



COMPLEX PROJECTS  
REQUIRE RESOLVE  
THRASHER'S GOT IT

**ROANE COUNTY BOARD OF EDUCATION  
ROANE COUNTY, WEST VIRGINIA**

**NEW SPENCER MIDDLE SCHOOL**

**ADDENDUM #6**

**July 20, 2022**

**THRASHER PROJECT #060-10259**

TO WHOM IT MAY CONCERN:

A Mandatory Pre-Bid Conference was held on Tuesday, June 14, 2022 on the above-referenced project, The following are clarifications and responses to questions posed by contractors for the above reference project.

**1. GENERAL**

None on this Addendum.

**2. SPECIFICATIONS**

1. Revised Index is included to reflect the added Specifications
2. 071900 – Water Repellents
3. 275126.01 - Dining Room Sound System
4. 275136 - Gym Sound System

**3. DRAWINGS**

1. A1.01; A1.02 – A1.05; A1.15; A3.04; A4.03; A4.04; A4.06; A5.02; A6.01

**4. QUESTIONS AND RESPONSES**

**QUESTION**

1. Written response to question 66 in Addendum 4 indicates that the slab on Deck in Areas A and B are SS8A however the updated drawings include addendum markings and still show it as FD1. FD1 in the updated schedule on S1.10 show a 6” total slab thickness. Please advise.

**RESPONSE**

The way the drawings were issued is correct: FD1 is the 4" slab on deck and is appropriate for classroom areas on the second floor where it is shown. The schedule reflects this as being 4" total thickness. The SS8A is the 8" structural slab on grade used on the first level. All of these different areas are shown correctly on area A and B plans for the first floor.

**QUESTION**

2. Addendum 4, Question 84 Response indicates to stack the 10' high panels. Traverse walls are designs to be used for horizontal application (going side to side from one end to another as opposed to vertical). Please address.

**RESPONSE**

Revised drawings in this addendum.

**QUESTION**

3. No Specification Section for Commissioning included in Addendum 4, as stated in Response to Question 88. Please provide and confirm Commissioning by Owner.

**RESPONSE**

Owner to provide Commissioning.

**QUESTION**

4. Revised Drawing A4.06 not included in Addendum 4 as Responded to Question 1.

**RESPONSE**

Drawing revised in this addendum.

**QUESTION**

5. Addendum 4 Civil Drawings C3.03 and C6.06 note Aluminum Fence on retaining wall. Responses to Questions 22, 31 and 74 in Addendum 4 state Fence/Gate has been deleted (removed) from project. Please clarify.

**RESPONSE**

Responses to Questions 22, 31, and 74 refer to other locations in the project. The aluminum fence called out on Civil Drawings shall be furnished and installed on the top of the proposed retaining wall to serve as a safety fall protection.

**QUESTION**

6. Revised drawings from Addendum 4, Questions 23 and 24 does not answer questions. Please provide Elevations on walls opposite of 12/A4.03 and 10/A4.03.

**RESPONSE**

Elevations added in this addendum.

**QUESTION**

7. Requests for Specifications for Louvers at Entrance shown on Roof Plan A1.15 and Sections 3/A2.03, 2/A3.04 was answered in Addendum 3 with specifications for Louvers and Vents 089000. These specifications are not for Louvers used in the application shown on drawings. Additionally, Entrance Overhang Detail 4/A1.17 does not show Louvers. Please provide clarification and specifications for these louvers. We need a manufacturer and type to provide what is shown.

**RESPONSE**

Drawing revised in this addendum.

**QUESTION**

8. Please provide Specifications for the rooftop Greenhouse. Vendor cannot provide quote without specifications

**RESPONSE**

Basis-of-Design: Rimol Greenhouse Systems – 20’ x 24’ Educational Greenhouse Base Package.

**QUESTION**

9. Addendum 4, Question 32 requested Specifications for Art Display in Lobby and Elevation 4/A5.03. Response was Manufacturer (Basis of Design) and revised drawings of elevation of additional location at Gym. Vendor needs Specifications for pricing. (The grilles shown on this sheet scale to different dimensions on each detail. Are these just placeholders and not indicative of the actual product needed?)

**RESPONSE**

Refer to specification section 095426 in base specifications for Armstrong Woodworks Grille for Basis of Design.

**QUESTION**

10. Addendum 4, response to Question 75 is a revised drawing. Please confirm drawing referred to is Civil C2.01 and “Landscaping” is Specification Section 329200 Turf and Grasses apply.

**RESPONSE**

The drawing is referring to C2.01 where the outline of the proposed concrete walkway is illustrated in the courtyard as well as a hatching representing lawn vegetation.

**QUESTION**

11. Addendum 4, Revised drawings 3/A4.05 deletes Metal Screen. Please confirm. Additionally, if screen deleted, please provide revised elevation showing materials.

**RESPONSE**

Yes, refer to elevation 6/A2.02 in addendum #4 for revised elevation.

**QUESTION**

12. Masonry specifications do list the type of brick, style or manufacturer (Glen Gery, Belden ect.). The only brick listed in the specification is a cinder style brick. Please provide information for the brick to be used.

**RESPONSE**

Brick

A. General: Provide shapes indicated and as follows for each form of brick required:

1. Provide units without cores or frogs and with exposed surfaces finished for ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces.
- B. Provide special shapes for applications requiring brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
1. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels.

2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

C. Face brick: ASTM C216, Grade SW, Type FBX

1. Unit Compressive Strength: Provide units with minimum average gross-area compressive strength of 3000 psi.

2. Initial Rate of Absorption: Less than 30 g/30 sq. in. (30 g/194 sq. cm)

3. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced." per minute when tested per ASTM C 67.

4. Surface Coloring: Brick with surface coloring, other than flashed or sand-finished brick, shall withstand 50 cycles of freezing and thawing per ASTM C 67 with no observable difference in the applied finish when viewed from 10 feet (3 m)

5. Size: Manufactured to the following actual dimensions: .

a. Utility: 3-5/8 inches thick by 3-5/8 inches high by 11-5/8" inches

6. Products:

a. Basis-of-Design: Beldon Rubigo Blend Velour

7. Mortar Color: As selected by Architect.

a. Allow for a total of three custom colors plus natural grey mortar.

**QUESTION**

13. Are the split faced block to be colored? If so, please provide what color range so the masonry contractors can obtain pricing.

**RESPONSE**

Yes. Color shall be selected by the Architect from the manufacturer's standard grey tones.

**QUESTION**

14. Specification 071900 Water Repellents are listed in specification 04220 as related requirements. Please provide specification section 071900 Water Repellents.

**RESPONSE**

Specification added in this addendum.

**QUESTION**

15. Detail 5 on A3.03 denotes 8" reinforced split-faced CMU walls w/ fill insulation. Please provide a specification for the fill insulation.

**RESPONSE**

Spry insulation.

**QUESTION**

16. Addenda #4 RFI #118 includes motion sensors at doors with position switches. #120 states position switches by access control vendor. Would the motion sensors fall under access control vendor also?

**RESPONSE**

Yes.

**QUESTION**

17. Addendum 4, Drawings A1.01-A1.05 revised Keynote 23 to “Line of premanufactured awnings” Keynote 23 was “Shades” and is noted at many windows and storefronts. Please clarify.

**RESPONSE**

Drawing revised in this addendum.

**QUESTION**

18. In Addendum 4, A6.02 & A6.03 a horizontal mullion was added to storefront frame 8 and window types “D”, “G”, “H”, “J”. Please clarify if shades extend to top of window.

**RESPONSE**

Yes, shades to extend to top of window for types “G”, “H”, “J”. For frame 8 and window “D” shades to extend up to ceiling.

**QUESTION**

19. Can a cut through be provided for all window and doors to specify which sill detail goes with which opening?

**RESPONSE**

Provided detail numbers per each door and window.

**QUESTION**

20. Substitution Request: Specification Section 123216 Manufactured Laminate Casework Southern Cabinetry, Inc.

**RESPONSE**

Approved

**QUESTION**

21. Substitution Request: Specification Section 087100 LCN Standard Closers

**RESPONSE**

Approved

**QUESTION**

22. Please provide parapet heights. We only see parapet heights at the gym.

**RESPONSE**

Parapet height added to A1.15.

**QUESTION**

23. Division 4 spec references 79100 spec section but we can not find that spec section.

**RESPONSE**

Specification added in this addendum.

**QUESTION**

24. Is drill and epoxy acceptable for rebar up rights in the masonry walls.

**RESPONSE**

Drilling the vertical reinforcing into the footings is acceptable. Holes must be drilled 6" deep into footing or grade beam, depending on location. Contractor shall submit epoxy material for review and approval prior to installation.

**QUESTION**

25. Substitution Request: Specification Section 230900 Distech Controls Casto Technical Services

**RESPONSE**

Approved

**QUESTION**

26. Drawing A2.03 13/Building Elevations Keynote 15 refers to insulated aluminum panels. There is no specification provided for insulated metal wall panels.

**RESPONSE**

Provide 1" insulated metal panel by aluminum storefront manufacturer.

**QUESTION**

27. Wood door specification 081416 calls for to different types of doors under 2.2 and 2.3. Please clarify if the wood doors are supposed to be 2.2 B. Particleboard-Core Doors or 2.3 A. Interior Solid-Core Doors

**RESPONSE**

Interior Solid-Core Door.

**5.**

**CLARIFICATIONS**

1. Provide duct smoke detectors for all HVAC units exceeding 2000 cfm as required by WV Fire Code and NFPA 72. Refer to Mechanical Equipment Schedules for air flow values.
2. Provide L6-30P outlet and 2P/30A breaker for data racks in the following rooms. Room 124, Room 147, Room 173 and Room 213. Coordinate exact location with architect and owner. Use the following circuits: L3-33,35; L4-39,41; L1-67, 69 and L5-29,31.
3. Change Panelboard "L4" to a 60 circuit panel.
4. VVT system shall be controlled thru the BAS. RTU manufacturer's standard VVT Control system will not be accepted.
5. Provide power and fire alarm relays and detectors for coiling doors at kitchen. Coordinate exact requirements with door manufacturer. Circuit to nearest available panel.
6. Addendum #4 question 107, specification sections for Gym and Dining sound systems added in this addendum.

7. Delete Specification Section 102400 – Equipment Screens added to Addendum #4.  
Equipment Screens shall be Basis-of-Design: Kinetics Noiseblock QuickWall.

If you have any questions or comments, please feel free to contact our office at your earliest convenience. As a reminder, bids will be received until **1:30 p.m. on Thursday, July 27, 2022** at Roane County Board of Education, 813 Capital Street, Spencer, WV. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.



AMANDA CHEUVRONT, AIA, NCARB  
Project Manager



7-20-22

**ROANE COUNTY BOARD OF EDUCATION  
ROANE COUNTY, WEST VIRGINIA  
FOR THE  
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## SECTION 071900 - WATER REPELLENTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes penetrating water-repellent treatments for the following vertical and horizontal surfaces:
  - 1. Concrete Masonry Units

#### 1.2 PREINSTALLATION MEETINGS

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

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of water repellent and substrate indicated.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Product certificates.

#### 1.5 QUALITY ASSURANCE

- A. Applicator Qualifications: An employer of workers trained and approved by manufacturer.

### PART 2 - PRODUCTS

#### 2.1 PENETRATING WATER REPELLENTS

- A. Silane/Siloxane-Blend, Penetrating Water Repellent: Clear, silane and siloxane blend with 400 g/L or less of VOCs.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
    - a. Advanced Chemical Technologies, Inc.
    - b. BASF Corporation; Construction Systems.
    - c. OKON; a Rust-Oleum brand; a subsidiary of RPM International, Inc.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements and conditions affecting performance of the Work.
  - 1. Verify that surfaces are clean and dry according to water-repellent manufacturer's requirements. Check moisture content in representative locations by method recommended by manufacturer.
  - 2. Verify that there is no efflorescence or other removable residues that would be trapped beneath the application of water repellent.
  - 3. Verify that required repairs are complete, cured, and dry before applying water repellent.
- B. Test pH level according to water-repellent manufacturer's written instructions to ensure chemical bond to silica-containing or siliceous minerals.

#### 3.2 PREPARATION

- A. Cleaning: Before application of water repellent, clean substrate of substances that could impair penetration or performance of product according to water-repellent manufacturer's written instructions.
- B. Coordination with Mortar Joints: Do not apply water repellent until pointing mortar for joints adjacent to surfaces receiving water-repellent treatment has been installed and cured.
- C. Coordination with Sealant Joints: Do not apply water repellent until sealants for joints adjacent to surfaces receiving water-repellent treatment have been installed and cured.
  - 1. Water-repellent work may precede sealant application only if sealant adhesion and compatibility have been tested and verified using substrate, water repellent, and sealant materials identical to those required.

#### 3.3 APPLICATION

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect the substrate before application of water repellent and to instruct Applicator on the product and application method to be used.
- B. Apply coating of water repellent on surfaces to be treated using low-pressure spray to the point of saturation. Apply coating in dual passes of uniform, overlapping strokes. Remove excess material; do not allow material to puddle beyond saturation. Comply with manufacturer's written instructions for application procedure unless otherwise indicated.
- C. Apply a second saturation coating, repeating first application. Comply with manufacturer's written instructions for limitations on drying time between coats and after rainstorm wetting of

surfaces between coats. Consult manufacturer's technical representative if written instructions are not applicable to Project conditions.

3.4 CLEANING

- A. Immediately clean water repellent from adjoining surfaces and surfaces soiled or damaged by water-repellent application as work progresses. Correct damage to work of other trades caused by water-repellent application.
- B. Comply with manufacturer's written cleaning instructions.

END OF SECTION 071900

## SECTION 275126.01 - DINING ROOM SOUND SYSTEM

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A This Section includes Microphone Control and Sound Reinforcement system for the Dining Room area as indicated on the project drawings. It includes requirements for Microphone Control and Sound Reinforcement system components including, but not limited to, the following:

1. Wireless Microphone, fixed microphones, and accessories.
2. Rack enclosures.
3. Audio signal processors.
4. Power Amplifiers.
5. Microphone Receptacles.
6. Program music sources.
7. Rack mounted power supply and surge protector.
8. Wiring.
9. Loudspeakers
10. Audio Signal Mixers and Control Components.
11. All required components for proper impedance matching, signal balancing, and data conversion software required for the proper operation of the Microphone Control and Sound Reinforcement systems.
12. Miscellaneous material as required.

#### 1.3 RELATED SECTIONS: The following sections contain requirements that relate to this section:

- 1. "Raceways, Boxes and Cabinets", for raceways, boxes and cabinets used for Microphone Control and Sound Reinforcement system cables.

#### 1.4 SYSTEM DESCRIPTION

- A General: The Microphone Control and Sound Reinforcement system shall be a complete system for amplifying sound signals from microphone outlets and "line level" signals such as CD player, mixing, processing, amplifying and distributing them to the loudspeakers.
- B. The Microphone Control and Sound Reinforcement system shall be furnished with all required equipment, multiple inputs, interconnect cabling, interconnect termination strips, as required,

final equipment knob/control/microphone location labeling, and assemblies as required for a fully functional system allowing each feature to operate properly.

- C. The Electrical Contractor shall be responsible to furnish and install all cable conduit, power, speakers, microphones, system head end and all other “field” equipment as indicated on the project plans and specified herein, as directed and supervised by the equipment supplier. The Electrical Contractor shall contract for the professional services and equipment, of the sound system supplier that can provide the final testing procedures, system interfaces, in-service training for the owner’s rep, and signal flow diagrams as required in this specification section. Final terminations of the field equipment to be performed by the Electrical Contractor as directed by the equipment supplier’s detailed drawings. Electrical Contractor shall be responsible to procure these services as required and oversee and coordinate the smooth and efficient integration of these systems with all parties concerned.
- D. Functional Performance: Components and system features and functions shall include, but are not limited to, the following:
  - 1. Multiple Sources: The system shall have switch selectability of sources for sound amplification between various microphones and inputs designated and arranged for program sources such as CD player and auxiliary equipment.
  - 2. High-Quality Sound Reproduction: Freedom from noises such as pops, clicks, hiss and hum at all loudspeakers at all times during operation of the system, including standby mode with inputs off. Freedom from distortion and non-uniform coverage of amplified sound shall be required.
  - 3. Each component has been carefully selected to provide a complete, overall system. Each component has been carefully screened and selected to match electrical, operational, and acoustical/sonic qualities together to provide an optimum system at a minimum expense. For these reasons, no substitutions of brand or model number shall be permitted.

