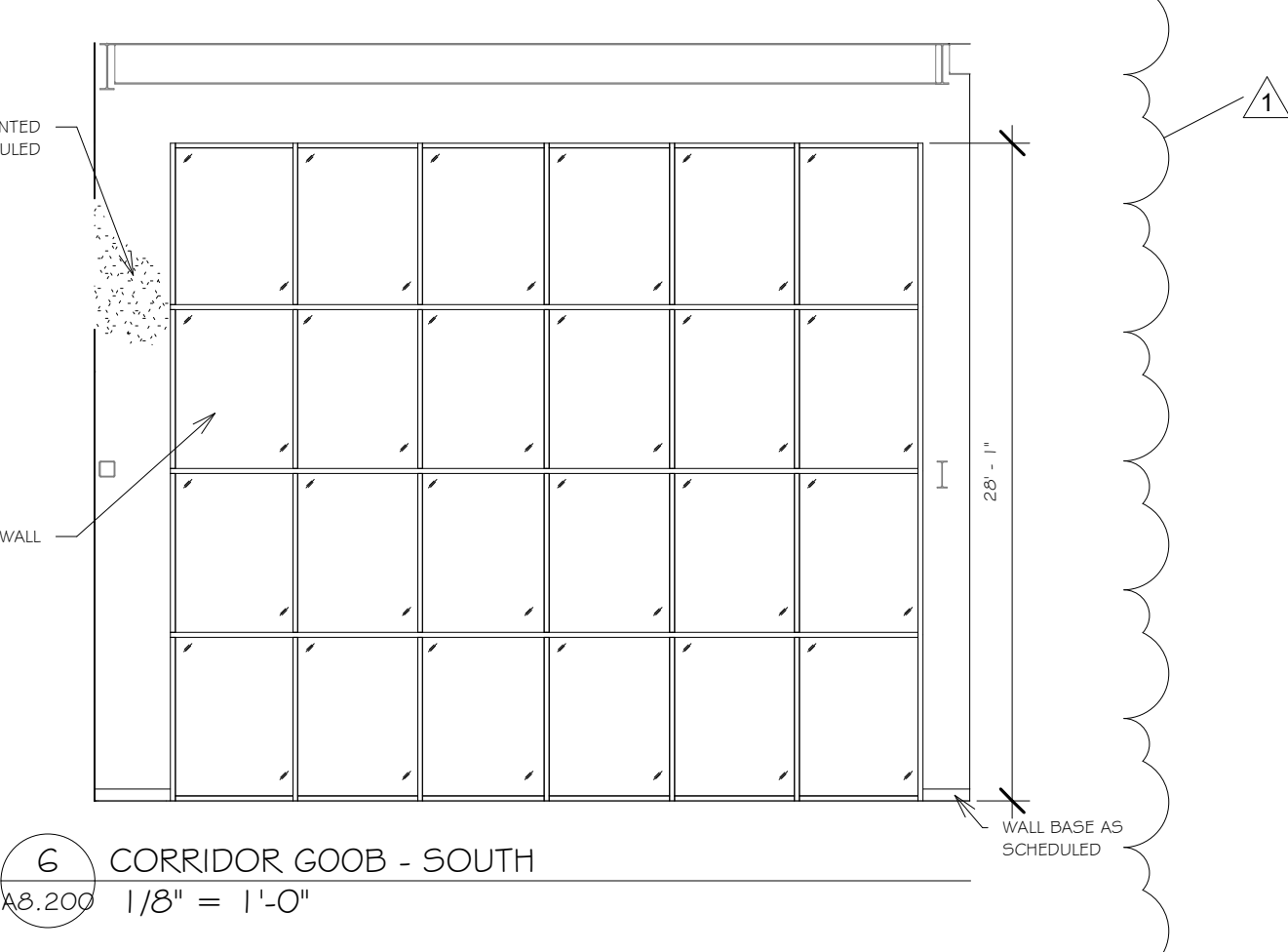
REVISIONS		
No.	Description	Date
1	ADDENDUM #5	04/29/2024

Interior Elevations

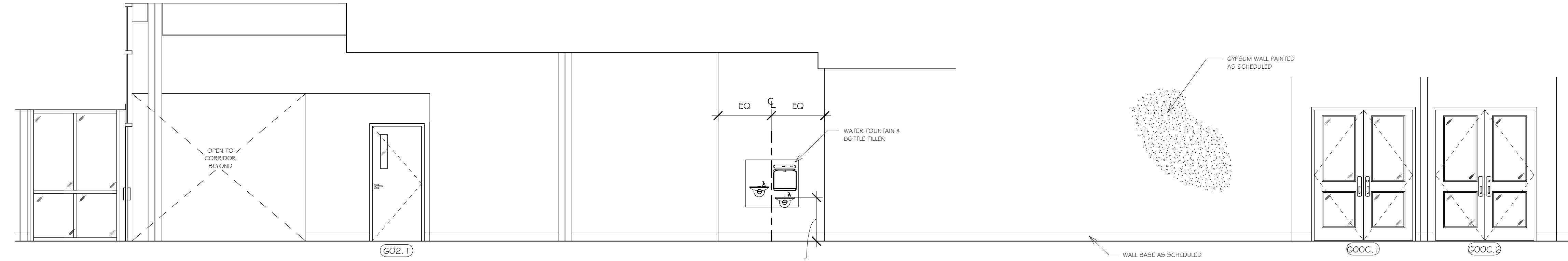
Project No. WO339455
Date 2024.04.15
Drawn By Nicolette Burch
Checked By William Hall

A8.200

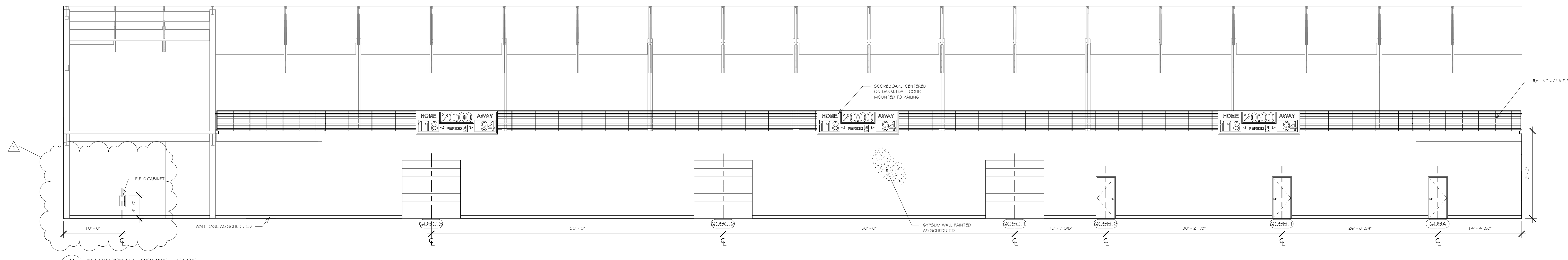
Scale: AS NOTED



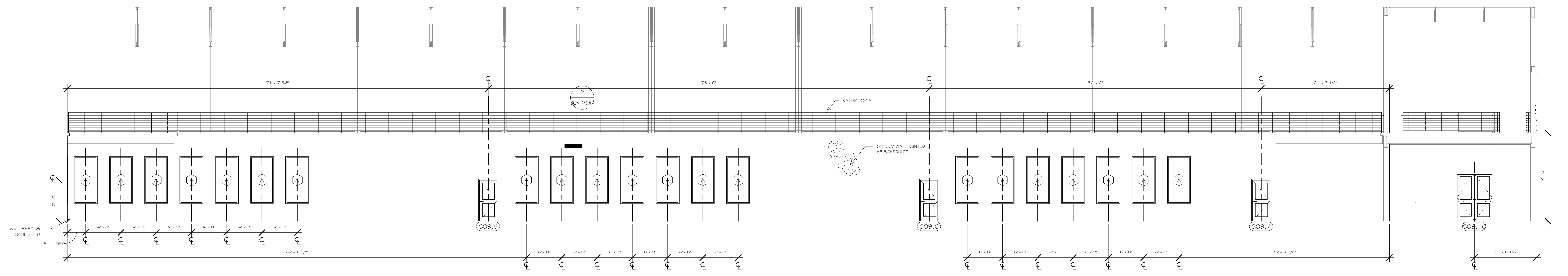
6 CORRIDOR GO0B - SOUTH
A8.200 1/8" = 1'-0"