## 1.5 SUBMITTALS

- 1. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
  - 1. Product data for each type of product specified.
  - 2. System contractor shall submit information to Arch/Engineer with the equipment submittal for review and approval.
  - 3. Shop drawings detailing Microphone Control and Sound Reinforcement system including, but not limited to the following:
    - a. System cable riser diagram.
    - b. System Interconnect signal and control diagrams showing all logic and data control features.
    - c. Wattage and voltage tap information for speakers.
    - d. Cable Termination information for each component in the system.
    - e. Wiring Diagrams detailing wiring for power, signal, and control differentiating clearly between manufacturer-installed wiring and field-installed wiring. Identify terminal numbers and wiring color codes to facilitate installation, operation, and

- maintenance.
- f. Maintenance data for materials and products, for inclusion in Operating and Maintenance Manual specified.

#### 1.6 QUALITY ASSURANCE

1. Installer Qualifications: Engage an experienced Installer with supervision from a factory-authorized sales and service representative for the project location to perform the work of this Section. Refer to Division 1 Section “Definitions and Standards” for definition of experienced Installer. The Installer shall have satisfactorily completed an existing similar system that the Architect/Engineer/Owner may visit to verify upon request. Upon request, submit evidence of such qualifications to the Architect.
2. Electrical Component Standard: Provide work complying with applicable requirements of NFPA 70 “National Electrical Code.”
3. EIA Compliance: Comply with the following Electronics Industries Association Standards:
  1. Sound Systems, EIA-160.
  2. Loudspeaker, Dynamic Magnetic Structures, and Impedance, EIA-229-A.
  3. Racks, Panels, and Associated Equipment, EIA-310-A.
  4. Amplifiers for Sound Equipment, SE-101-A.
  5. Speakers for Sound Equipment, SE-103.
  6. Microphones for Sound Equipment, SE-105.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

1. Deliver products in factory containers. Store in clean, dry space in original containers. Protect products from fumes and construction traffic. Handle carefully to avoid damage.

### Part 2 - PRODUCTS:

#### 2.1 MANUFACTURERS

- A. Manufacturers: Equipment brands that are named in this specification set the desired minimum performance quality level for all associated features and functions applicable to the model numbers specified. This specification further lists the minimum performance characteristics, features, and functions of all other equipment for this project. System shall be bid based on the equipment listed in this specification and on the project drawings.
2. The contractor shall be held responsible for the equipment meeting these specifications. The equipment shall be formally approved at the final system acceptance after the equipment has been installed, terminated, and ready for inspection by the Architect/Engineer/Owner. It shall be the electrical contractor’s responsibility to remove, replace, and reinstall at no cost all equipment found to be in non-compliance with these specifications at the time of final acceptance and testing by Architect/Engineer/Owner. Submittal review and acceptance by the Architect Engineer, or Owner of this equipment shall be preliminary. The endorsement or approval of the equipment



submittal by the Architect/Engineer/Owner shall not relieve the contractor of this responsibility to remove, replace, and re-install all equipment at no cost to meet these specifications.

## 2.2 SYSTEM REQUIREMENTS

- A. General: Provide complete and fully functional Microphone Control and Sound Reinforcement systems using materials and equipment of types, sizes, ratings, and performances as indicated. Use materials and equipment that comply with referenced standards and manufacturers' standard design and construction in accordance with published product information. Coordinate the features of materials and equipment so they form an integrated system with components and interconnections matched for optimum performance of specified functions. The functional Microphone Control and Sound Reinforcement system consists of: mixer/amplifier, system control components, interface circuits/equipment for the microphone control systems, multiple audio inputs, speakers, multiple microphone and line level inputs.

## 2.3 EQUIPMENT AND MATERIALS

- A. General: Provide equipment using all solid-state components fully rated for continuous duty at the ratings indicated or specified. Select equipment for normal operation on input power supplied at 105-130 V, 60 Hz.

## 2.4 DIGITAL SIGNAL PROCESSOR:

- A. Furnish and install a digital signal processor/control system in the sound system rack enclosure. This processor shall be rack mountable.
- B. The Digital Signal Processor shall have 8 balanced mic/line inputs, 8 balanced mic/line outputs and 8 flex mic/line inputs or outputs on plug-in barrier strip.
- C. The Processor shall have dual Ethernet ports for software configuration/control and remote control for control panel.
- D. All processor controls & indicators shall be provided via software graphic interface.
- E. Frequency Response shall be +0.05%/-0.5% (20Hz~20kHz @ +21dBu).
- F. Power Consumption shall be less than 120 watts max.
- G. Dimensions shall be 1.75" high, 19" wide, & 11.12" deep.
- H. The system processors shall be QSC Q-SYS Core 110f or latest model.
- I. Provide One TSC-7w touchscreen controller in the Dining area for configuration of the system.
- J. Control system shall have presets programmed to configure the room for different uses.

## 2.4 TYPE 4 AMPLIFIER

- A. 2 Independent Channels
- B. 440W per channel at 70V
- C. 20Hz to 20KHz frequency Response
- D. 2 rack spaces
- E. QSC CX602V

## 2.5 CD/MEDIA PLAYER:

- A. Furnish and install one CD/Media Player in the Rack Enclosure.

- B. The Player shall be rack mountable.
- C. The system CD/Media player shall be an all-in-one player capable of playing music from a CD, USB, or SD card.
- D. Player shall be capable of streaming audio via Bluetooth up to 100 feet away
- E. Player shall have internal AM/FM tuner
- F. Output impedance shall be 1K ohm.
- G. The CD/Media Player shall be a Denon model # DN-300Z or latest model.

2.6 ASSISTIVE LISTENING SYSTEM:

- A. Furnish and install in sound system rack, an assistive listening system base transmitter, four receivers, four earbuds and wall plaque. Assistive listening systems shall be Telex SM-1 system which consists of the following:
  - 1. One ST-200 base transmitter
    - i. RF Frequency Range 72 to 76 MHz
    - ii. Modulation FM: +/- 25 KHz deviation
    - iii. Signal to Noise Ratio 58dB
    - iv. Maximum deviation +/- KHz
    - v. Maximum Rated Power 50mW
  - 2. Four SR-50 receivers
    - i. Power requirements 2 AA batteries
    - ii. Audio frequency response - <3db Variation
    - iii. Signal to Noise Ratio >60dB
  - 3. Four SEB-1 earbuds
  - 4. One Soundmate wall plaque
- B. Features to include 16-user selectable frequencies controlled by a front mounted selector knob, headphone jack with adjustable level for input signal monitoring, peaking reading LED display for visual input monitoring. Unit has balanced XLR-3F with selectable mic, line, and 70V input options and unbalanced ¼" input. Input attenuator and hi/lo RF power switch.
- C. Provide Rack Mount Kit and remote Antenna for Transmitter.

2.7 WIRELESS MICROPHONE:

- A. Furnish and install two wireless microphone systems with the receivers permanently installed in the sound system rack enclosure. The receivers shall utilize a rack mount kit to properly attach to system rack.
- B. The wireless microphone systems shall have the following minimum features;
  - 1. RF Carrier Frequency Range Approximately 710 to 734 MHz
  - 2. Audio Frequency Response: 50 to 15,000 Hz, +/- 2 dB
  - 3. System Distortion < 0.5%
  - 4. Signal/Noise Ratio: < 94 dB
  - 5. Sensitivity: < 0.8 uV for 12 dB SINAD
  - 6. Dynamic Range: 100dB
  - 7. Size: 7.5" x 5.75" x 1.7"
- D. Furnish and install two Sennheiser model # EW100-G4-835-S-A Handheld Systems
- E. Furnish and install one Sennheiser model # ASA214 Active Antenna Splitter
- F. Furnish and install 2 Sennheiser model# A2003-UHF Directional Antenna
- G. Furnish and install 2 Sennheiser model# USWM1 Wall Mount

2.8 LOUDSPEAKERS

- A. Furnish and install ceiling mount, two-way, 60 watt, 6.5 inch, speaker system as indicated on the project plans.
- B. The Loudspeaker shall include a 6.5" woofer and 1" Tweeter.
- C. Power Handling shall be 60 Watts continuous
- D. Dimensions shall be 11.02" H x 9.32" Diameter.
- E. Speaker shall weigh 9.5 pounds.
- F. Provide quantity as shown on drawings
- G. QSC model # ADC6TWH or latest model.

2.9 STANDS AND ACCESSORIES:

- A. Provide two industry standard floor stands suitable for a variety of applications. Microphone stands shall be Atlas model # MS-10CE all purpose microphone floor stands. Height: 35" – 63"; Base Diameter: 10", Stability Index: 569; Tube Finish: Ebony; Weight: 9.0lbs

2.10 AMP RACK ENCLOSURE:

- A. Gymnasium Sound System Rack enclosure shall be Middle Atlantic Products model number DWR-18-26.
- B. Rack top, bottom and sides shall be 16 gauge steel
- C. Rack rail shall be 11 gauge steel, with tapped 10-32 holes in universal E.I.A. spacing
- D. Rack shall be phosphate pre-treated and finished in a durable black powder coat
- E. The rack shall be of welded construction
- F. The rack shall be furnished with the following options as a minimum:
  - 1. Front door.
  - 2. one 3 Rack Space Drawer
  - 3. One Middle Atlantic PD915R Power Strips
- G. Sufficient blank front covers to cover unused section of the rack, sufficient rack shelves to mount the components as needed. Locate rack as shown on the project drawings leaving sufficient wall space to properly open both the front and rear doors without obstruction. Electrical Contractor shall furnish and install 2 dedicated 20-amp 120V circuits to support the sound system Amp Rack Components.

2.11 WIRE AND CABLE:

- A. Conductors: Size speaker circuit conductors from racks to loudspeaker outlets not smaller than 12 gauge and conductors from microphone receptacles to amplifiers not smaller than 22 gauge. Use jacketed, stranded, twisted-pair untinned solid copper conductors with a drain wire.
- B. Insulation for Wire in Conduit: Thermoplastic not less than 1/32-inch thick. The microphone and speaker cable shall be installed in metallic conduit.
- C. Shielding: 34-gauge tinned soft copper strands formed into a braid or approved equivalent foil type.
- D. Shielding coverage on the conductors not less than 60 percent.
- E. Microphone Cables: Neoprene jacketed not less than 2/64 inch thick over shield with filled interstices.
- F. System Contractor shall label each field cable that enters the head end control. This includes all microphone cables, all loudspeakers cables, and any other cables entering the control. The Systems

contractor shall prepare a schedule of the field cable numbers with the application and location of the field equipment that the specific cable represents. This information shall be permanently mounted in the head end equipment and become a required submittal to be included in the final Owner's Manual.

### Part 3 – EXECUTION

#### 3.1 EXAMINATION

- A. Examine conditions, with the Installer present, for compliance with requirements and other conditions affecting the performance of the Microphone Control and Sound Reinforcement work.
- B. Do not proceed until unsatisfactory conditions have been corrected.

#### 3.2 INSTALLATION

- A. General: Install system in accordance with NFPA 70 and other applicable codes. Install equipment in accordance with manufacturer's written instructions.
- B. Wiring Methods: Install wiring in raceway except within consoles, desks, and counters. Conceal wiring. All microphone and speaker cable shall be installed in metallic conduit.
- C. Impedance and Level Matching: Carefully match input and output impedance's and signal levels at signal interfaces. Provide matching networks where required.
- D. Control Circuit Wiring: Install control circuits in accordance with NFPA 70 and as indicated.  
Provide number of conductors as recommended by system manufacturer to provide control functions indicated or specified.
- E. Provide physical separation of conductors used for microphone, line level, and speaker level signal from power wiring. Run in separate raceways or provide 12 inch minimum separation where exposed or in same enclosure. Provide additional physical separation as recommended by equipment manufacturer.
- F. Splices, Taps, and Terminations: Make splices, taps, and terminations on numbered terminal strips in the head end equipment enclosures. Do Not splice the cable between the microphones and the equipment enclosure.
- G. Identification of Conductors and Cables: Use color coding of conductors and apply wire and cable marking tape to designate wires and cables so all media are identified in coordination with system wiring diagrams and other requirements as specified herein.
- H. Repairs: Wherever walls, ceilings, floors, or other building finishes are cut for installation, repair, restore, and refinish to original appearance.

#### 3.3 GROUNDING

- A. Provide equipment grounding connections for Microphone Control and Sound Reinforcement system as recommended by manufacturer. Tighten connections to comply with tightening torques specified in UL Standard 486A to assure permanent and effective grounds.
- B. Ground equipment, conductor, and cable shields to eliminate shock hazard and to minimize to the greatest extent possible, ground loops, common mode returns, noise pickup, cross talk, and other impairments. Electrical Contractor to furnish and install dedicated ground for the

Microphone Control and Sound Reinforcement system.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Provide services of a factory authorized service representative to layout, plan and supervise the field assembly and connection of components and the pretesting, testing, and adjustment of the system.
- B. Testing: Upon completing installation of the system, align, adjust, and balance the system and perform complete testing. Determine the conformance of the system to the requirements of the Drawings and Specifications. Correct deficiencies observed. Replace malfunctioning or damaged items with new, and retest until material satisfactory performance and conditions are achieved.
- C. Operational Test: Perform an operational system test to verify conformance of system to the Specifications. Observe sound reproduction for proper volume levels and freedom from noise. This operational test shall be observed by the Architect, Engineer, and Owner's Representative. The Contractor shall give a two week notice that the system is ready for this test to all parties involved. At this time the system shall be evaluated and given final approval that it meets these specifications, System Contractor shall remove and replace equipment, reinstall, and connect the system at no cost until such time as the system meets these specifications. Final approval of this system equipment will be awarded to the System's Contractor in writing following the successful Operational Test and Inspection of the system within one week.

3.5 COMMISSIONING

- A. Train Owner's maintenance personnel in the procedures and schedules involved in operating, troubleshooting, servicing, and preventative maintenance of the system. Provide a minimum of three hours training.
- B. Schedule training with Owner through the Architect, with at least 7 days advance notice.
- C. Occupancy Adjustments: When requested by the Architect within one year of date of Substantial Completion, provide on-site assistance in adjusting sound levels, resetting matching transformer taps, and adjusting controls to suit actual occupied conditions.

3.6 CLEANING AND PROTECTION

- A. Prior to final acceptance, clean system components and protect from damage and deterioration.

END OF SECTION 275126.01

## SECTION 275136 - GYMNASIUM SOUND SYSTEM

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A This Section includes Microphone Control and Sound Reinforcement system for the Gymnasium areas as indicated on the project drawings. It includes requirements for Microphone Control and Sound Reinforcement system components including, but not limited to, the following:

1. Wireless Microphone, fixed microphones, and accessories.
2. Rack enclosures.
3. Audio signal processors.
4. Power Amplifiers.
5. Microphone Receptacles.
6. Program music sources.
7. Rack mounted power supply and surge protector.
8. Wiring.
9. Loudspeakers
10. Audio Signal Mixers and Control Components.
11. All required components for proper impedance matching, signal balancing, and data conversion software required for the proper operation of the Microphone Control and Sound Reinforcement systems.
12. Miscellaneous material as required.

#### 1.3 RELATED SECTIONS: The following sections contain requirements that relate to this section:

- 1. "Raceways, Boxes and Cabinets", for raceways, boxes and cabinets used for Microphone Control and Sound Reinforcement system cables.

#### 1.4 SYSTEM DESCRIPTION

- A General: The Microphone Control and Sound Reinforcement system shall be a complete system for amplifying sound signals from microphone outlets and "line level" signals such as CD player, mixing, processing, amplifying and distributing them to the loudspeakers.
- B. The Microphone Control and Sound Reinforcement system shall be furnished with all required equipment, multiple inputs, interconnect cabling, interconnect termination strips, as required, final

equipment knob/control/microphone location labeling, and assemblies as required for a fully functional system allowing each feature to operate properly.

- C. The Electrical Contractor shall be responsible to furnish and install all cable conduit, power, speakers, microphones, system head end and all other “field” equipment as indicated on the project plans and specified herein, as directed and supervised by the equipment supplier. The Electrical Contractor shall contract for the professional services and equipment, of the sound system supplier that can provide the final testing procedures, system interfaces, in-service training for the owner’s rep, and signal flow diagrams as required in this specification section. Final terminations of the field equipment to be performed by the Electrical Contractor as directed by the equipment supplier’s detailed drawings. Electrical Contractor shall be responsible to procure these services as required and oversee and coordinate the smooth and efficient integration of these systems with all parties concerned.
- D. Functional Performance: Components and system features and functions shall include, but are not limited to, the following:
  - 1. Multiple Sources: The system shall have switch selectability of sources for sound amplification between various microphones and inputs designated and arranged for program sources such as CD player and auxiliary equipment.
  - 2. High-Quality Sound Reproduction: Freedom from noises such as pops, clicks, hiss and hum at all loudspeakers at all times during operation of the system, including standby mode with inputs off. Freedom from distortion and non-uniform coverage of amplified sound shall be required.
  - 3. Each component has been carefully selected to provide a complete, overall system. Each component has been carefully screened and selected to match electrical, operational, and acoustical/sonic qualities together to provide an optimum system at a minimum expense. For these reasons, no substitutions of brand or model number shall be permitted.

## 1.5 SUBMITTALS

- 1. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
  - 1. Product data for each type of product specified.
  - 2. System contractor shall submit information to Arch/Engineer with the equipment submittal for review and approval.
  - 3. Shop drawings detailing Microphone Control and Sound Reinforcement system including, but not limited to the following:
    - a. System cable riser diagram.
    - b. System Interconnect signal and control diagrams showing all logic and data control features.
    - c. Wattage and voltage tap information for speakers.
    - d. Cable Termination information for each component in the system.
    - e. Wiring Diagrams detailing wiring for power, signal, and control differentiating clearly between manufacturer-installed wiring and field-installed wiring. Identify terminal

- numbers and wiring color codes to facilitate installation, operation, and maintenance.
- f. Maintenance data for materials and products, for inclusion in Operating and Maintenance Manual specified.

#### 1.6 QUALITY ASSURANCE

1. Installer Qualifications: Engage an experienced Installer with supervision from a factory-authorized sales and service representative for the project location to perform the work of this Section. Refer to Division 1 Section “Definitions and Standards” for definition of experienced Installer. The Installer shall have satisfactorily completed an existing similar system that the Architect/Engineer/Owner may visit to verify upon request. Upon request, submit evidence of such qualifications to the Architect.
2. Electrical Component Standard: Provide work complying with applicable requirements of NFPA 70 “National Electrical Code.”
3. EIA Compliance: Comply with the following Electronics Industries Association Standards:
  1. Sound Systems, EIA-160.
  2. Loudspeaker, Dynamic Magnetic Structures, and Impedance, EIA-229-A.
  3. Racks, Panels, and Associated Equipment, EIA-310-A.
  4. Amplifiers for Sound Equipment, SE-101-A.
  5. Speakers for Sound Equipment, SE-103.
  6. Microphones for Sound Equipment, SE-105.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

1. Deliver products in factory containers. Store in clean, dry space in original containers. Protect products from fumes and construction traffic. Handle carefully to avoid damage.

### Part 2 - PRODUCTS:

#### 2.1 MANUFACTURERS

- A. Manufacturers: Equipment brands that are named in this specification set the desired minimum performance quality level for all associated features and functions applicable to the model numbers specified. This specification further lists the minimum performance characteristics, features, and functions of all other equipment for this project. System shall be bid based on the equipment listed in this specification and on the project drawings.
2. The contractor shall be held responsible for the equipment meeting these specifications. The equipment shall be formally approved at the final system acceptance after the equipment has been installed, terminated, and ready for inspection by the Architect/Engineer/Owner. It shall be the electrical contractor’s responsibility to remove, replace, and reinstall at no cost all equipment found to be in non-compliance with these specifications at the time of final acceptance and testing by Architect/Engineer/Owner. Submittal review and acceptance by the Architect Engineer, or Owner



of this equipment shall be preliminary. The endorsement or approval of the equipment submittal by the Architect/Engineer/Owner shall not relieve the contractor of this responsibility to remove, replace, and re-install all equipment at no cost to meet these specifications.

## 2.2 SYSTEM REQUIREMENTS

- A. General: Provide complete and fully functional Microphone Control and Sound Reinforcement systems using materials and equipment of types, sizes, ratings, and performances as indicated. Use materials and equipment that comply with referenced standards and manufacturers' standard design and construction in accordance with published product information. Coordinate the features of materials and equipment so they form an integrated system with components and interconnections matched for optimum performance of specified functions. The functional Microphone Control and Sound Reinforcement system consists of: mixer/amplifier, system control components, interface circuits/equipment for the microphone control systems, multiple audio inputs, speakers, multiple microphone and line level inputs.

## 2.3 EQUIPMENT AND MATERIALS

- A. General: Provide equipment using all solid-state components fully rated for continuous duty at the ratings indicated or specified. Select equipment for normal operation on input power supplied at 105-130 V, 60 Hz.

## 2.4 DIGITAL SIGNAL PROCESSOR:

- A. Furnish and install a digital signal processor/control system in the sound system rack enclosure. This processor shall be rack mountable.
- B. The Digital Signal Processor shall have 8 balanced mic/line inputs, 8 balanced mic/line outputs and 8 flex mic/line inputs or outputs on plug-in barrier strip.
- C. The Processor shall have dual Ethernet ports for software configuration/control and remote control for control panel.
- D. All processor controls & indicators shall be provided via software graphic interface.
- E. Frequency Response shall be +0.05%/-0.5% (20Hz~20kHz @ +21dBu).
- F. Power Consumption shall be less than 120 watts max.
- G. Dimensions shall be 1.75" high, 19" wide, & 11.12" deep.
- H. The system processors shall be QSC Q-SYS Core 110f or latest model.
- I. Provide One TSC-7w touchscreen controller in the gym sound rack for configuration of the system.
- J. Control system shall have presets programmed to configure the room for different uses such as ball games, assemblies, etc.

2.4 TYPE 4 AMPLIFIER

- A. 2 Independent Channels
- B. 440W per channel at 70V
- C. 20Hz to 20KHz frequency Response
- D. 2 rack spaces
- E. QSC CX602V

2.5 CD/MEDIA PLAYER:

- A. Furnish and install one CD/Media Player in the Rack Enclosure.
- B. The Player shall be rack mountable.
- C. The system CD/Media player shall be an all-in-one player capable of playing music from a CD, USB, or SD card.
- D. Player shall be capable of streaming audio via Bluetooth up to 100 feet away
- E. Player shall have internal AM/FM tuner
- F. Output impedance shall be 1K ohm.
- G. The CD/Media Player shall be a Denon model # DN-300Z or latest model.

2.6 ASSISTIVE LISTENING SYSTEM:

- A. Furnish and install in sound system rack, an assistive listening system base transmitter, four receivers, four earbuds and wall plaque. Assistive listening systems shall be Telex SM-1 system which consists of the following:
  - 1. One ST-200 base transmitter
    - i. RF Frequency Range 72 to 76 MHz
    - ii. Modulation FM: +/- 25 KHz deviation
    - iii. Signal to Noise Ratio 58dB
    - iv. Maximum deviation +/- KHz
    - v. Maximum Rated Power 50mW
  - 2. Four SR-50 receivers
    - i. Power requirements 2 AA batteries
    - ii. Audio frequency response - <3db Variation
    - iii. Signal to Noise Ratio >60dB
  - 3. Four SEB-1 earbuds
  - 4. One Soundmate wall plaque
- B. Features to include 16-user selectable frequencies controlled by a front mounted selector knob, headphone jack with adjustable level for input signal monitoring, peaking reading LED display for visual input monitoring. Unit has balanced XLR-3F with selectable mic, line, and 70V input options and unbalanced 1/4" input. Input attenuator and hi/lo RF power switch.
- C. Provide Rack Mount Kit and remote Antennas for Transmitters.

2.7 WIRELESS MICROPHONE:

- A. Furnish and install two wireless microphone systems with the receivers permanently installed in the sound system rack enclosure. The receivers shall utilize a rack mount kit to properly attach to system rack.
- B. The wireless microphone systems shall have the following minimum features;
  - 1. RF Carrier Frequency Range Approximately 710 to 734 MHz
  - 2. Audio Frequency Response: 50 to 15,000 Hz, +/- 2 dB
  - 3. System Distortion < 0.5%
  - 4. Signal/Noise Ratio: < 94 dB
  - 5. Sensitivity: < 0.8 uV for 12 dB SINAD
  - 6. Dynamic Range: 100dB
  - 7. Size: 7.5" x 5.75" x 1.7"
- D. Furnish and install two Sennheiser model # EW100-G4-835-S-A Handheld Systems (one per gym)
- E. Furnish and install 4 Sennheiser model# A2003-UHF Directional Antenna
- F. Furnish and install 4 Sennheiser model# USWM1 Wall Mount

2.8 PORTABLE RACK MIXER:

- A. Furnish one Portable Rack Mixer.
- B. Specifications to include:
  - 1. 8 Mic/Line Inputs
  - 2. Max input mic level 0 dBV balanced
  - 3. Max input line level +6 dBV
  - 4. Max Mic gain 55 dB
  - 5. Max Line gain 26 dB
  - 6. Dimensions: 19" x 6" x 1.75"
  - 7. Shipping Weight: 7 lbs
- C. Portable Rack Mixer shall be a Rolls model # RM82 or latest model.

2.9 LOUDSPEAKERS

- A. Furnish and install pendant mount, two-way, 125 watt, 8 inch, high output speaker system as indicated on the project plans.
- B. The Loudspeaker shall include a 8" woofer and 1.42" compression driver.
- C. Power Handling shall be 125 Watts continuous and 250 Watts Peak.
- D. Dimensions shall be 17.2" H x 14.8" Diameter.

- E. Speaker shall weigh 16.9 pounds.
- F. Provide quantity as shown on drawings Soundtube model # HP890i Loudspeakers or latest model.
- G. Speakers shall be zoned as follows:
  - Zone 1 Main Bleachers
  - Zone 2 End Bleachers
  - Zone 3 Over Court
  - Zone 4 Aux GymEach zone shall be individually controlled at the control panel to fit the use/seating arrangement in the room.

2.10 MICROPHONES:

- A. Furnish three Electro-Voice model # ND76 vocal microphones with dynamic N/DYM magnet structure.
  - 1. Frequency response: Close Response: 45Hz to 15kHz, Far Response: 100Hz to 15kHz
  - 2. Polar Pattern: Cardioid
  - 3. Impedance: Low-Z Balanced (300 ohms)
  - 4. Sensitivity: Open Circuit Voltage: 2.9mV/Pascal @ 1.0 kHz; Power Level: -51.5dB
  - 5. Microphone Connector: 3-pin, XLR type
  - 6. Polarity: pin2positive, referenced to pin 3 with positive pressure on diaphragm
  - 7. Dimensions: 7.12" Length x 2.05" Diameter x .80" Shank; Weight 8.4 oz

2.11 STANDS AND ACCESSORIES:

- A. Provide three industry standard floor stands suitable for a variety of applications. Microphone stands shall be Atlas model # MS-10CE all purpose microphone floor stands. Height: 35" – 63"; Base Diameter: 10", Stability Index: 569; Tube Finish: Ebony; Weight: 9.0lbs
- B. Provide 1 Rolls MS211 PTT/PTM Desk Mic Stand
- C. Provide three 25' Microphone Cables.
- D. Provide one 100' Microphone Cable.
- E. Provide two Rapco Y12-1 ¼ inch male to two RCA Female Y Cables.
- F. Provide two Rapco DBBLOX Matching Transformers.

2.12 WALL JACKS:

- A. Microphone Jacks:  
Microphone jacks shall be standard XLR type connectors mounted on stainless steel wall plates. Provide single, double or quad outlets as shown on contract drawings.
- B. Line Input Jacks

Line input jack shall be single 3.5mm female jack mounted on stainless steel wall plate.

- C. Speaker Jacks:  
Speaker Jacks shall be single speakon connectors mounted on stainless steel wall plates.

#### 2.13 FLOOR BOXES

- A. Provide floor boxes as shown on contract drawings.
- B. Floor boxes shall be Rapco Mini FBOX
- C. Provide custom insert panels for each box with two XLR mic jacks and two Speakon Speaker Jacks

#### 2.14 AMP RACK ENCLOSURE:

- A. Gymnasium Sound System Rack enclosure shall be Middle Atlantic Products model number DWR-18-26.
- B. Rack top, bottom and sides shall be 16 gauge steel
- C. Rack rail shall be 11 gauge steel, with tapped 10-32 holes in universal E.I.A. spacing
- D. Rack shall be phosphate pre-treated and finished in a durable black powder coat
- E. The rack shall be of welded construction
- F. The rack shall be furnished with the following options as a minimum:
  - 1. Front door.
  - 2. one 3 Rack Space Drawer
  - 3. One Middle Atlantic PD915R Power Strips
- G. Sufficient blank front covers to cover unused section of the rack, sufficient rack shelves to mount the components as needed. Locate rack as shown on the project drawings leaving sufficient wall space to properly open both the front and rear doors without obstruction. Electrical Contractor shall furnish and install 4 dedicated 20-amp 120V circuits to support the sound system Amp Rack Components.

#### 2.15 PORTABLE RACK ENCLOSURE

- A. Gymnasium Sound System Portable Rack enclosure shall be Middle Atlantic PTRK-14.
- B. Rack top, bottom and sides shall be 16 gauge steel
- C. Rack rail shall be 11 gauge steel, with tapped 10-32 holes in universal E.I.A. spacing
- D. Rack shall be phosphate pre-treated and finished in a durable black powder coat
- E. 4" Locking casters

F. The rack shall be furnished with the following options as a minimum:

1. Side Panels.
2. Rear Access Panel
3. One 3 Rack Space Drawer
4. One Middle Atlantic PD915R Power Strip.
5. Sufficient blank front covers to cover unused section of the rack

2.16 WIRE AND CABLE:

- A. Conductors: Size speaker circuit conductors from racks to loudspeaker outlets not smaller than 12 gauge and conductors from microphone receptacles to amplifiers not smaller than 22 gauge. Use jacketed, stranded, twisted-pair untinned solid copper conductors with a drain wire.
- B. Insulation for Wire in Conduit: Thermoplastic not less than 1/32-inch thick. The microphone and speaker cable shall be installed in metallic conduit.
- C. Shielding: 34-gauge tinned soft copper strands formed into a braid or approved equivalent foil type. Shielding coverage on the conductors not less than 60 percent.
- D. Microphone Cables: Neoprene jacketed not less than 2/64 inch thick over shield with filled interstices.
- E. System Contractor shall label each field cable that enters the head end control. This includes all microphone cables, all loudspeakers cables, and any other cables entering the control. The Systems contractor shall prepare a schedule of the field cable numbers with the application and location of the field equipment that the specific cable represents. This information shall be permanently mounted in the head end equipment and become a required submittal to be included in the final Owner's Manual.

Part 3 – EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with the Installer present, for compliance with requirements and other conditions affecting the performance of the Microphone Control and Sound Reinforcement work.
- B. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install system in accordance with NFPA 70 and other applicable codes. Install equipment in accordance with manufacturer's written instructions.

- B. Wiring Methods: Install wiring in raceway except within consoles, desks, and counters. Conceal wiring. All microphone and speaker cable shall be installed in metallic conduit.
- C. Impedance and Level Matching: Carefully match input and output impedance's and signal levels at signal interfaces. Provide matching networks where required.
- D. Control Circuit Wiring: Install control circuits in accordance with NFPA 70 and as indicated. Provide number of conductors as recommended by system manufacturer to provide control functions indicated or specified.
- E. Provide physical separation of conductors used for microphone, line level, and speaker level signal from power wiring. Run in separate raceways or provide 12 inch minimum separation where exposed or in same enclosure. Provide additional physical separation as recommended by equipment manufacturer.
- F. Splices, Taps, and Terminations: Make splices, taps, and terminations on numbered terminal strips in the head end equipment enclosures. Do Not splice the cable between the microphones and the equipment enclosure.
- G. Identification of Conductors and Cables: Use color coding of conductors and apply wire and cable marking tape to designate wires and cables so all media are identified in coordination with system wiring diagrams and other requirements as specified herein.
- H. Repairs: Wherever walls, ceilings, floors, or other building finishes are cut for installation, repair, restore, and refinish to original appearance.