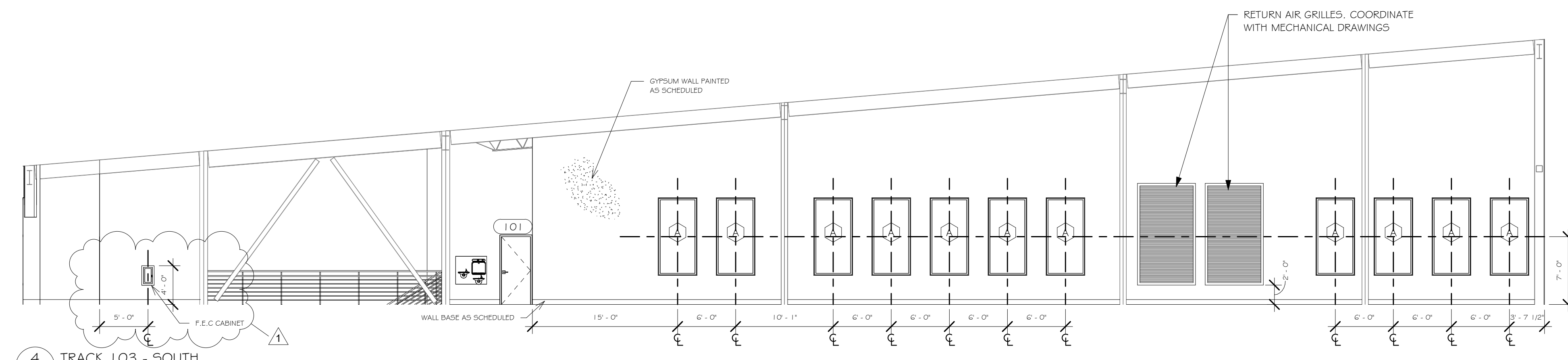
1 LOBBY GO0 - NORTH
A8.200 1/4" = 1'-0"



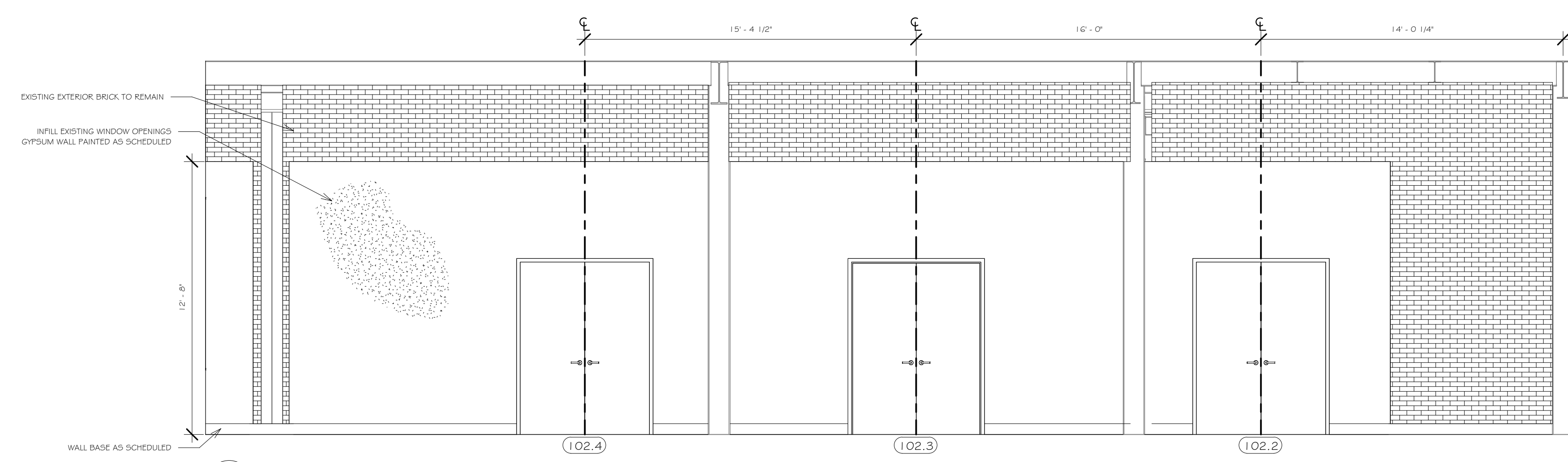
2 BASKETBALL COURT - EAST
A8.200 1/8" = 1'-0"



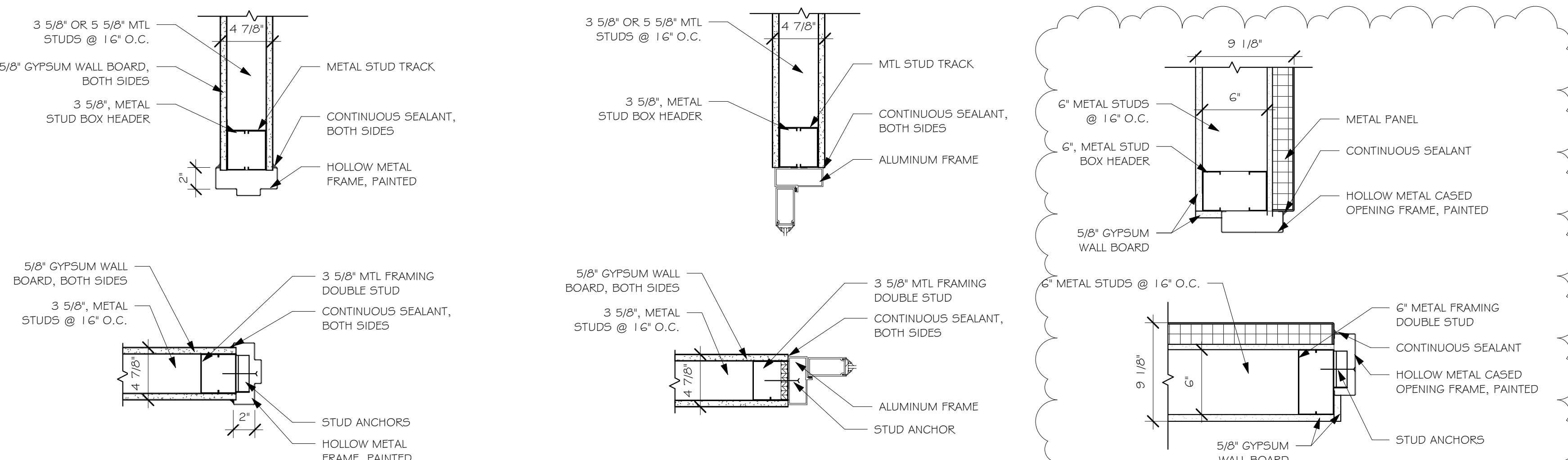
3 BASKETBALL COURT - WEST
A8.200 1/8" = 1'-0"