### 3.3 GROUNDING

- A. Provide equipment grounding connections for Microphone Control and Sound Reinforcement system as recommended by manufacturer. Tighten connections to comply with tightening torques specified in UL Standard 486A to assure permanent and effective grounds.
- B. Ground equipment, conductor, and cable shields to eliminate shock hazard and to minimize to the greatest extent possible, ground loops, common mode returns, noise pickup, cross talk, and other impairments. Electrical Contractor to furnish and install dedicated ground for the Microphone Control and Sound Reinforcement system.

### 3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Services: Provide services of a factory authorized service representative to layout, plan and supervise the field assembly and connection of components and the pretesting, testing, and adjustment of the system.
- B. Testing: Upon completing installation of the system, align, adjust, and balance the system and perform complete testing. Determine the conformance of the system to the requirements of the Drawings and Specifications. Correct deficiencies observed. Replace malfunctioning or damaged items with new, and retest until material satisfactory performance and conditions are achieved.

- C. Operational Test: Perform an operational system test to verify conformance of system to the Specifications. Observe sound reproduction for proper volume levels and freedom from noise. This operational test shall be observed by the Architect, Engineer, and Owner's Representative. The Contractor shall give a two week notice that the system is ready for this test to all parties involved. At this time the system shall be evaluated and given final approval that it meets these specifications, System Contractor shall remove and replace equipment, reinstall, and connect the system at no cost until such time as the system meets these specifications. Final approval of this system equipment will be awarded to the System's Contractor in writing following the successful Operational Test and Inspection of the system within one week.

### 3.5 COMMISSIONING

- A. Train Owner's maintenance personnel in the procedures and schedules involved in operating, troubleshooting, servicing, and preventative maintenance of the system. Provide a minimum of three hours training.
- B. Schedule training with Owner through the Architect, with at least 7 days advance notice.
- C. Occupancy Adjustments: When requested by the Architect within one year of date of Substantial Completion, provide on-site assistance in adjusting sound levels, resetting matching transformer taps, and adjusting controls to suit actual occupied conditions.

### 3.6 CLEANING AND PROTECTION

- A. Prior to final acceptance, clean system components and protect from damage and deterioration.

END OF SECTION 275136



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**GENERAL NOTES:**

- CONTRACTOR TO COORDINATE OVERALL DIMENSIONS SHOWN WITH OTHER PLANS.

**GENERAL DEMOLITION NOTES:**

- CONTRACTOR TO COORDINATE DEMOLITION WITH ALL OTHER SHEETS AND DOCUMENTS.

- DIMENSIONS GIVEN AS REFERENCE ONLY. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AS NECESSARY TO FULFILL THE INTENT/SCOPE OF THE WORK PRIOR TO COMMENCING THE WORK.

- PROTECT ALL ITEMS TO REMAIN - PATCH AND REPAIR ALL ITEMS AND FINISH TO REMAIN IF DAMAGED. VOIDS OR DAMAGES TO EXISTING STRUCTURES, FINISHES AND/OR SITE ITEMS TO REMAIN MUST BE REPAIRED TO MATCH OR EXCEED EXISTING CONDITIONS UNLESS OTHERWISE NOTED.

- COORDINATE ALL EXISTING BUILDING AND SITE UTILITIES WITH ALL DOCUMENTS. DISRUPTION OF ANY UTILITY AND/OR SERVICE NOT ADDRESSED IN THE CONSTRUCTION DOCUMENTS MUST BE APPROVED BY THE ARCHITECT/OWNER BEFORE DISRUPTION.

- CONTRACTOR SHALL DISPOSE OF ALL DEMOLISHED MATERIAL IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE LAWS.

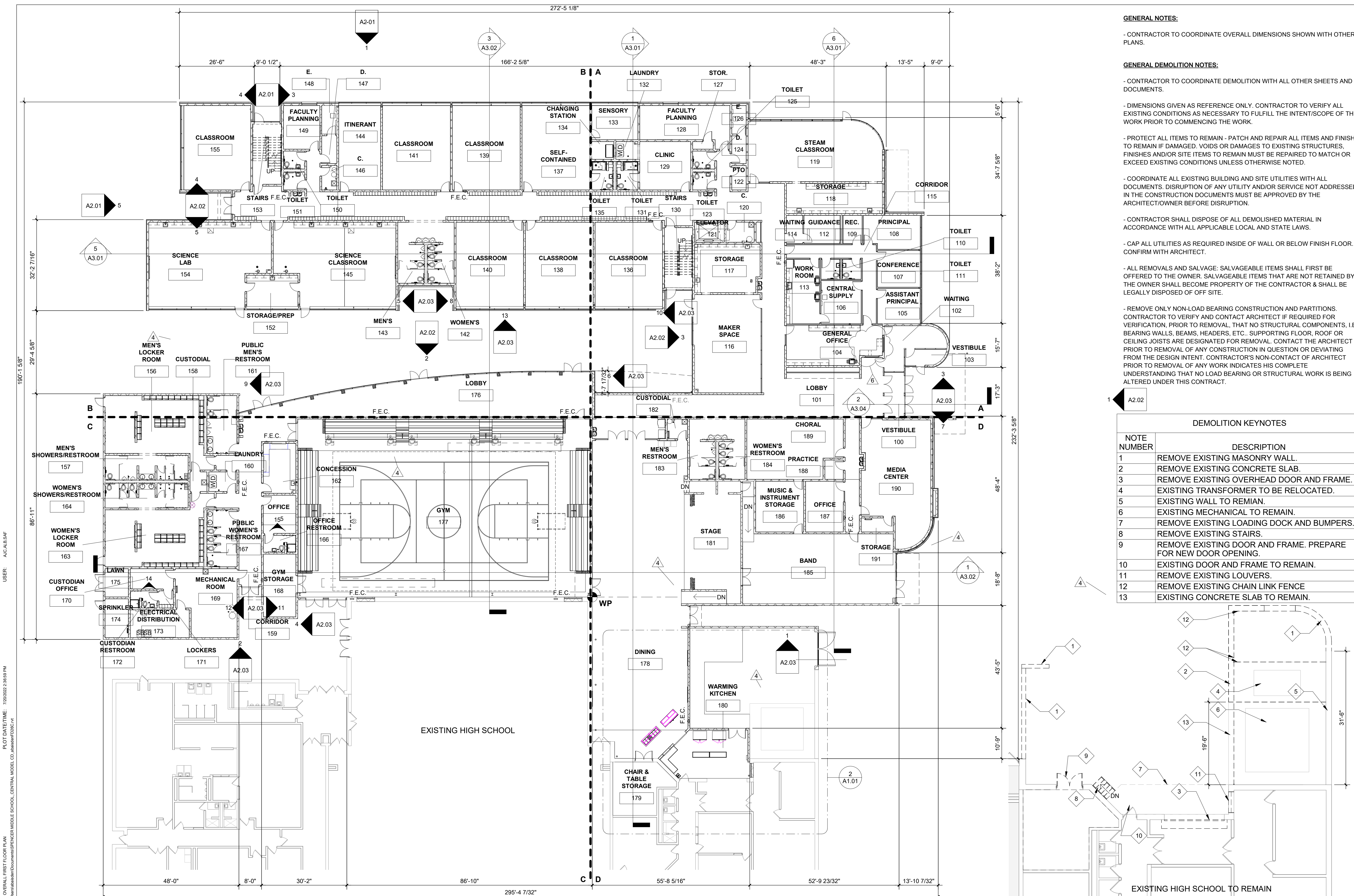
- CAP ALL UTILITIES AS REQUIRED INSIDE OF WALL OR BELOW FINISH FLOOR. CONFIRM WITH ARCHITECT.

- ALL REMOVALS AND SALVAGE: SALVAGEABLE ITEMS SHALL FIRST BE OFFERED TO THE OWNER. SALVAGEABLE ITEMS THAT ARE NOT RETAINED BY THE OWNER SHALL BECOME PROPERTY OF THE CONTRACTOR & SHALL BE LEGALLY DISPOSED OF OFF SITE.

- REMOVE ONLY NON-LOAD BEARING CONSTRUCTION AND PARTITIONS. CONTRACTOR TO VERIFY AND CONTACT ARCHITECT IF REQUIRED FOR VERIFICATION, PRIOR TO REMOVAL, THAT NO STRUCTURAL COMPONENTS, I.E. BEARING WALLS, BEAMS, HEADERS, ETC., SUPPORTING FLOOR, ROOF OR CEILING JOISTS ARE DESIGNATED FOR REMOVAL. CONTACT THE ARCHITECT PRIOR TO REMOVAL OF ANY CONSTRUCTION IN QUESTION OR DEVIATING FROM THE DESIGN INTENT. CONTRACTOR'S NON-CONTACT OF ARCHITECT PRIOR TO REMOVAL OF ANY WORK INDICATES HIS COMPLETE UNDERSTANDING THAT NO LOAD BEARING OR STRUCTURAL WORK IS BEING ALTERED UNDER THIS CONTRACT.

**DEMOLITION KEYNOTES**

NOTE NUMBER	DESCRIPTION
1	REMOVE EXISTING MASONRY WALL.
2	REMOVE EXISTING CONCRETE SLAB.
3	REMOVE EXISTING OVERHEAD DOOR AND FRAME.
4	EXISTING TRANSFORMER TO BE RELOCATED.
5	EXISTING WALL TO REMAIN.
6	EXISTING MECHANICAL TO REMAIN.
7	REMOVE EXISTING LOADING DOCK AND BUMPERS.
8	REMOVE EXISTING STAIRS.
9	REMOVE EXISTING DOOR AND FRAME. PREPARE FOR NEW DOOR OPENING.
10	EXISTING DOOR AND FRAME TO REMAIN.
11	REMOVE EXISTING LOUVERS.
12	REMOVE EXISTING CHAIN LINK FENCE
13	EXISTING CONCRETE SLAB TO REMAIN.



**1** OVERALL FIRST FLOOR PLAN - PROPOSED  
A1.01 1/16" = 1'-0"

**2** ENLARGED FIRST FLOOR PLAN - DEMOLITION  
A1.01 3/32" = 1'-0"

**THE NEW SPENCER MIDDLE SCHOOL**  
ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

DRAWN: A1C,ALB,SAP/DATE: 05/16/2022  
CHECKED: A1C DATE: 05/16/2022  
APPROVED: A1C DATE: 05/16/2022  
PROJECT No. 060-10259

OVERALL FIRST FLOOR PLAN

SHEET No. **A1.01**

LAYOUT TAB: OVERALL FIRST FLOOR PLAN  
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**GENERAL NOTES:**

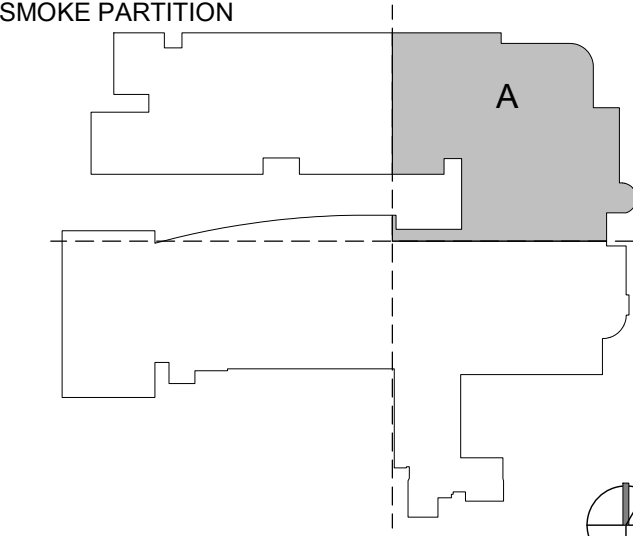
1. CONTRACTOR TO COORDINATE OVERALL DIMENSIONS SHOWN WITH OTHER PLANS.
2. INTERIOR PARTITIONS ARE DIMENSIONED TO FACE OF WALL.
3. THE HINGE SIDE OF INTERIOR DOOR FRAMES ARE LOCATED 2" FROM FACE OF ADJACENT STEEL STUD WALLS AND 4" FROM FACE OF ADJACENT CMU WALLS UNLESS OTHERWISE NOTED.
4. PROVIDE FIRE-TREATED WOOD BLOCKING IN CAVITY OF STEEL STUD PARTITIONS FOR WALL-MOUNTED ITEMS.
5. REFER SHEET A1.01 FOR WORKING POINT AND BASE LINES.
6. CMU AT CURVED WALLS SHALL BE STACKED BAND.
7. SLOPE FLOOR TO FLOOR DRAINS.

**KEYNOTES**

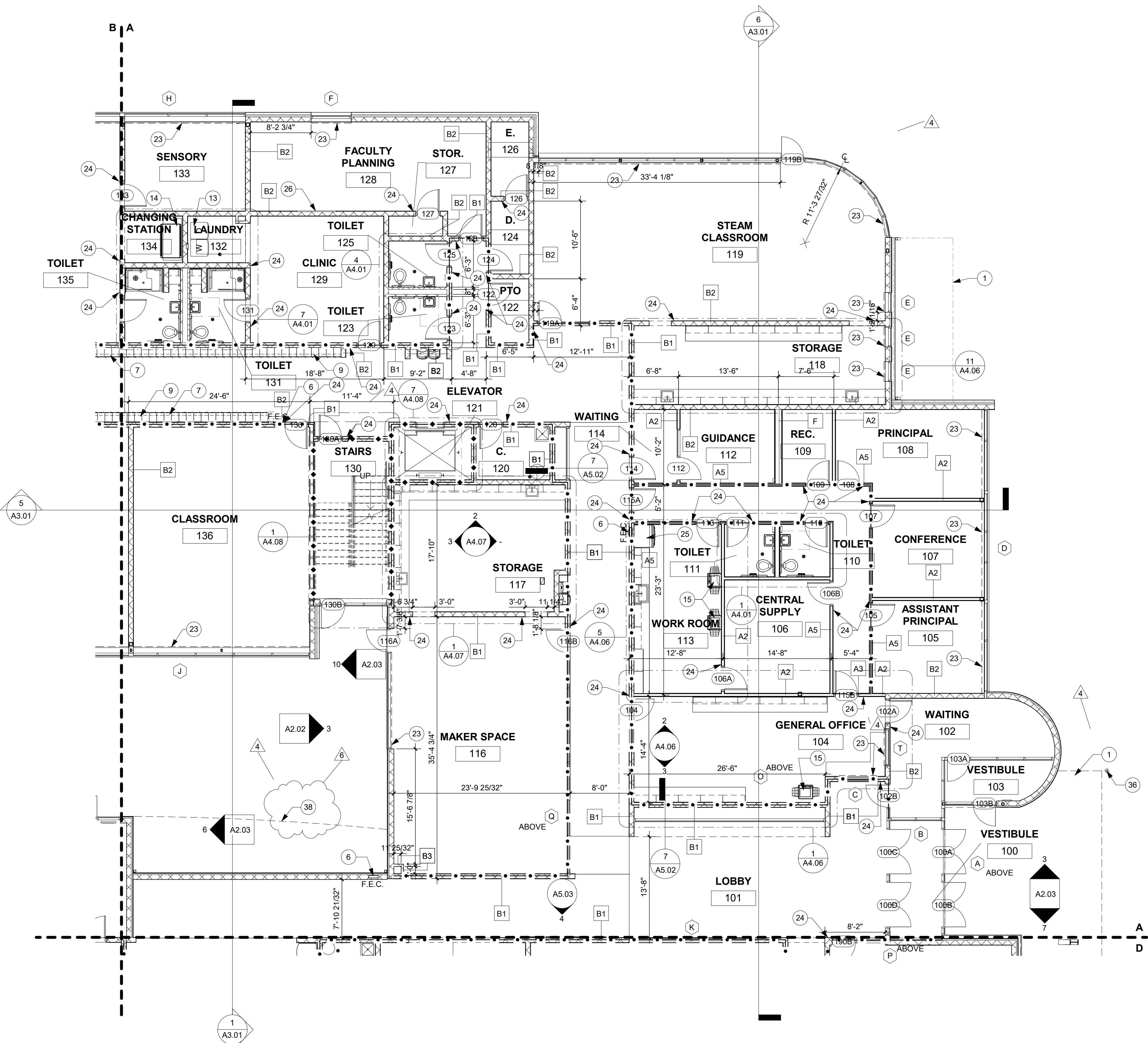
NOTE NUMBER	DESCRIPTION
1	LINE OF CANOPY ABOVE - SEE SECTIONS AND REFLECTED CEILING PLAN
2	MAT MOVER (ABOVE) SEE ELECTRICAL/STRUCTURAL - FIELD VERIFY AND COORDINATE LOCATIONS
3	BASKETBALL GOAL
4	BRASS HINGED VOLLEYBALL FLOOR PLATES.
5	ELECTRIC FOLDING BLEACHERS
6	FIRE EXTINGUISHER AND CABINETS.
7	4" CMU LOCKER BASE
8	ALTHETIC LOCKERS
9	LOCKERS
10	PLATFORM CURTAINS - SEE SPECIFICATIONS
11	GATE - SEE SPECIFICATIONS
12	NEW DOOR AND FRAME IN EXISTING WALL
13	WASHER/DRYER
14	ADULT CHANGING TABLE N.I.C.
15	COPIER N.I.C.
17	ALTERNATE NO. 5: TRAVERSE CLIMBING WALL. PROVIDE EVERLAST CLIMBING OR APPROVED EQUAL.
18	SCOREBOARD
19	SOLID TOP SERVING COUNTER EQUIPMENT N.I.C
20	CUBICLE CURTAIN W/ TOP MESH AND CURTAIN TRACK. MODOMED OR APPROVED EQUAL.
21	ALTERNATE NO. 4: ROOFTOP GREENHOUSE. RIMOL GREENHOUSES OR APPROVED EQUAL.
22	ALTERNATE NO. 4: LIVEROOF SYSTEM AND ASSOCIATED PAVERS.
23	SHADES
24	ROOM SIGNAGE LOCATION
25	KITCHEN APPLIANCES
26	TELEVISION - N.I.C.
27	EYE WASH
28	REMOVE EXISTING DOOR AND FRAME.
29	MARKER BOARD N.I.C.
30	HOOKS
31	VENDING MECHINES N.I.C.
32	COMBINATION HOT/COLD SERVING COUNTER EQUIPMENT N.I.C
33	DOUBLE DOOR HEATED HOLDING CABINET EQUIPMENT N.I.C
34	DOUBLE DOOR REFRIGERATOR HOLDING CABINET EQUIPMENT N.I.C
35	STAINLESS STEEL TABLE EQUIPMENT N.I.C
36	FLAGPOLE
37	ADA SEATING W/ COMPANION SEATING AS REQ'D. (TYP.)
38	LINE OF PRE-MANUFACTURED AWNING ABOVE - SEE SECTIONS AND REFLECTED CELING PLAN

**WALL RATINGS KEY:**

- ◆◆◆◆◆ 1-HOUR FIRE BARRIER
- — — — — SMOKE PARTITION



**KEY PLAN AREA A**  
1" = 100'-0"



**1 ENLARGED FIRST FLOOR PLAN AREA A**  
A1.02 1/8" = 1'-0"

**THE NEW SPENCER MIDDLE SCHOOL**

ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

DRAWN: AJC,ALB,SAP/DATE: 05/16/2022  
CHECKED: AJC DATE: 05/16/2022  
APPROVED: AJC DATE: 05/16/2022

PROJECT No. 060-10259

ENLARGED FIRST FLOOR PLAN AREA A

SHEET No.

LAYOUT TAB: ENLARGED FIRST FLOOR PLAN AREA A  
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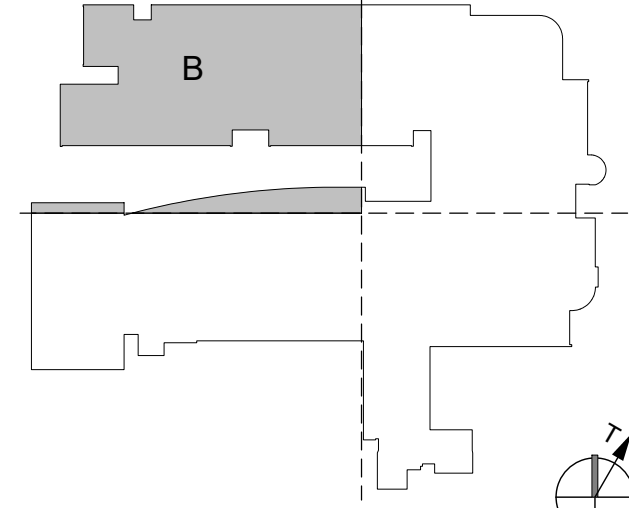
**GENERAL NOTES:**

1. CONTRACTOR TO COORDINATE OVERALL DIMENSIONS SHOWN WITH OTHER PLANS.
2. INTERIOR PARTITIONS ARE DIMENSIONED TO FACE OF WALL.
3. THE HINGE SIDE OF INTERIOR DOOR FRAMES ARE LOCATED 2" FROM FACE OF ADJACENT STEEL STUD WALLS AND 4" FROM FACE OF ADJACENT CMU WALLS UNLESS OTHERWISE NOTED.
4. PROVIDE FIRE-TREATED WOOD BLOCKING IN CAVITY OF STEEL STUD PARTITIONS FOR WALL-MOUNTED ITEMS.
5. REFER SHEET A1.01 FOR WORKING POINT AND BASE LINES.
6. CMU AT CURVED WALLS SHALL BE STACKED BAND.
7. SLOPE FLOOR TO FLOOR DRAINS.

KEYNOTES	
NOTE NUMBER	DESCRIPTION
1	LINE OF CANOPY ABOVE - SEE SECTIONS AND REFLECTED CEILING PLAN
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6	FIRE EXTINGUISHER AND CABINETS.
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8	ALTHETIC LOCKERS
9	LOCKERS
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12	NEW DOOR AND FRAME IN EXISTING WALL
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**WALL RATINGS KEY:**

- ◆◆◆◆◆ 1-HOUR FIRE BARRIER
- — — — — SMOKE PARTITION



**KEY PLAN AREA B**  
1" = 100'-0"

**THE NEW SPENCER MIDDLE SCHOOL**

ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

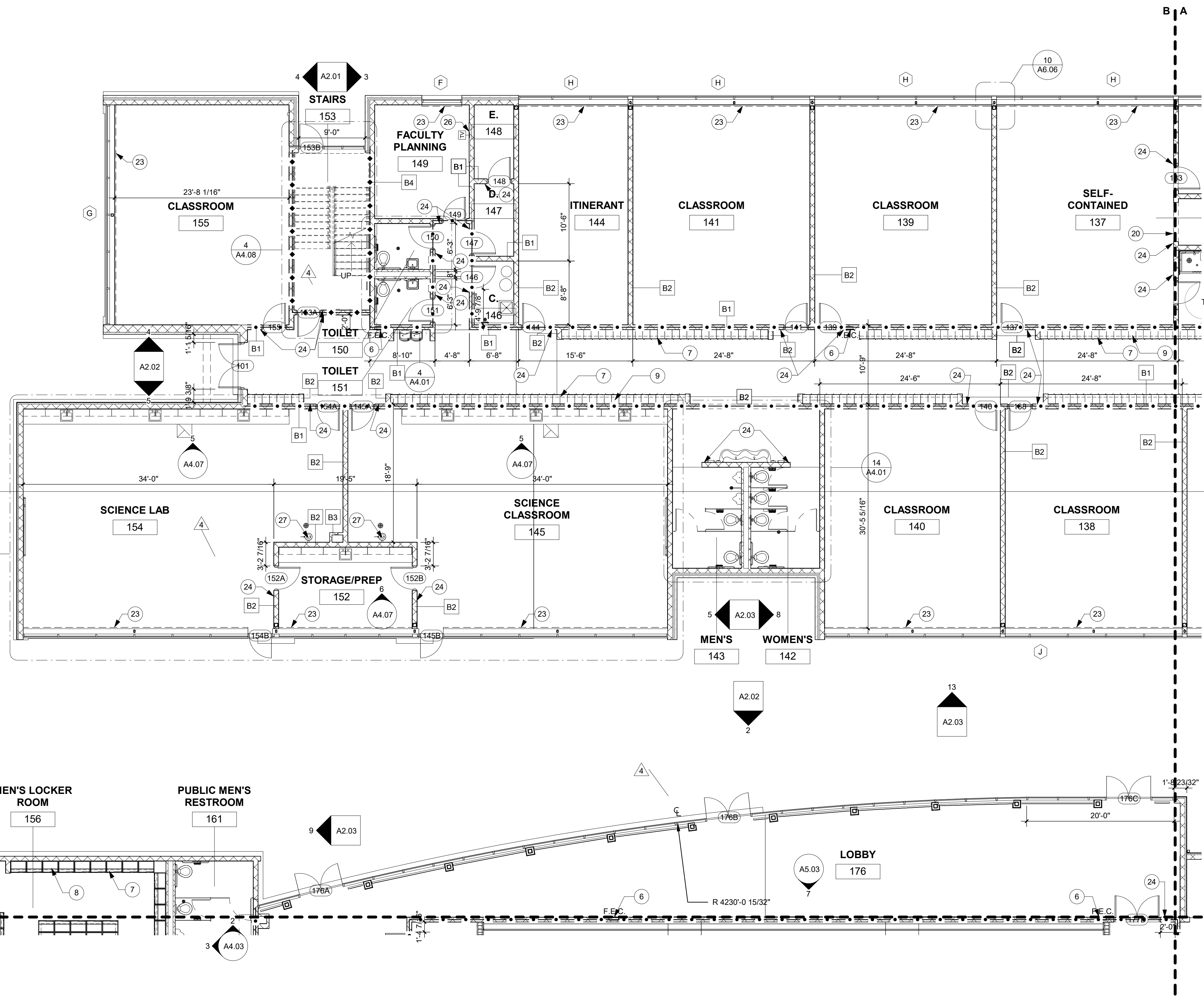
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CHECKED: AJC DATE: 05/16/2022  
APPROVED: AJC DATE: 05/16/2022

PROJECT No. 060-10259

ENLARGED FIRST FLOOR PLAN AREA B

SHEET No.

**A1.03**



**1 ENLARGED FIRST FLOOR PLAN AREA B**  
A1.03 1/8" = 1'-0"

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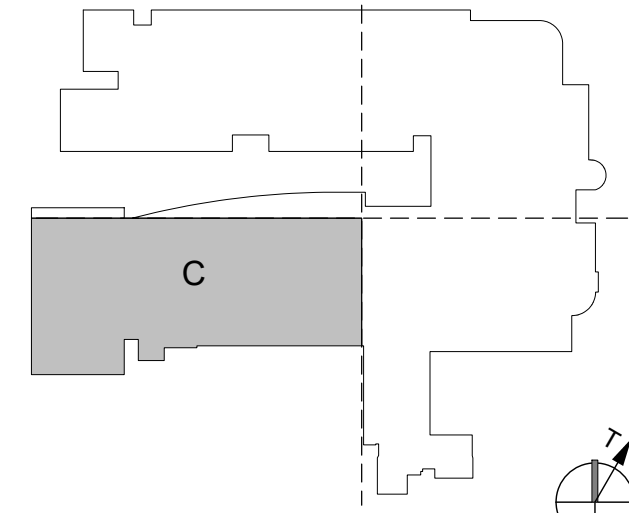
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6. CMU AT CURVED WALLS SHALL BE STACKED BAND.
7. SLOPE FLOOR TO FLOOR DRAINS.

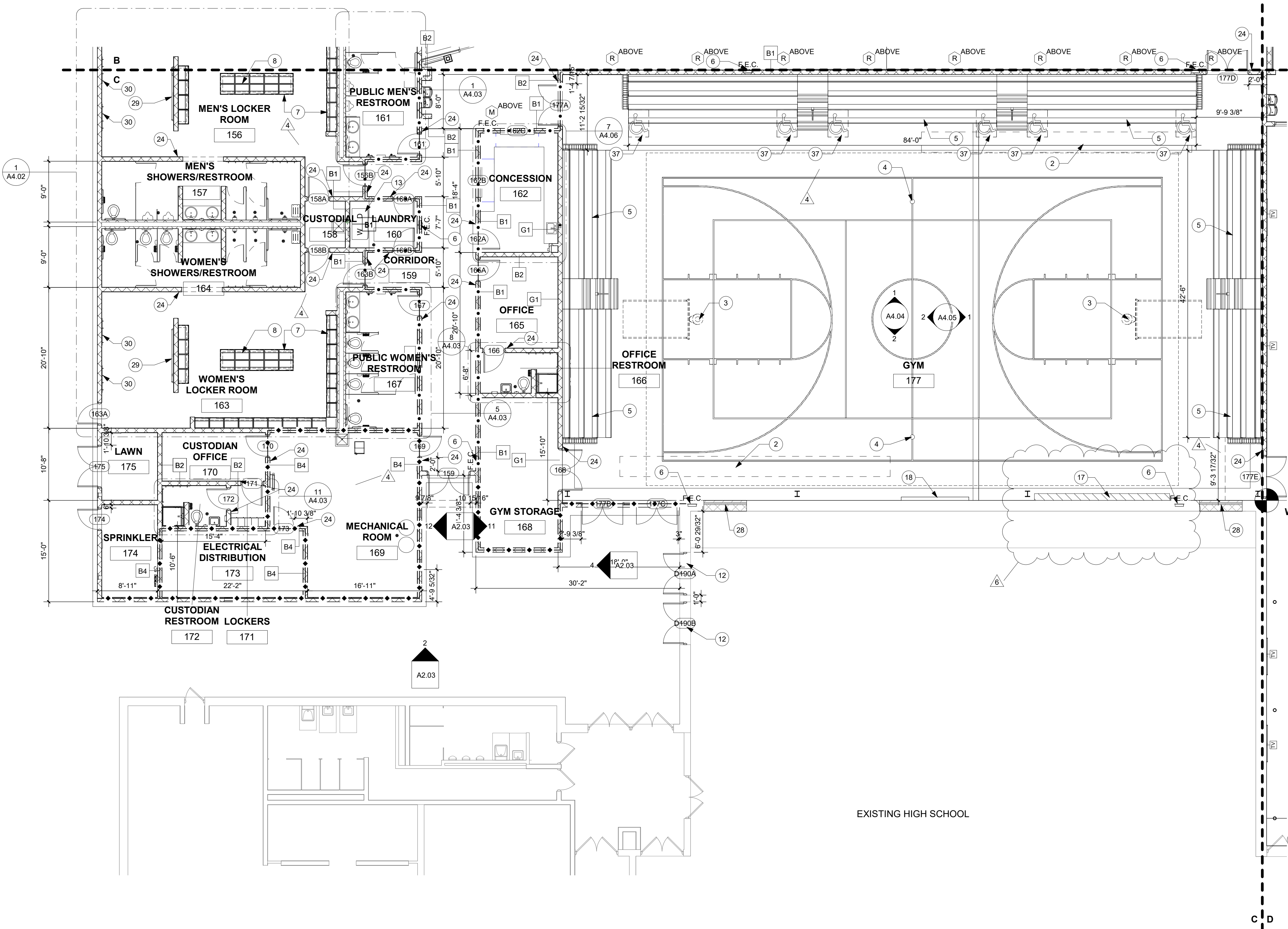
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**WALL RATINGS KEY:**

- ◆◆◆◆◆ 1-HOUR FIRE BARRIER
- — — — — SMOKE PARTITION



**KEY PLAN AREA C**  
1" = 100'-0"



**1 ENLARGED FIRST FLOOR PLAN AREA C**  
A1.04 1/8" = 1'-0"

**THE NEW SPENCER MIDDLE SCHOOL**

ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

DRAWN: A1C.ALB.SAF/DATE: 05/16/2022  
CHECKED: A1C DATE: 05/16/2022  
APPROVED: A1C DATE: 05/16/2022

PROJECT No. 060-10259

ENLARGED FIRST FLOOR PLAN AREA C

SHEET No.