4 TRACK 103 - SOUTH
A8.200 1/8" = 1'-0"



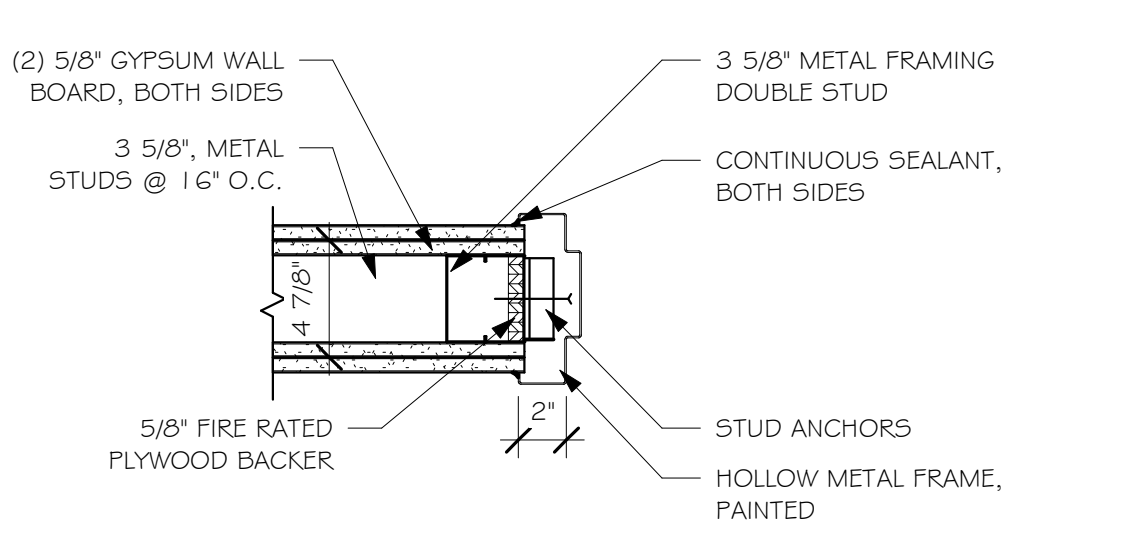
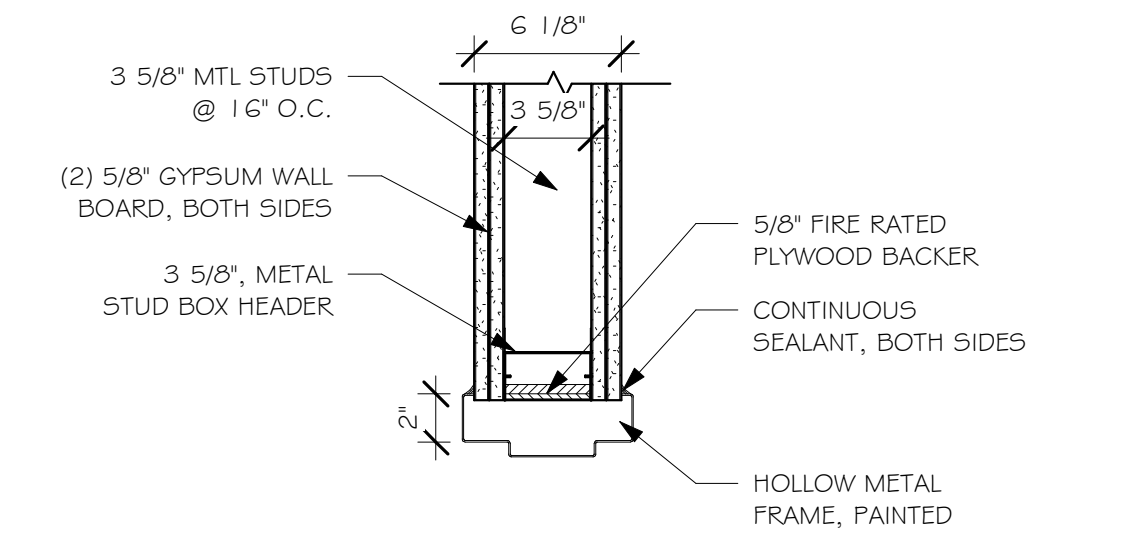
5 FITSPACE 102 - SOUTH
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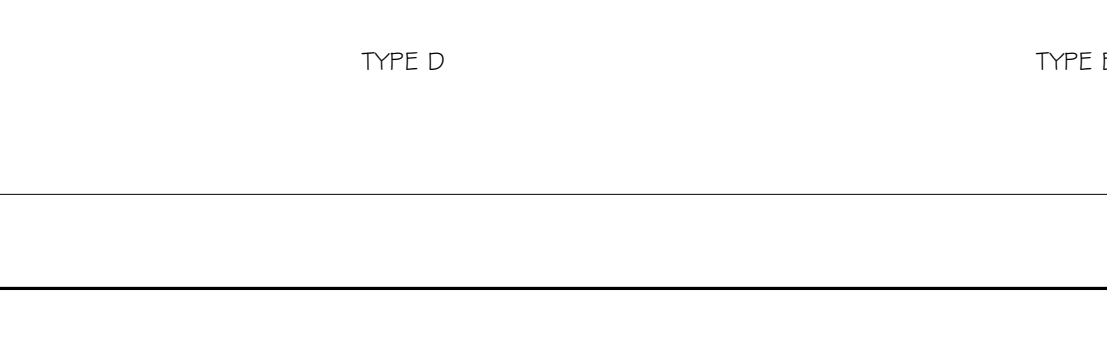