**GENERAL NOTES:**

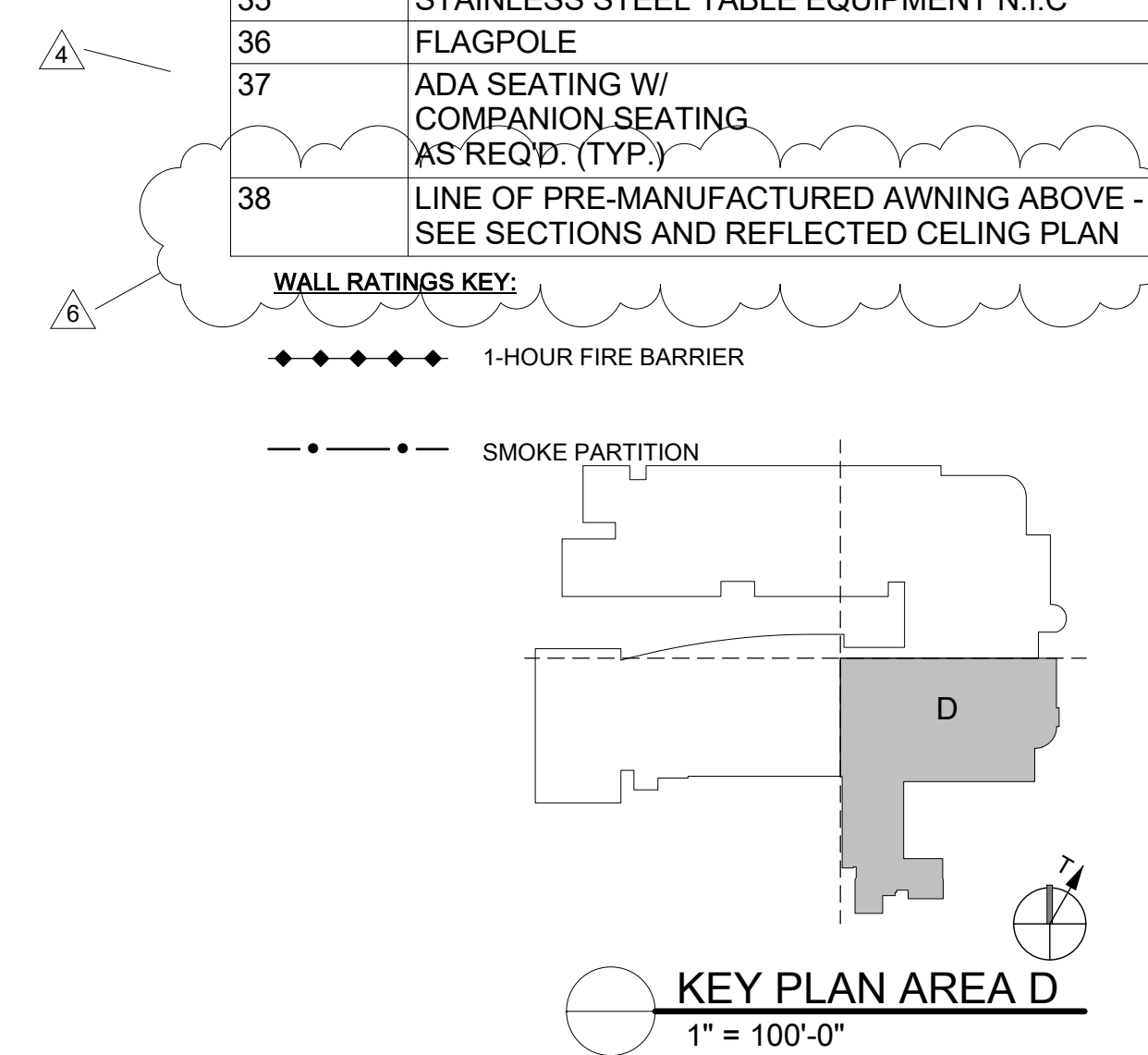
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- REFER SHEET A1.01 FOR WORKING POINT AND BASE LINES.
- CMU AT CURVED WALLS SHALL BE STACKED BAND.
- SLOPE FLOOR TO FLOOR DRAINS.

**KEYNOTES**

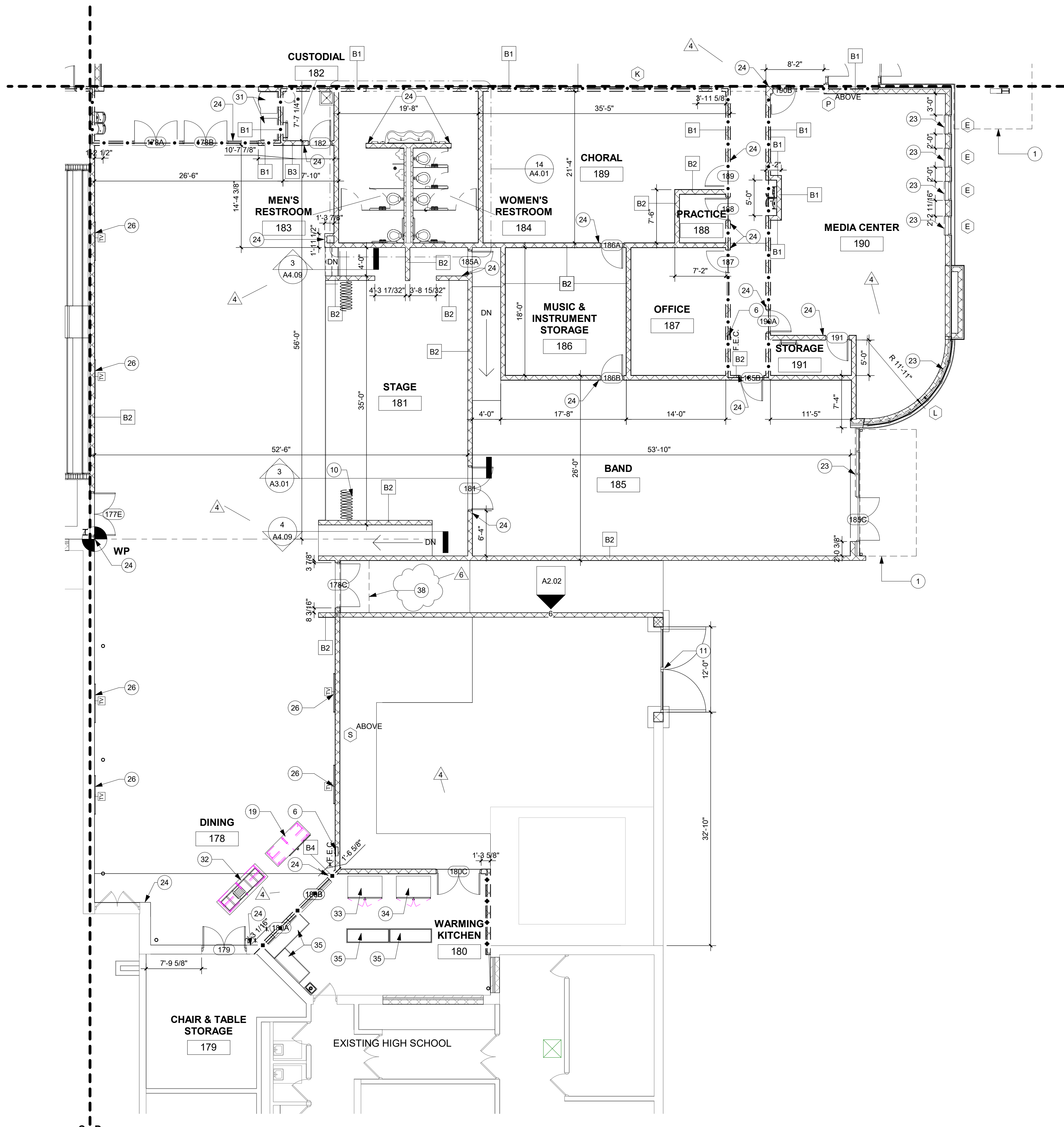
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38	LINE OF PRE-MANUFACTURED AWNING ABOVE - SEE SECTIONS AND REFLECTED CEILING PLAN

**WALL RATINGS KEY:**

- ◆◆◆◆◆ 1-HOUR FIRE BARRIER
- SMOKE PARTITION



**KEY PLAN AREA D**  
1" = 100'-0"



**1 ENLARGED FIRST FLOOR PLAN AREA D**  
A1.05 1/8" = 1'-0"

**THE NEW SPENCER MIDDLE SCHOOL**  
ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

NO.	BY	DATE	DESCRIPTION
4	ALB	07/07/2022	REVISION 4
6	ALB	07/20/2022	REVISION 6

DRAWN: A.JC,ALB,SAP/DATE: 05/16/2022  
CHECKED: A.JC DATE: 05/16/2022  
APPROVED: A.JC DATE: 05/16/2022  
PROJECT No. 060-10259

**ENLARGED FIRST FLOOR PLAN AREA D**  
SHEET No.

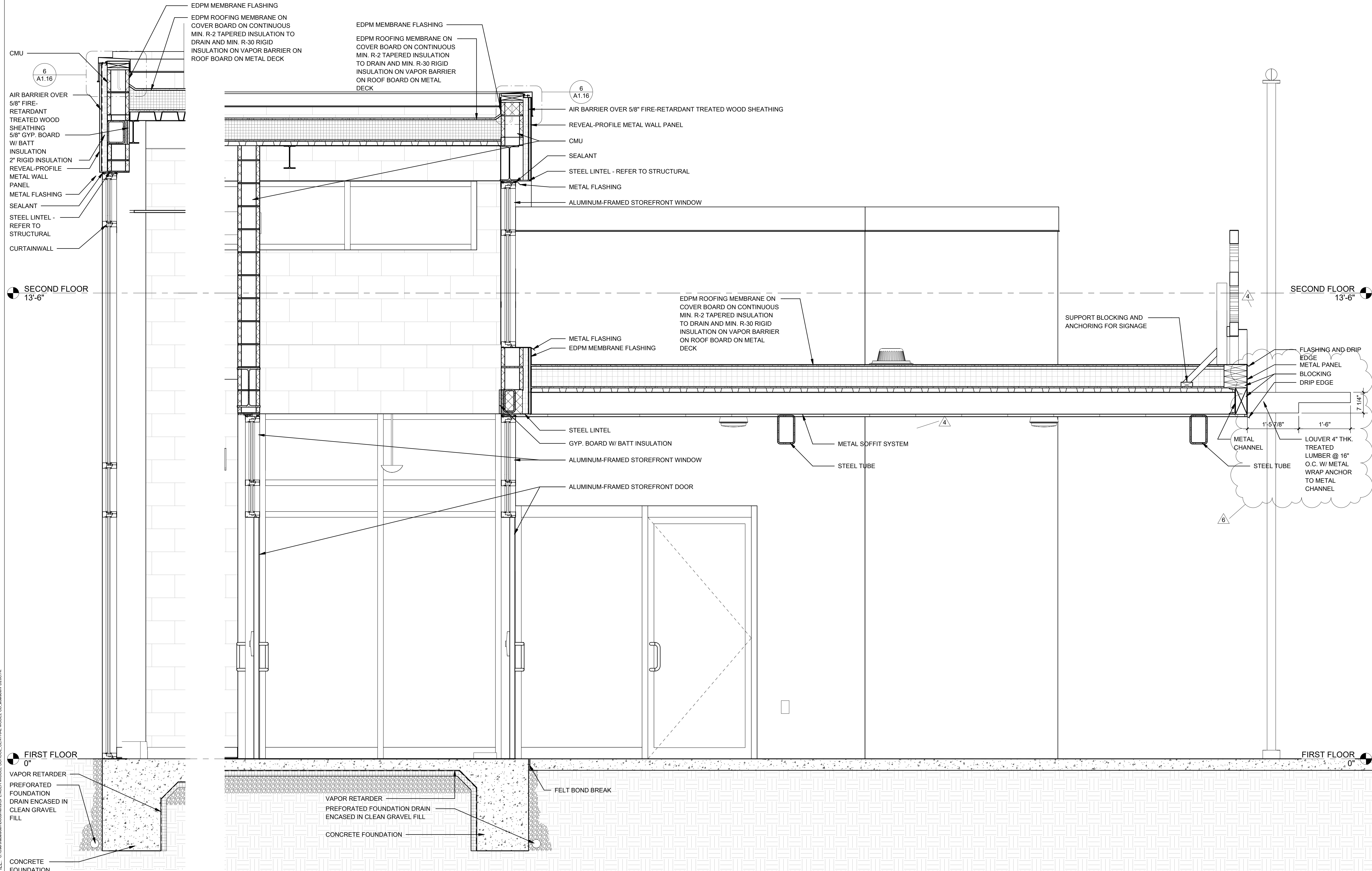
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LAYOUT TAB: ENLARGED FIRST FLOOR PLAN AREA D  
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EDPM MEMBRANE FLASHING  
EDPM ROOFING MEMBRANE ON COVER BOARD ON CONTINUOUS MIN. R-2 TAPERED INSULATION TO DRAIN AND MIN. R-30 RIGID INSULATION ON VAPOR BARRIER ON ROOF BOARD ON METAL DECK

CMU

6  
A1.16

AIR BARRIER OVER  
5/8" FIRE-RETARDANT TREATED WOOD SHEATHING  
5/8" GYP. BOARD  
W/ BATT INSULATION  
2" RIGID INSULATION  
REVEAL-PROFILE METAL WALL PANEL  
METAL FLASHING  
SEALANT  
STEEL LINTEL - REFER TO STRUCTURAL  
CURTAINWALL

EDPM MEMBRANE FLASHING  
EDPM ROOFING MEMBRANE ON COVER BOARD ON CONTINUOUS MIN. R-2 TAPERED INSULATION TO DRAIN AND MIN. R-30 RIGID INSULATION ON VAPOR BARRIER ON ROOF BOARD ON METAL DECK

6  
A1.16

AIR BARRIER OVER 5/8" FIRE-RETARDANT TREATED WOOD SHEATHING  
REVEAL-PROFILE METAL WALL PANEL  
CMU  
SEALANT  
STEEL LINTEL - REFER TO STRUCTURAL  
METAL FLASHING  
ALUMINUM-FRAMED STOREFRONT WINDOW

SECOND FLOOR  
13'-6"

SECOND FLOOR  
13'-6"

EDPM ROOFING MEMBRANE ON COVER BOARD ON CONTINUOUS MIN. R-2 TAPERED INSULATION TO DRAIN AND MIN. R-30 RIGID INSULATION ON VAPOR BARRIER ON ROOF BOARD ON METAL DECK

FIRST FLOOR  
0"

FIRST FLOOR  
0"

VAPOR RETARDER  
PREFORATED FOUNDATION DRAIN ENCASED IN CLEAN GRAVEL FILL  
CONCRETE FOUNDATION

VAPOR RETARDER  
PREFORATED FOUNDATION DRAIN ENCASED IN CLEAN GRAVEL FILL  
CONCRETE FOUNDATION

FELT BOND BREAK

**1 WALL SECTION**  
A3.04  
3/4" = 1'-0"

**2 ENTRANCE CANOPY**  
A3.04  
3/4" = 1'-0"

NO.	BY	DATE	DESCRIPTION
4	ALB	07/07/2022	REVISION 4
6	ALB	07/20/2022	REVISION 6

**THE NEW SPENCER MIDDLE SCHOOL**  
ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

DRAWN: A.J.C./A.L.B./S.A.F. DATE: 05/16/2022  
CHECKED: A.J.C. DATE: 05/16/2022  
APPROVED: A.J.C. DATE: 05/16/2022  
PROJECT No. 060-10259

WALL SECTIONS

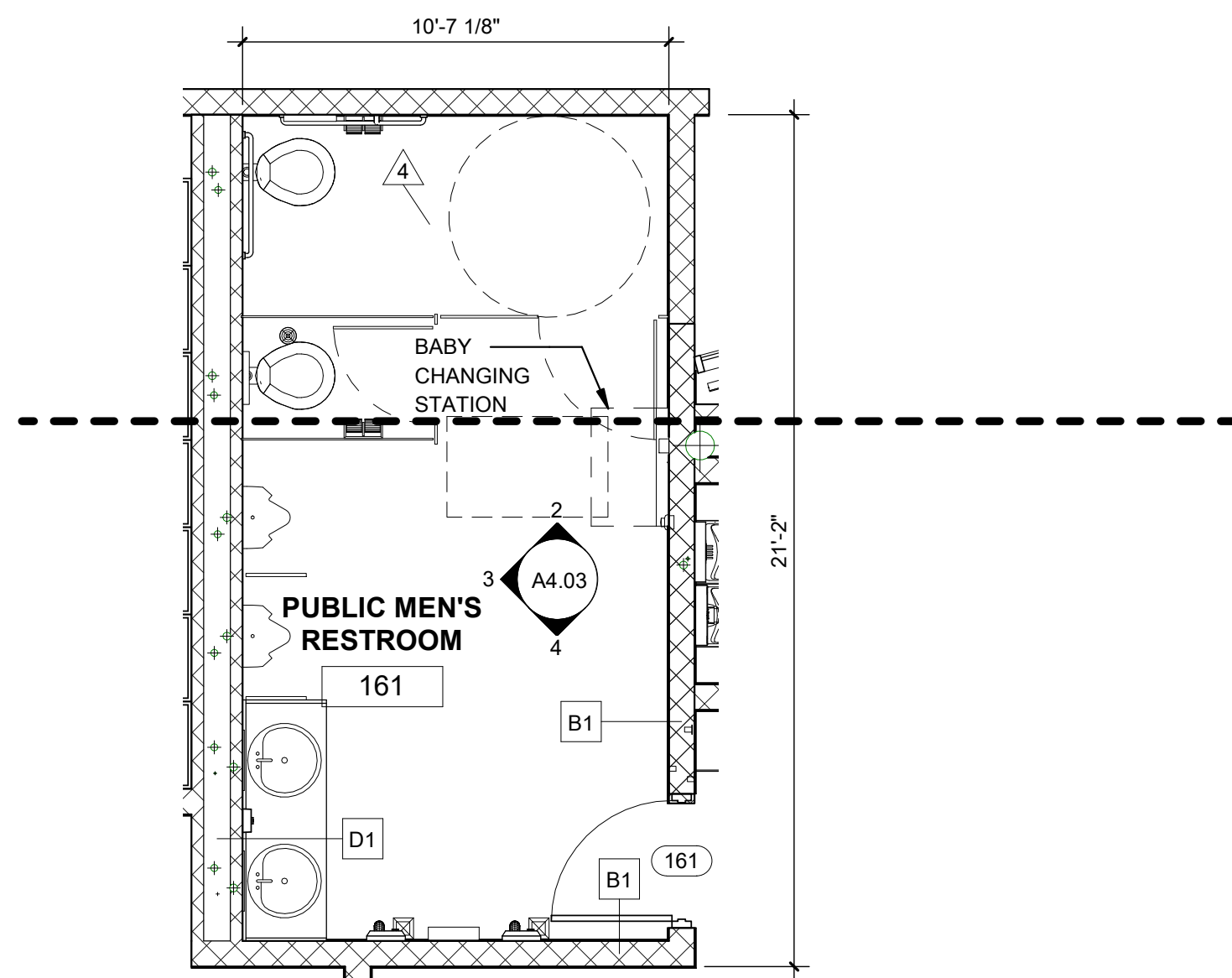
SHEET No.