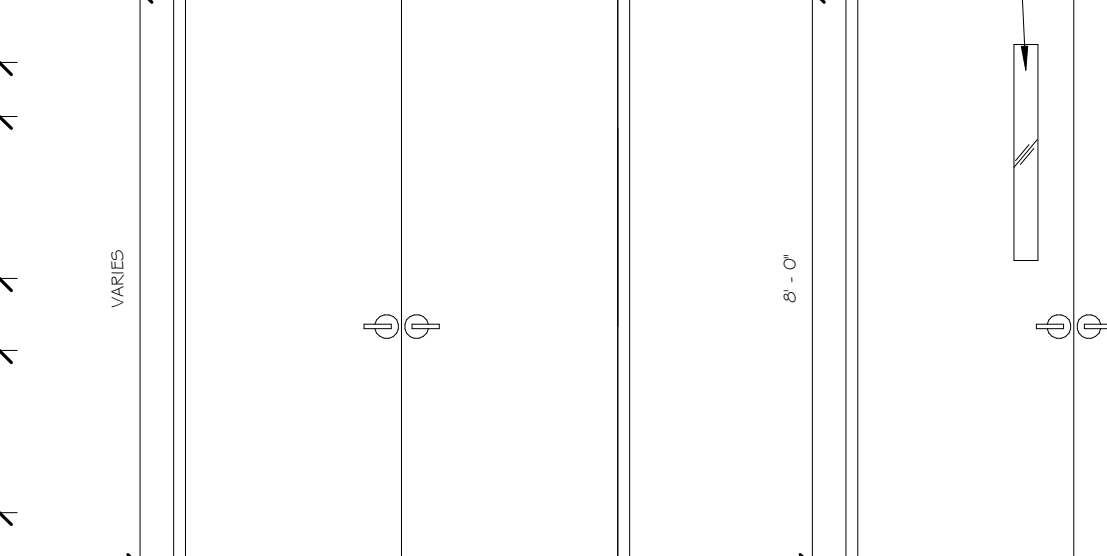
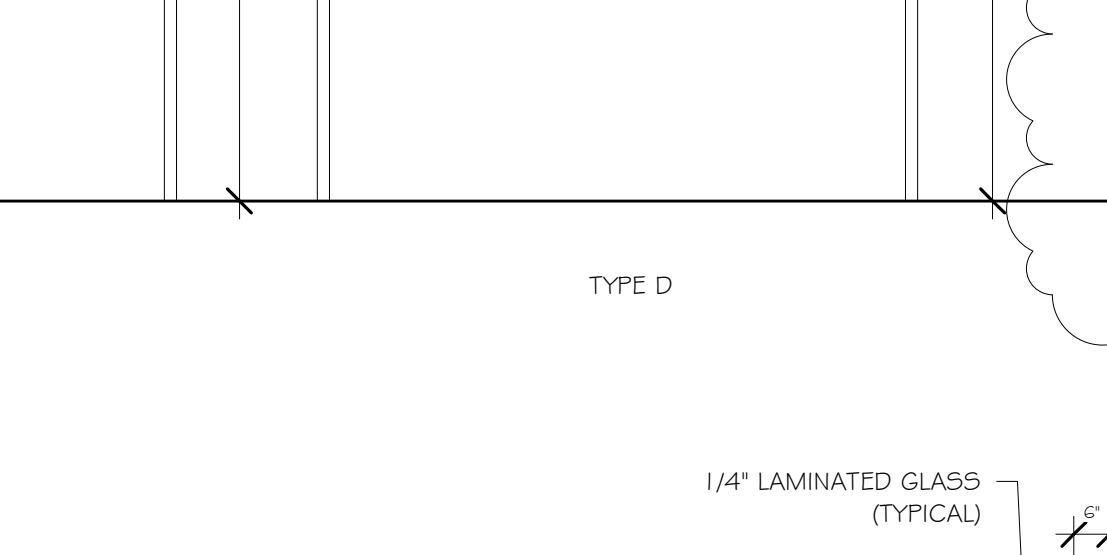
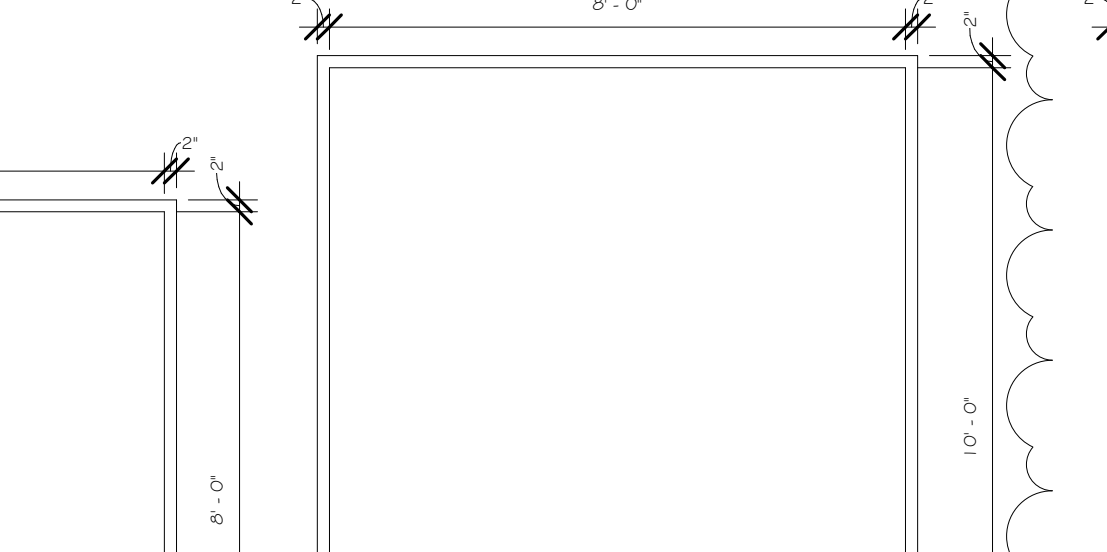
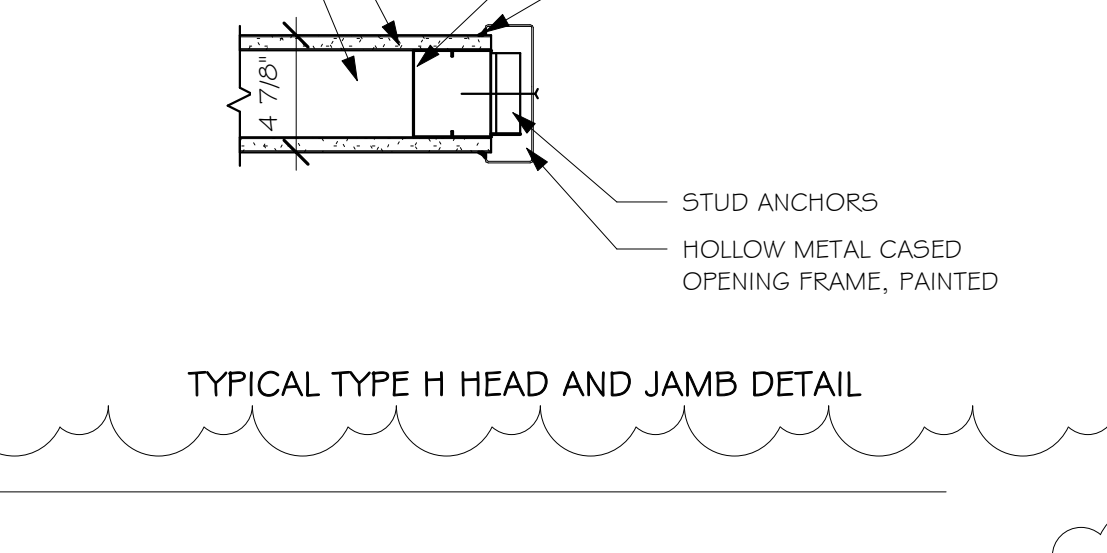
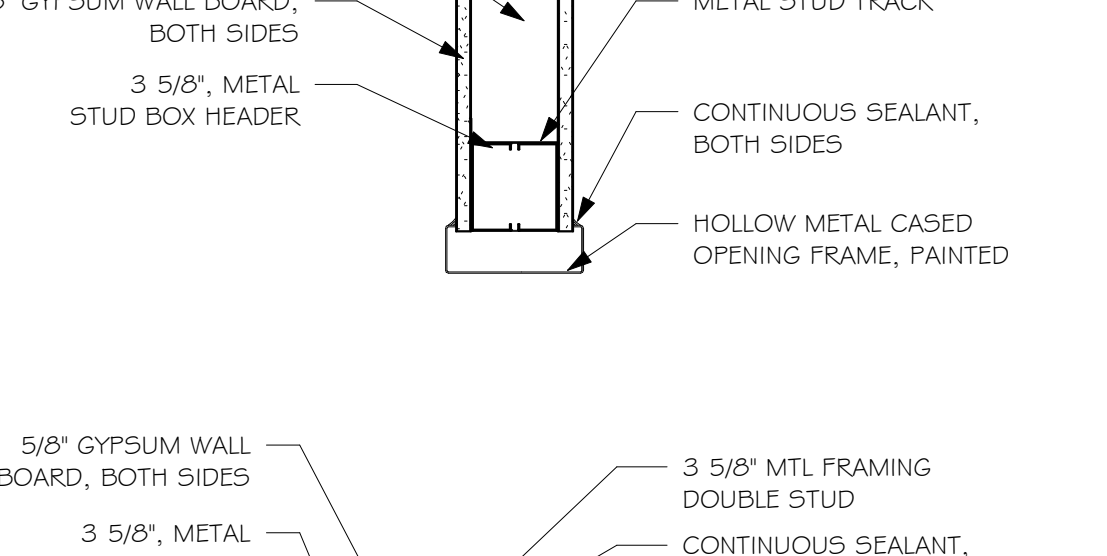
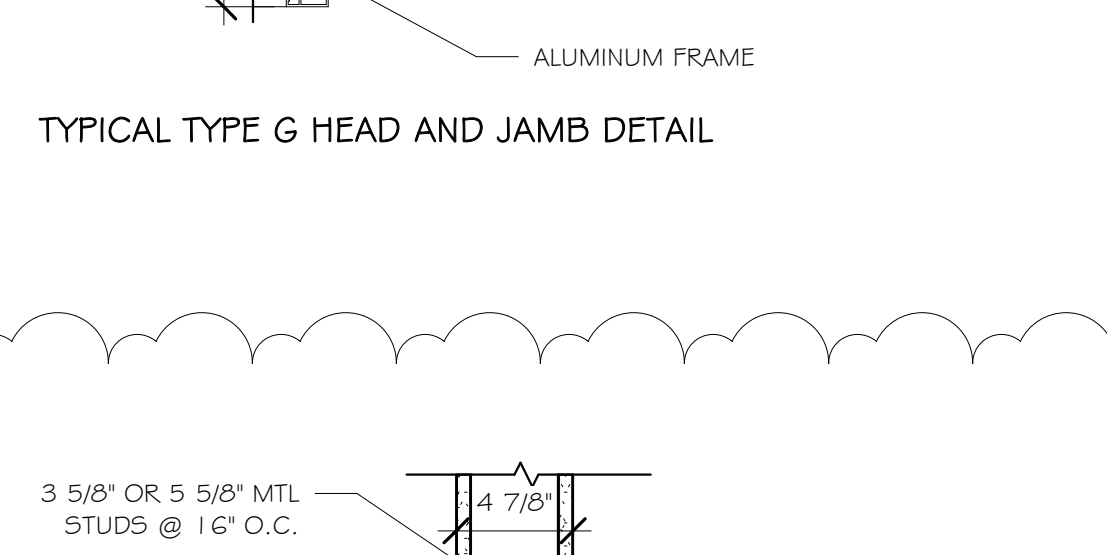