**A3.04**

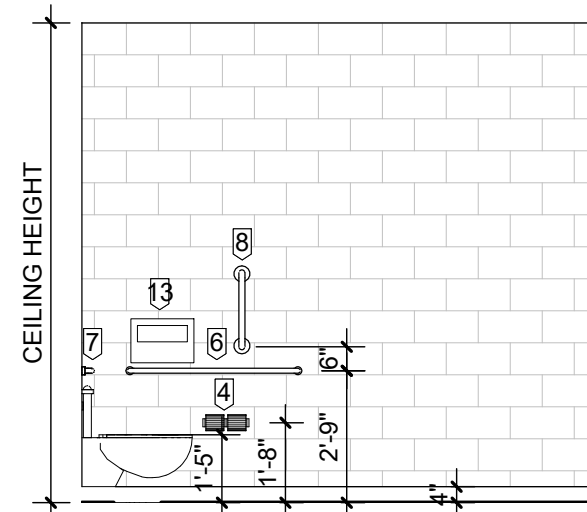
LAYOUT TAB: WALL SECTIONS  
PLOT DATE/TIME: 7/20/2022 2:37:49 PM  
CAD FILE: C:\Users\alablen\Documents\SPENCER MIDDLE SCHOOL CENTRAL MODEL\_CD\_A304.dwg

USER: A.J.C./A.L.B./S.A.F.

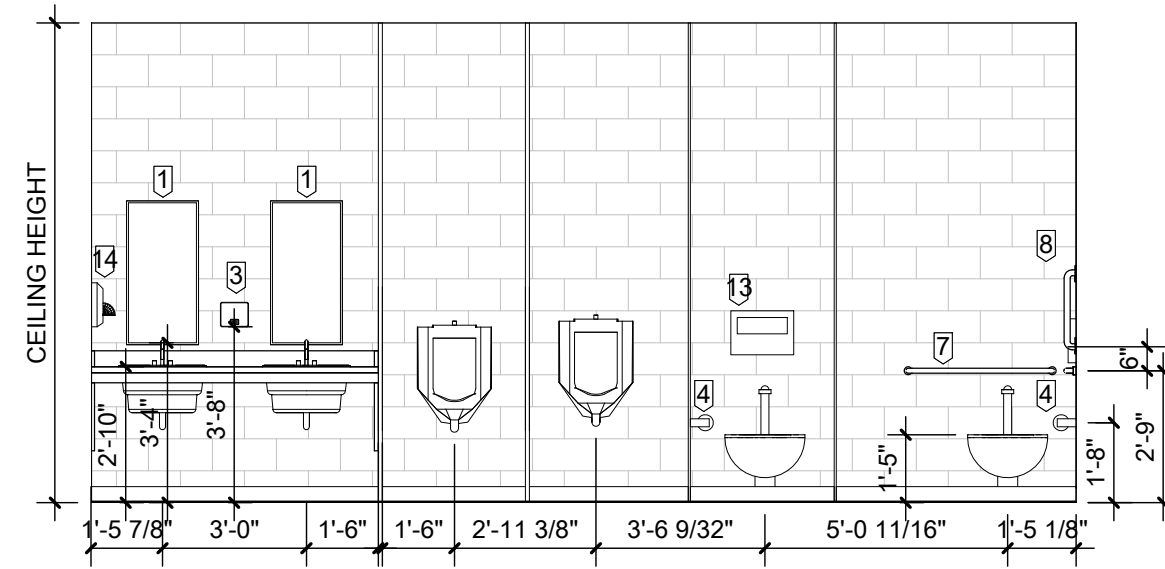




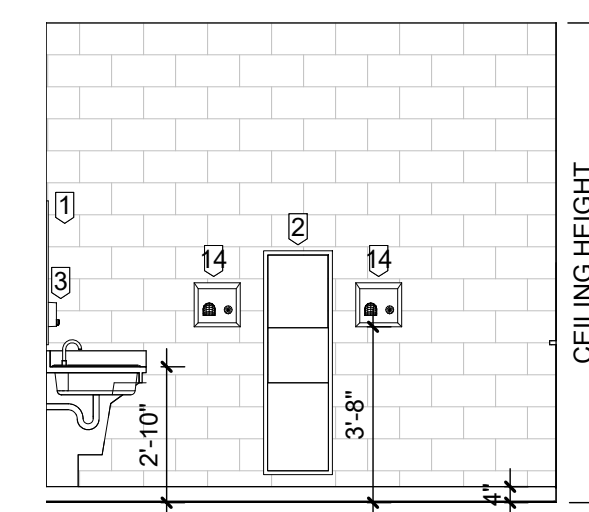
**1 ENLARGED PUBLIC MEN'S RESTROOM 161**  
A4.03 1/4" = 1'-0"



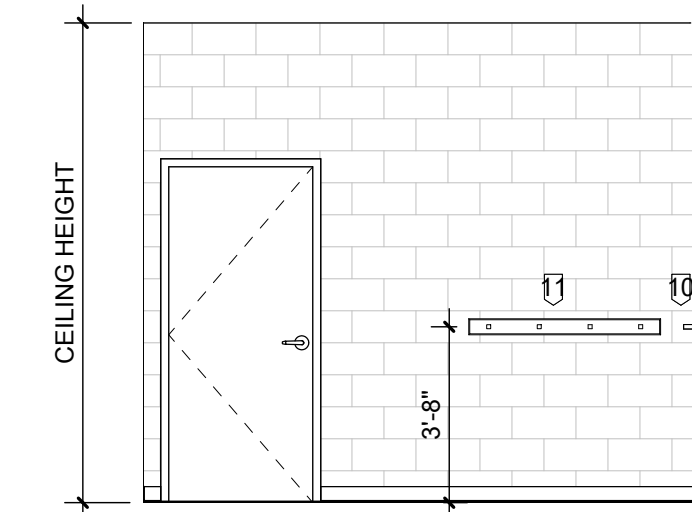
**2 PUBLIC MEN'S RESTROOM 161**  
A4.03 1/4" = 1'-0"



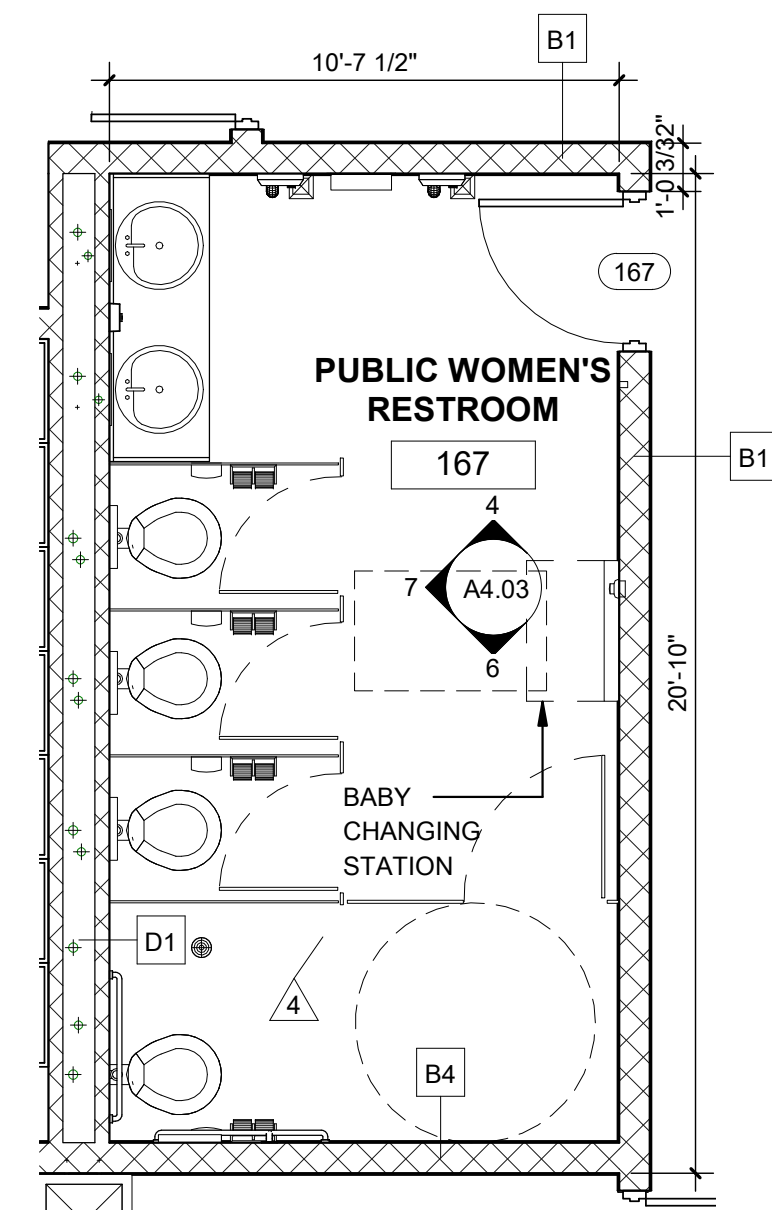
**3 PUBLIC MEN'S RESTROOM 161**  
A4.03 1/4" = 1'-0"



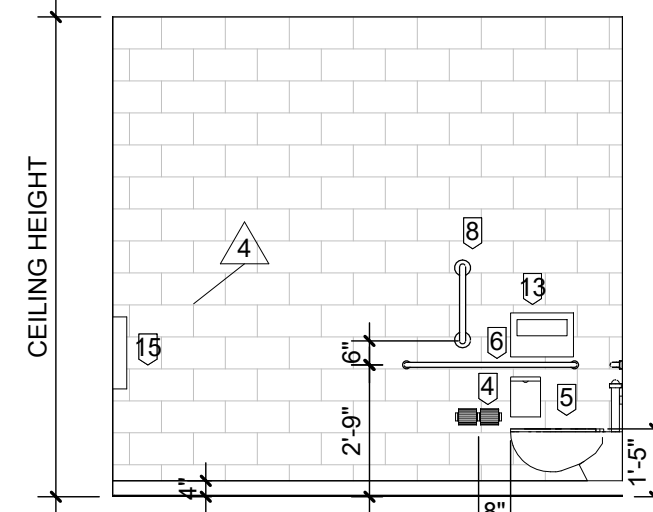
**4 PUBLIC RESTROOM 161 AND 166**  
A4.03 1/4" = 1'-0"



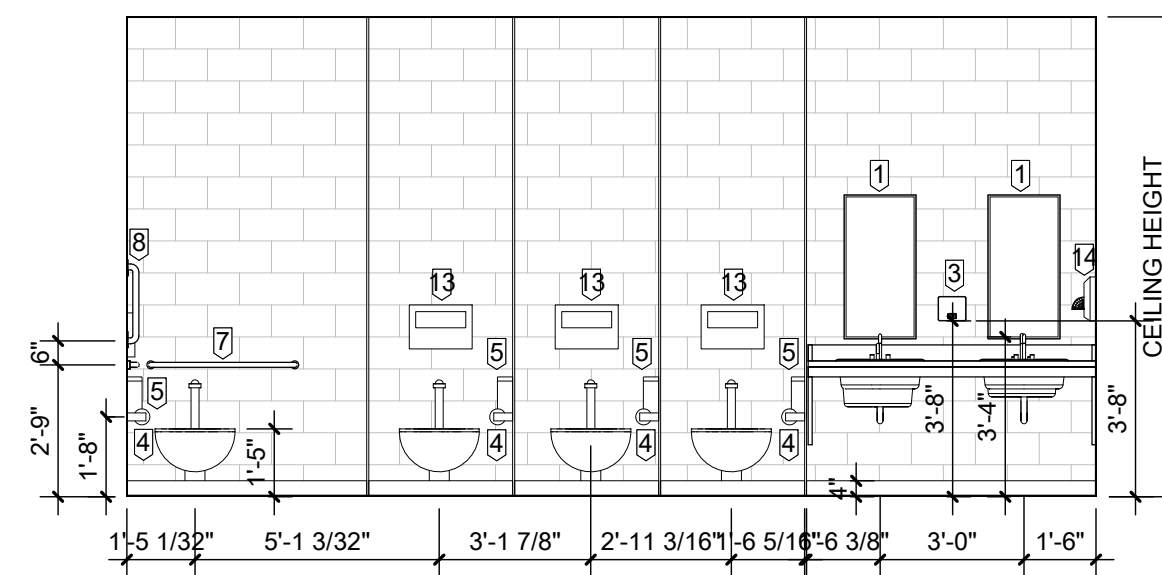
**15 OFFICE RESTROOM 166**  
A4.03 1/4" = 1'-0"



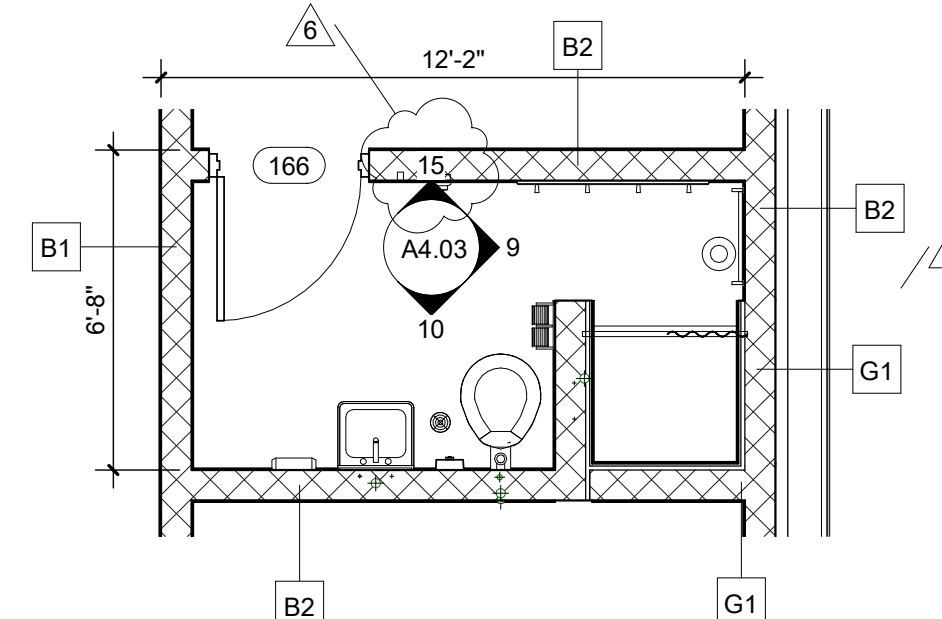
**5 ENLARGED PUBLIC WOMEN'S RESTROOM 166**  
A4.03 1/4" = 1'-0"