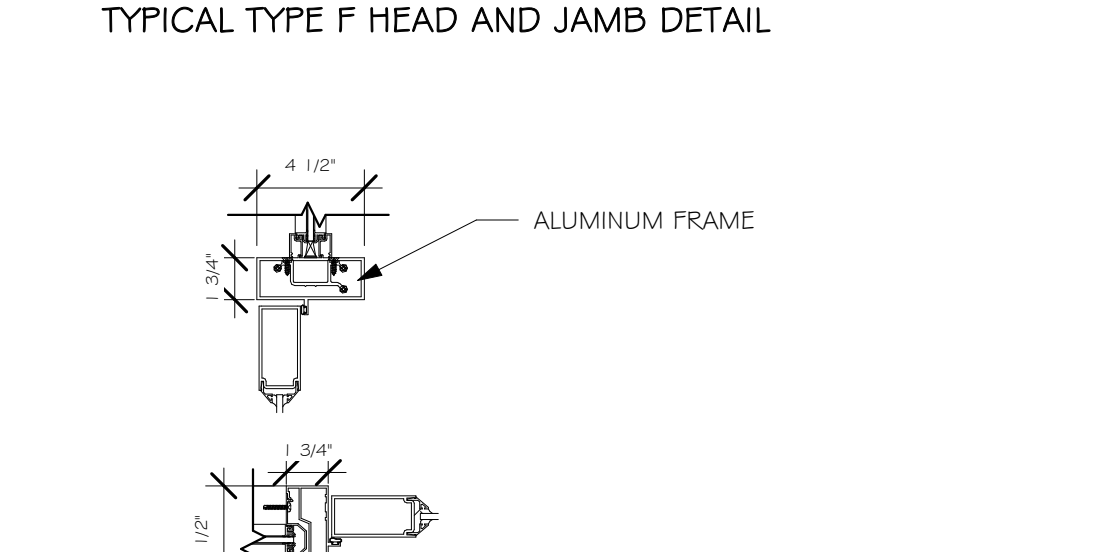
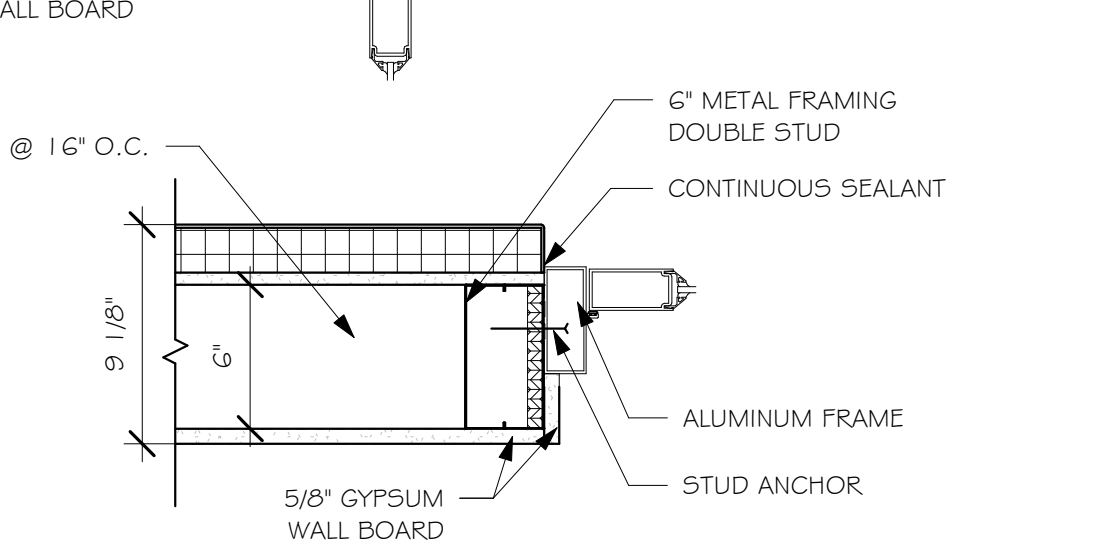
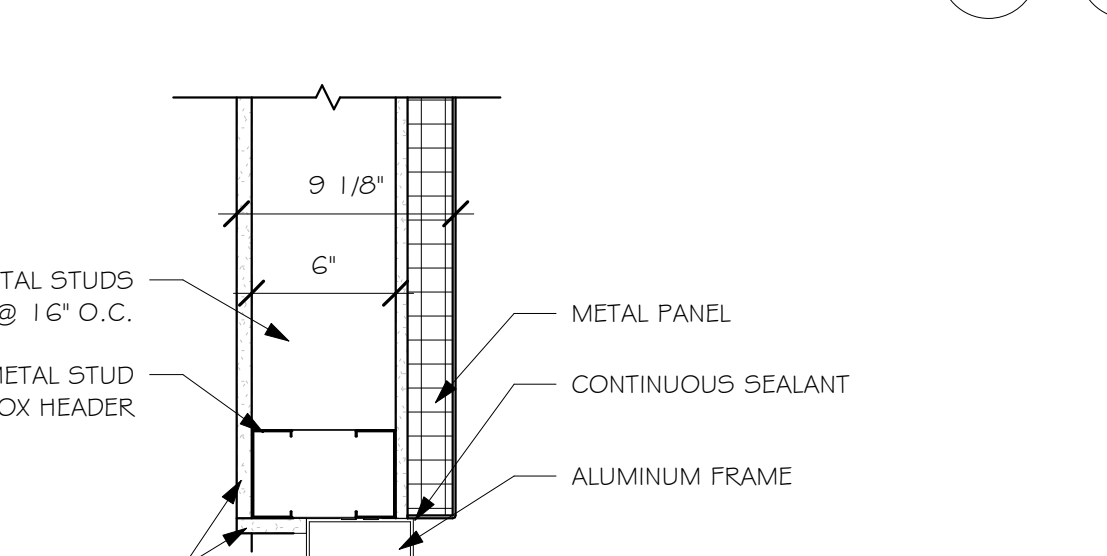
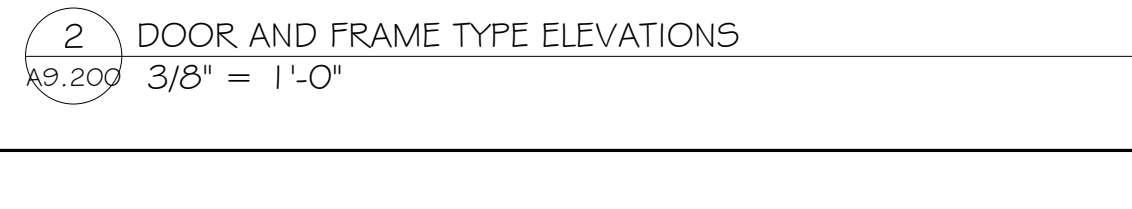
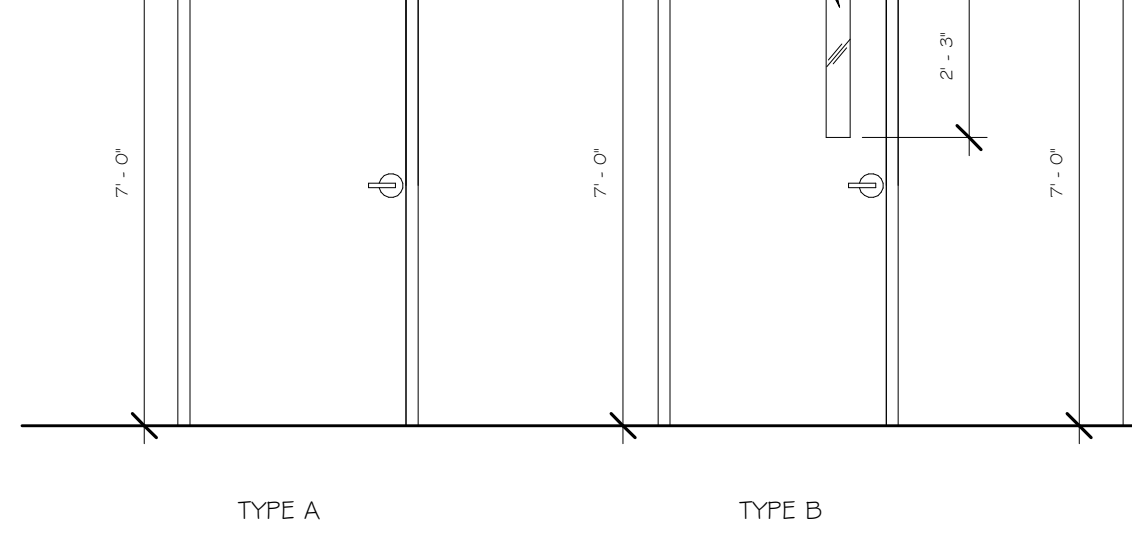
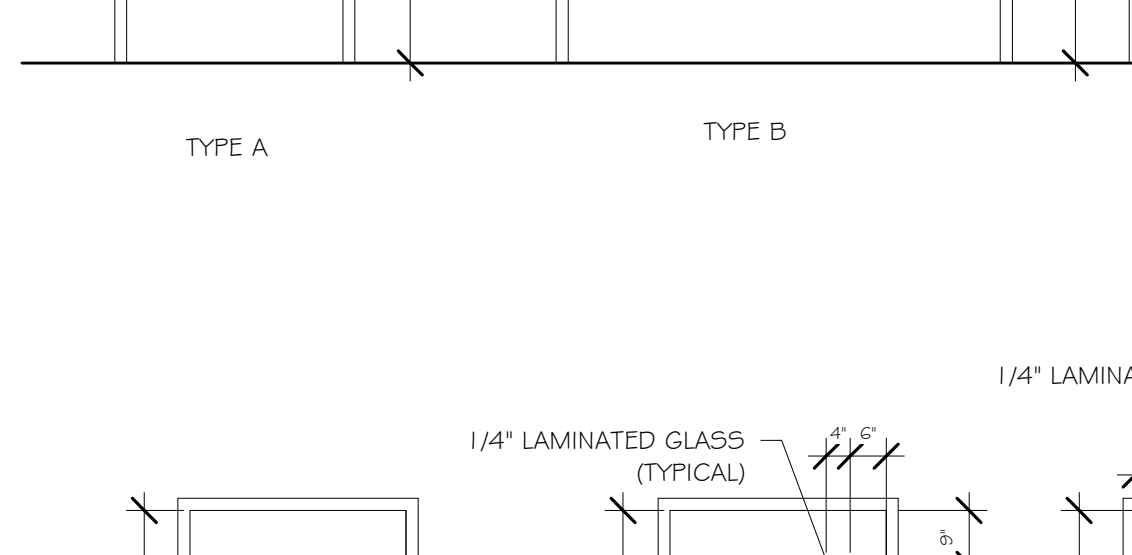
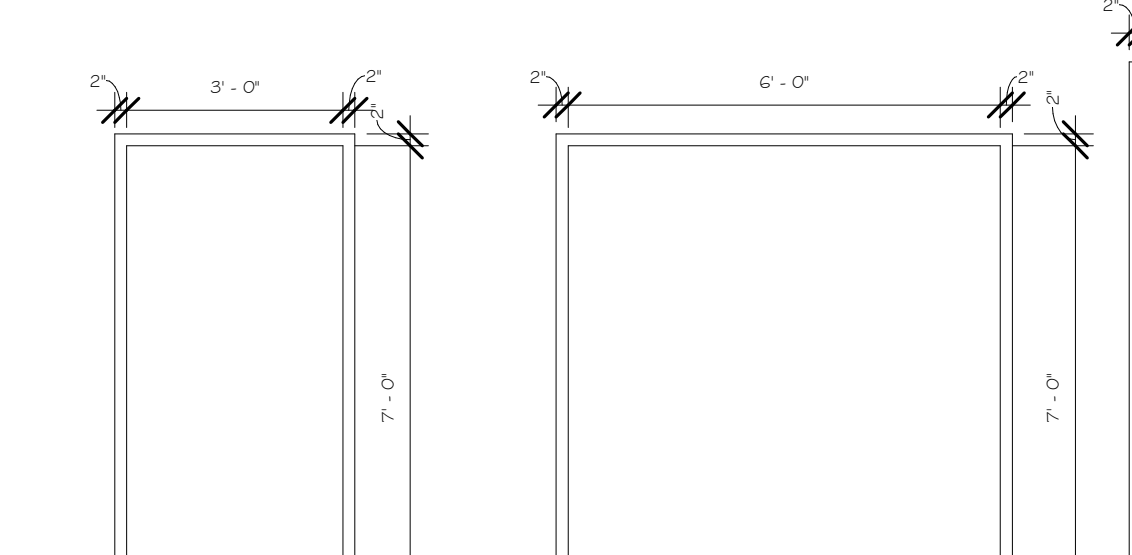
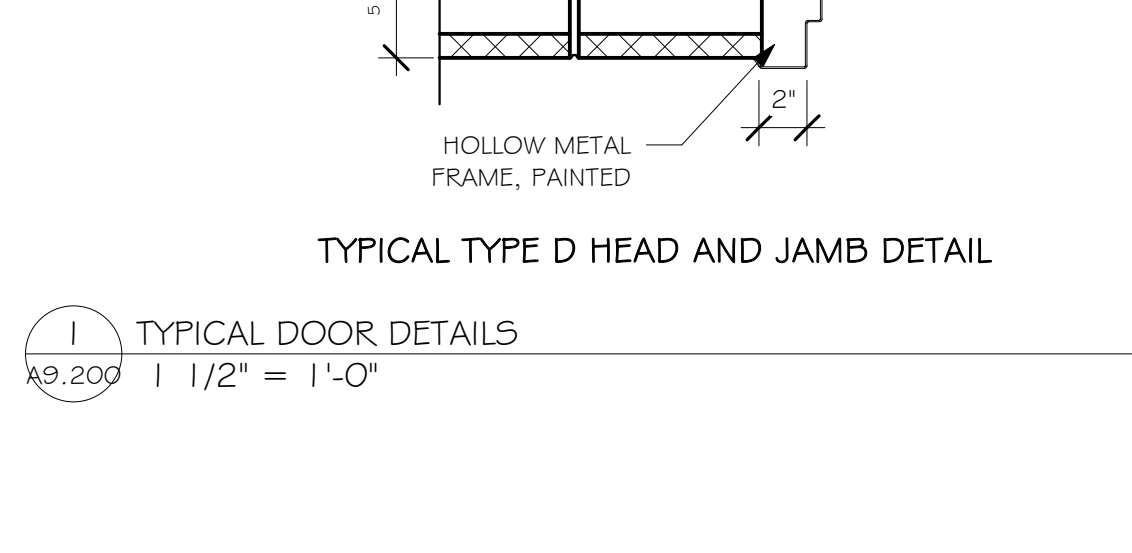
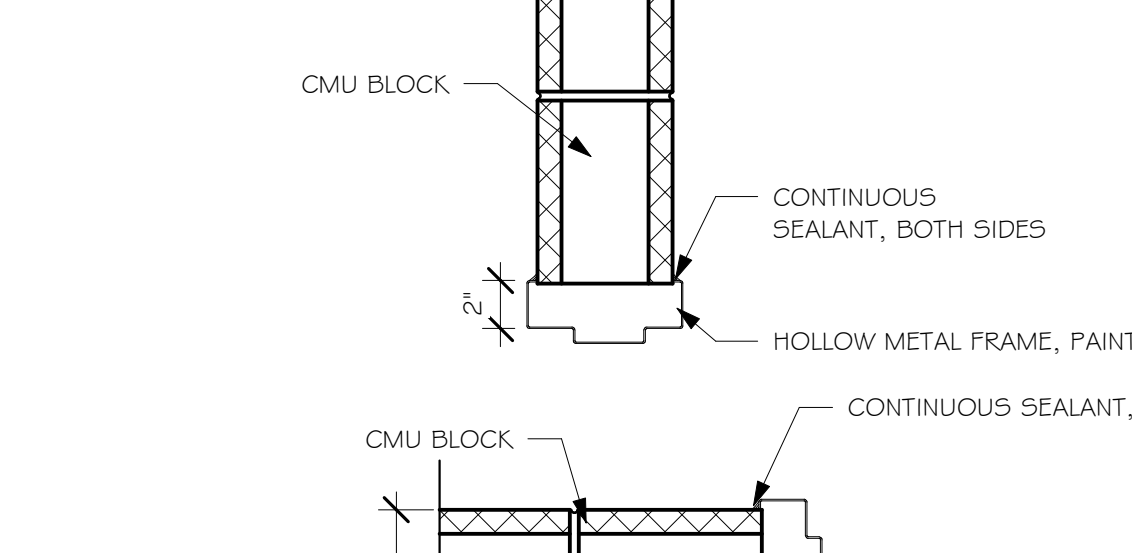
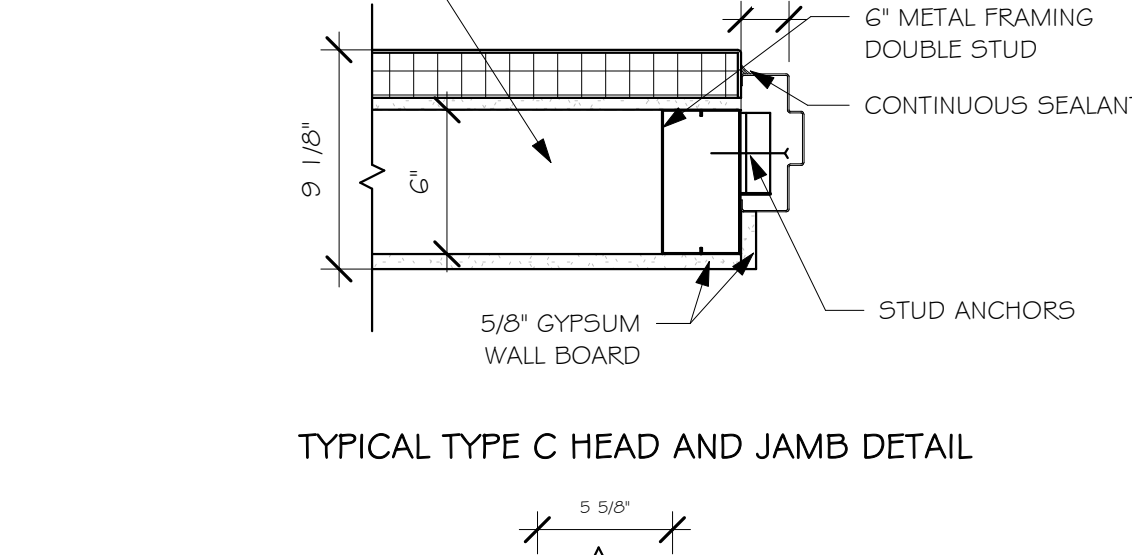
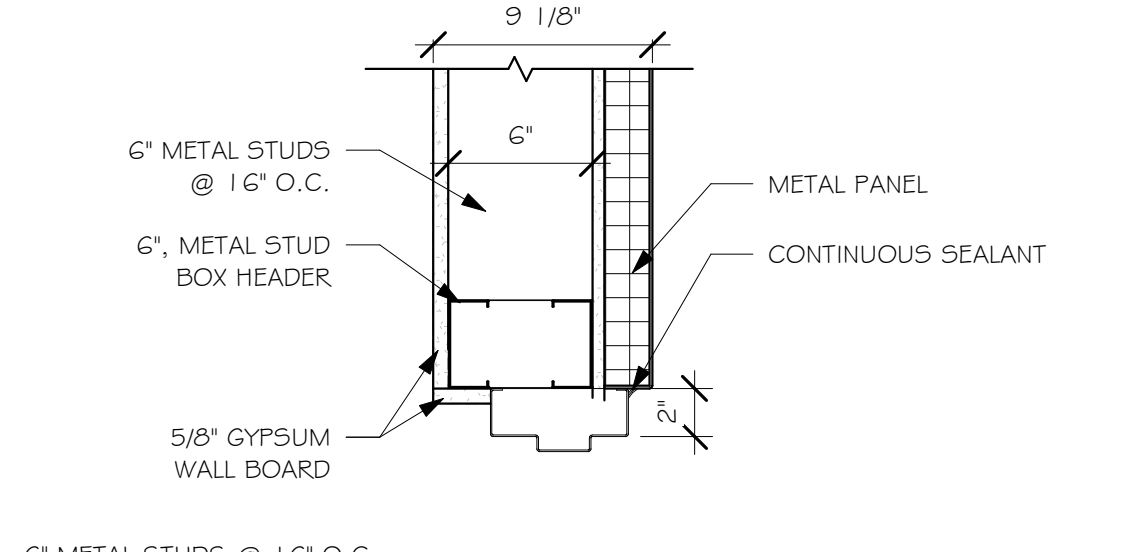
TYPICAL TYPE A HEAD AND JAMB DETAIL

TYPICAL TYPE E HEAD AND JAMB DETAIL

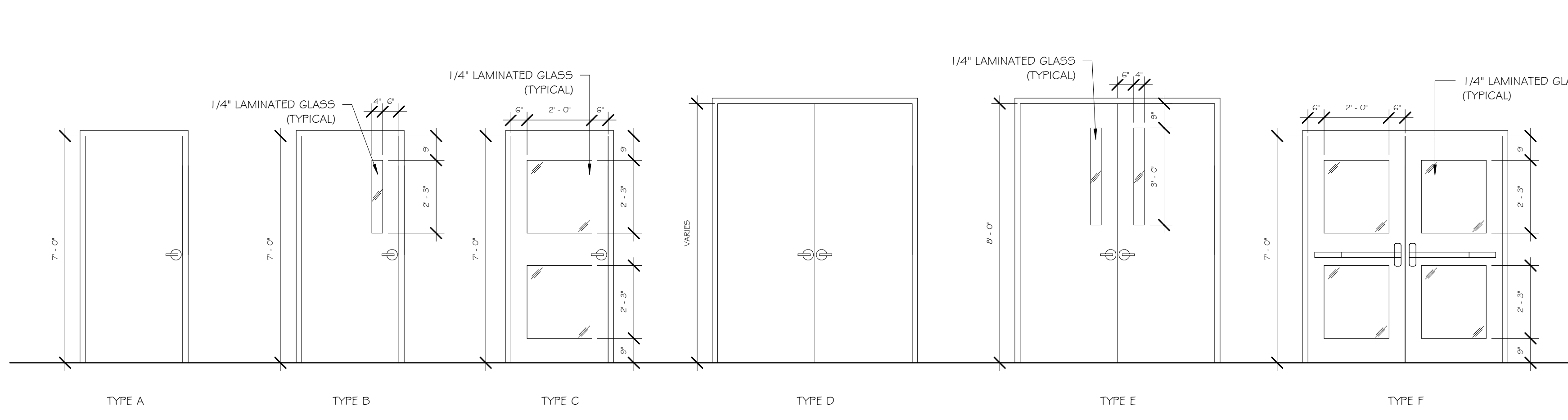
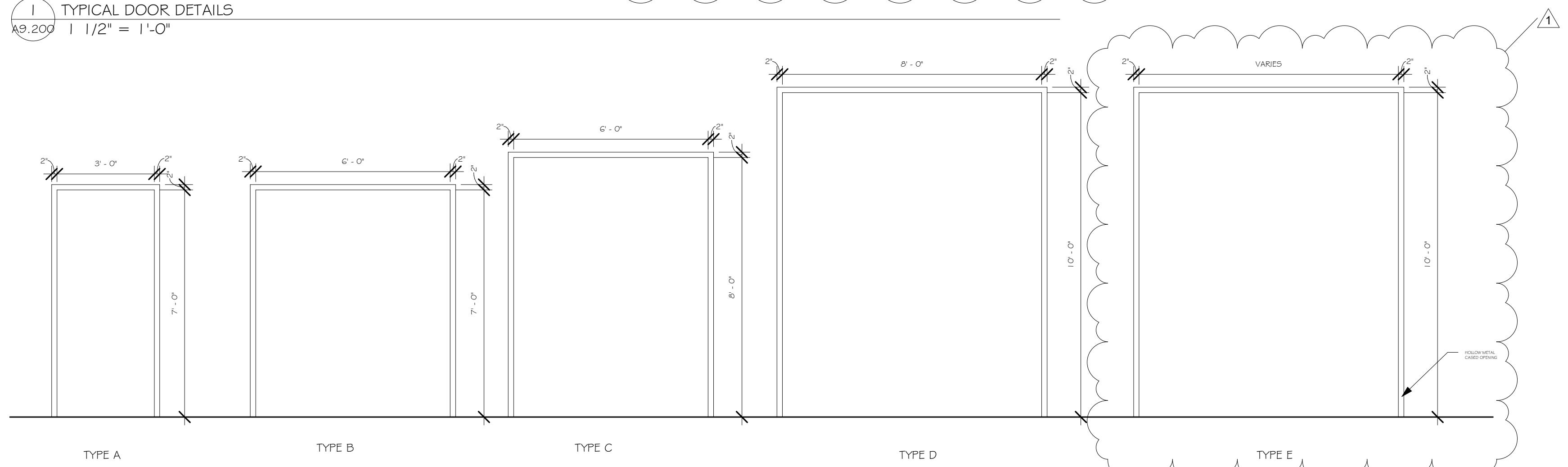
TYPICAL TYPE I HEAD AND JAMB DETAIL



TYPICAL TYPE B HEAD AND JAMB DETAIL



MARK	SPACE SERVED	DOOR INFORMATION						FRAME INFORMATION				CONSTRUCTION DETAILS		HARDWARE	KEYED NOTES	
		WIDTH	HEIGHT	THICKNESS	ELEVATION TYPE	MAT	FIN	ELEVATION TYPE	MAT	FIN	HEAD	JAMB	FIRE RATING			GROUP NO.
G00.1	LOBBY	6'-0"	6'-11 3/4"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	E	E	NA	GROUP 9		
G00.2	LOBBY	6'-0"	6'-11 3/4"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	E	E	NA	GROUP 9		
G00A.1	VESTIBULE	6'-0"	6'-11 3/4"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	G	G	NA	GROUP 17	CARD READER ACCESS BY OWNER	
G00A.2	VESTIBULE	6'-0"	6'-11 3/4"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	G	G	NA	GROUP 9		
G00B	CORRIDOR	3'-0"	7'-0"	1 3/4"	C	ALUMINUM	CLEAR ANODIZED	A	ALUMINUM	CLEAR ANODIZED	C	C	NA	GROUP 16	CARD READER ACCESS BY OWNER	
GOOC.1	CORRIDOR	3'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 9		
GOOC.2	CORRIDOR	6'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 9		
GOOC.3	CORRIDOR	6'-0"	7'-0"	1 3/4"	F	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	E	E	NA	GROUP 9		
GOOC.4	CORRIDOR	6'-0"	7'-0"	1 3/4"	F	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	E	E	NA	GROUP 9		
GOOD.1	VESTIBULE	5'-11 1/2"	6'-11 3/4"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	G	G	NA	GROUP 9		
GOOD.2	VESTIBULE	5'-11 1/2"	6'-11 3/4"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	G	G	NA	GROUP 17	CARD READER ACCESS BY OWNER	
GOOE	CORRIDOR	3'-0"	7'-0"	1 3/4"	E	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 9		
GOOF.1	LOBBY	6'-0"	7'-0"	1 3/4"	F	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	E	E	NA	GROUP 9		
GOOF.2	LOBBY	6'-0"	7'-0"	1 3/4"	F	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	E	E	NA	GROUP 9		
GOOG.1	VESTIBULE	6'-0"	7'-0"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	G	G	NA	GROUP 14	CARD READER ACCESS BY OWNER	
GOOG.2	VESTIBULE	6'-0"	7'-0"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	G	G	NA	GROUP 9		
G01A	OFFICE	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 1		
G01B	OFFICE	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 1		
G01C.1	CONFERENCE	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G01C.2	CORRIDOR	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G01D.1	EQUIPMENT	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G01D.2	EQUIPMENT	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G02.1	MULTI-PURPOSE	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G02.2	MULTI-PURPOSE	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G03	MENS BATHROOM	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 6		
G03A	TOILET	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 5		
G03B	WOMENS BATHROOM	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	C	C	NA	GROUP 11	CARD READER ACCESS BY OWNER	
G04	MENS BATHROOM	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 6		
G04A	TOILET	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 5		
G04B	MENS BATHROOM	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	C	C	NA	GROUP 11	CARD READER ACCESS BY OWNER	
G05	MULTI-ACTIVITY ROOM	6'-3 1/2"	6'-11 3/4"	1 3/4"	H	ALUMINUM	CLEAR ANODIZED	B	ALUMINUM	CLEAR ANODIZED	G	G	NA	GROUP 23		
G06	JANITOR CLOSET	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G07.1	MECH	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G07.2	MECH	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G07.3	MECH	8'-0"	10'-0"	1 3/4"	D	METAL	PAINT	D	HM	PAINT	C	C	NA	GROUP 1B	LOCATION OF DOOR TO BE DETERMINED IN THE FIELD BASED ON AIR HANDLER UNIT	
G08	WATER ROOM	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G09.1	BASKETBALL COURT	6'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 23		
G09.2	BASKETBALL COURT	6'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 23		
G09.3	BASKETBALL COURT	6'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 23		
G09.4	BASKETBALL COURT	6'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 23		
G09.5	BASKETBALL COURT	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 22		
G09.6	BASKETBALL COURT	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 22		
G09.7	BASKETBALL COURT	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 22		
G09.8	BASKETBALL COURT	6'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 23		
G09.9	BASKETBALL COURT	6'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 23		
G09.10	BASKETBALL COURT	6'-0"	8'-0"	1 3/4"	G	METAL	PAINT	C	HM	PAINT	A	A	NA	GROUP 23		
G09.11	BASKETBALL COURT	6'-0"	7'-0"	1 3/4"	F	ALUMINUM	CLEAR ANODIZED	C	ALUMINUM	CLEAR ANODIZED	F	F	NA	GROUP 14	CARD READER ACCESS BY OWNER	
G09.12	BASKETBALL COURT	6'-0"	7'-0"	1 3/4"	F	ALUMINUM	CLEAR ANODIZED	C	ALUMINUM	CLEAR ANODIZED	F	F	NA	GROUP 14	CARD READER ACCESS BY OWNER	
G09A	ELEC. ROOM	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	B	B	90 MIN.	GROUP 4		
G09B.1	MECH	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G09B.2	MECH	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G09B.3	MECH	8'-0"	10'-0"	1 3/4"	D	METAL	PAINT	D	HM	PAINT	C	C	NA	GROUP 1B		
G09C.1	EQUIPMENT	10'-0"	10'-0"	1 1/2"	I	METAL	PAINT	E	HM	PT	H	H	NA	--		
G09C.2	EQUIPMENT	10'-0"	10'-0"	1 1/2"	I	METAL	PAINT	E	HM	PT	H	H	NA	--		
G09C.3	EQUIPMENT	10'-0"	10'-0"	1 1/2"	I	METAL	PAINT	E	HM	PT	H	H	NA	--		
G09C.4	EQUIPMENT	10'-11 1/4"	10'-0"	1 1/2"	I	METAL	PAINT	E	HM	PT	I	I	NA	--		
G10.1	EQUIPMENT	6'-0"	8'-0"	1 3/4"	D	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 9		
G10.2	EQUIPMENT	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G10.3	EQUIPMENT	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G11	DATA	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	B	B	90 MIN.	GROUP 4	CARD READER ACCESS BY OWNER	
G12.1	MULTI-PURPOSE ROOM	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G12.2	MULTI-PURPOSE ROOM	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G12A	CLOSET	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G13.1	EQUIPMENT	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G13.2	EQUIPMENT	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	D	D	NA	GROUP 4A		
G13.3	EQUIPMENT	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	D	D	NA	GROUP 4A		
G14.1	MULTI-PURPOSE ROOM	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G14.2	MULTI-PURPOSE ROOM	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G14A	CLOSET	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G15	MULTI-PURPOSE ROOM	3'-0"	7'-0"	1 3/4"	B	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 3		
G15A	CLOSET	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
G20	EQUIPMENT	12'-0"	10'-0"	1 1/2"	G	METAL	PAINT	E	HM	PT	I	I	NA	--		
I01	STORAGE	3'-0"	7'-0"	1 3/4"	A	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 4A		
I02.1	FITSPACE	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	A	A	NA	GROUP 22	CARD READER ACCESS BY OWNER	
I02.2	FITSPACE	6'-0"	8'-0"	1 3/4"	D	METAL	PAINT	C	HM	PAINT	B	B	90 MIN.	GROUP 10	MAGNETIC HOLD OPEN TIED TO FIRE ALARM	
I02.3	FITSPACE	6'-0"	8'-0"	1 3/4"	D	METAL	PAINT	C	HM	PAINT	B	B	90 MIN.	GROUP 10	MAGNETIC HOLD OPEN TIED TO FIRE ALARM	
I02.4	FITSPACE	6'-0"	8'-0"	1 3/4"	D	METAL	PAINT	C	HM	PAINT	B	B	90 MIN.	GROUP 10	MAGNETIC HOLD OPEN TIED TO FIRE ALARM	
I03.1	TRACK	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	C	C	NA	GROUP 11	CARD READER ACCESS BY OWNER	
I03.2	TRACK	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	C	C	NA	GROUP 11	CARD READER ACCESS BY OWNER	
I03.3	TRACK	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	C	C	NA	GROUP 11	CARD READER ACCESS BY OWNER	
I03.4	TRACK	3'-0"	7'-0"	1 3/4"	C	METAL	PAINT	A	HM	PAINT	C	C	NA	GROUP 11	CARD READER ACCESS BY OWNER	

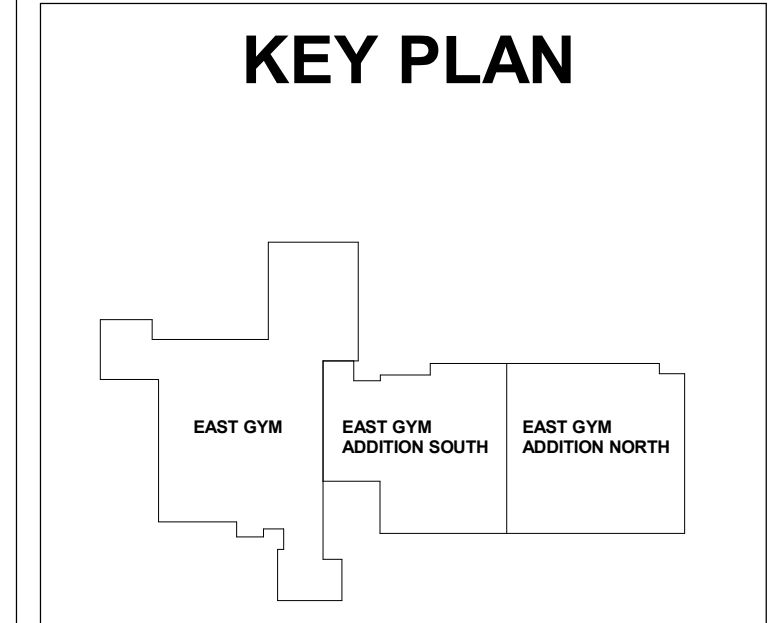


DOOR AND FRAME TYPE ELEVATIONS



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EAST GYM ADDITION



BINGHAMTON UNIVERSITY
P.O. BOX 6000
4400 VESTAL PARKWAY EAST
BINGHAMTON, NY 13902-6000

PHYSICAL FACILITIES
PH (607) 777-2224
FAX (607) 777-2340

CAMPUS BUILDING NAME:
"EAST GYM"

CAMPUS BUILDING NO. 001

REVISIONS		
No.	Description	Date
1	ADDENDUM #5	04/29/2024

Door Schedule and Details

Project No. WO339455
Date 2024.04.15
Drawn By Nicolette Burch
Checked By William Hall

A9.200

Scale: AS NOTED