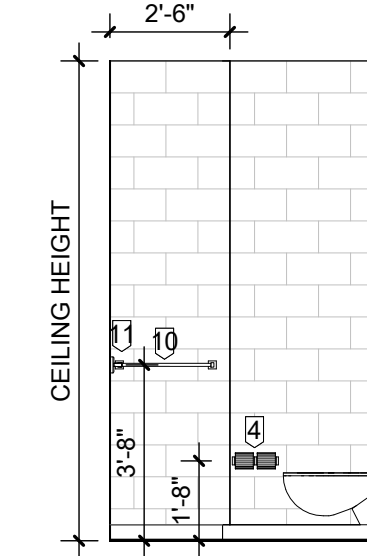
**6 PUBLIC WOMEN'S RESTROOM 166**  
A4.03 1/4" = 1'-0"



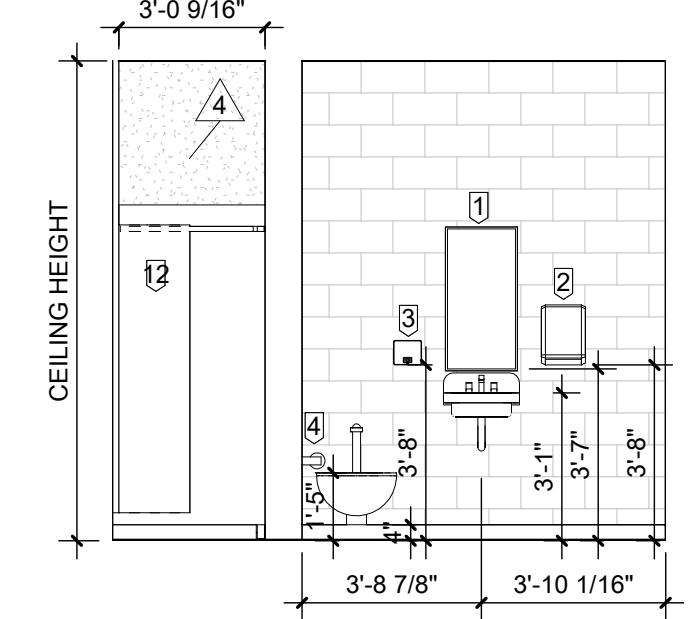
**7 PUBLIC WOMEN'S RESTROOM 166**  
A4.03 1/4" = 1'-0"



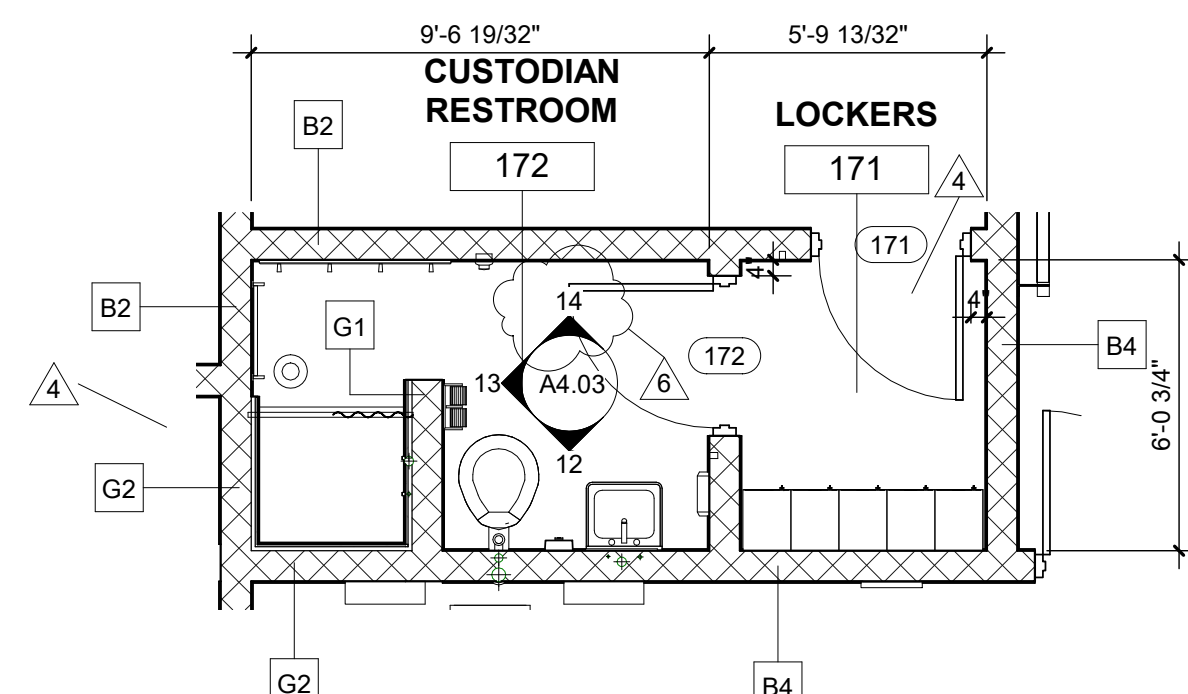
**8 ENLARGED OFFICE RESTROOM 166**  
A4.03 1/4" = 1'-0"



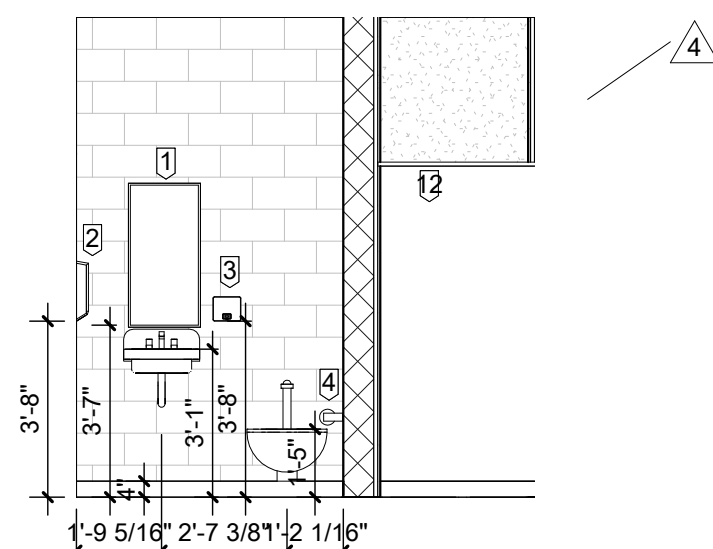
**9 OFFICE RESTROOM 166**  
A4.03 1/4" = 1'-0"



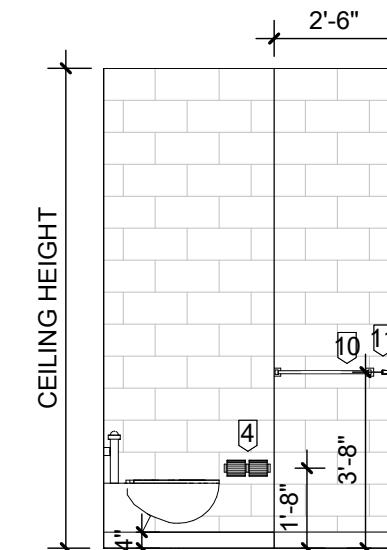
**10 OFFICE RESTROOM 166**  
A4.03 1/4" = 1'-0"



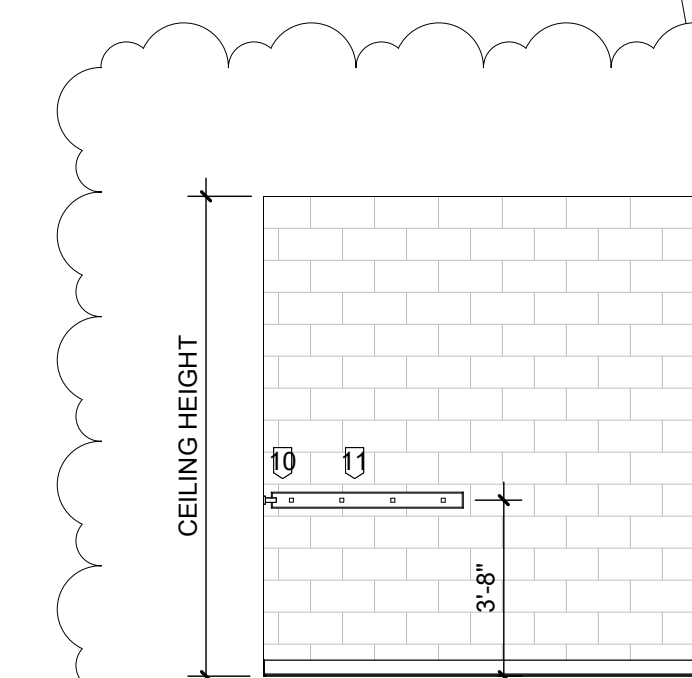
**11 ENLARGED CUSTODIAN RESTROOM 172 AND LOCKERS 171**  
A4.03 1/4" = 1'-0"



**12 CUSTODIAN RESTROOM 172**  
A4.03 1/4" = 1'-0"



**13 CUSTODIAN RESTROOM 172**  
A4.03 1/4" = 1'-0"



**14 CUSTODIAN RESTROOM 172**  
A4.03 1/4" = 1'-0"

\*SLOPE FLOOR TO FLOOR DRAINS

RESTROOM TOILET ACCESSORY SCHEDULE	
NOTE NUMBER	DESCRIPTION
1	MIRROR
2	PAPER TOWEL DISPENSER
3	SOAP DISPENSER
4	TOILET TISSUE DISPENSER
5	NAPKIN DISPOSAL
6	42" GRAB BAR
7	36" GRAB BAR
8	24" GRAB BAR - VERTICAL
9	PIPE PROTECTORS
10	18" TOWEL BAR
11	ROBE HOOK
12	SHOWER CURTAIN ROD
13	TOILET SEAT COVER DISPENSER
14	HAND DRYER
15	BABY CHANGING STATION
16	FOLD DOWN SEAT
17	SHOWER HEAD
18	SHOWER VALVE
19	CONTINUOUS CORNER GRAB BAR

**THE NEW SPENCER MIDDLE SCHOOL**

ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

DRAWN: AJC,ALB,SAP/DATE: 05/16/2022  
CHECKED: AJC DATE: 05/16/2022  
APPROVED: AJC DATE: 05/16/2022

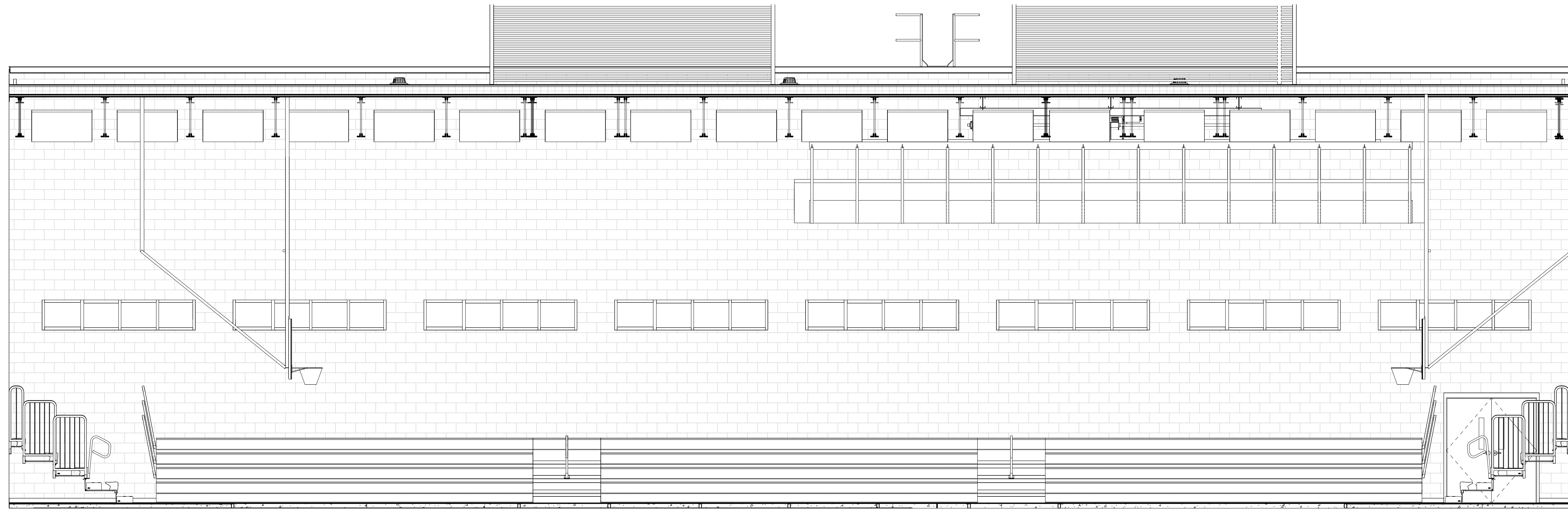
PROJECT No. 060-10259

ENLARGED PLAN VIEWS & INT. ELEVATIONS

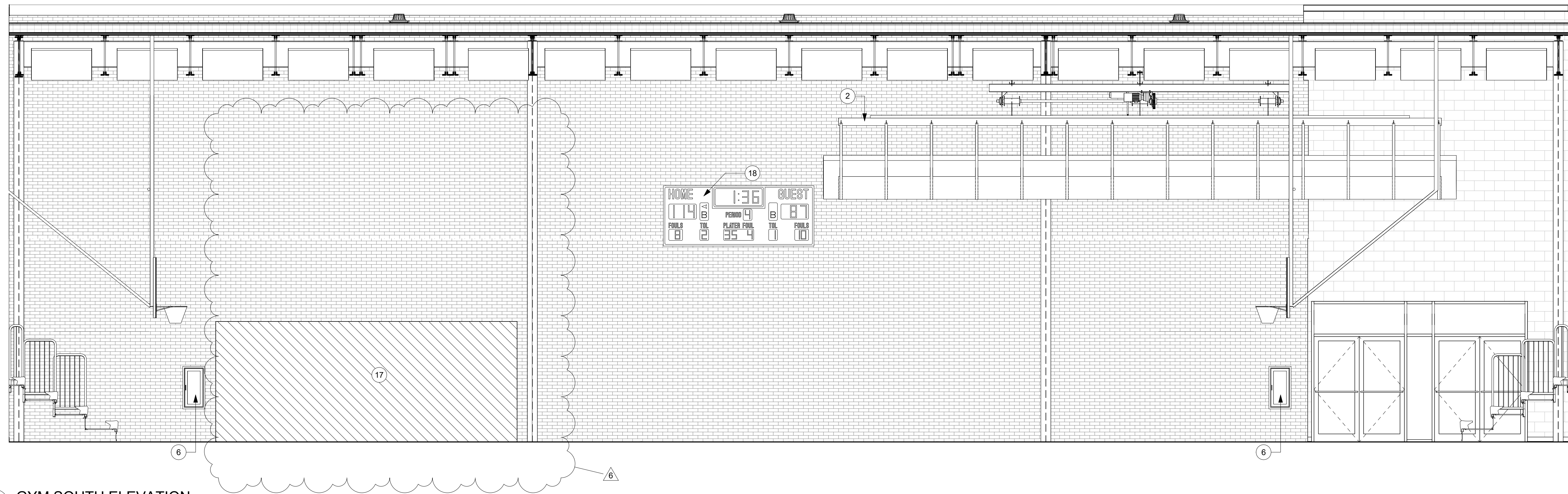
SHEET No.

**A4.03**

NO.	BY	DATE	DESCRIPTION
4	ALB	07/07/2022	REVISION 4
6	ALB	07/20/2022	REVISION 6



**1 GYM NORTH ELEVATION**  
A4.04 1/4" = 1'-0"



**2 GYM SOUTH ELEVATION**  
A4.04 1/4" = 1'-0"

NO.	BY	DATE	DESCRIPTION
6	ALB	07/20/2022	REVISION 6

**THE NEW SPENCER MIDDLE SCHOOL**  
ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

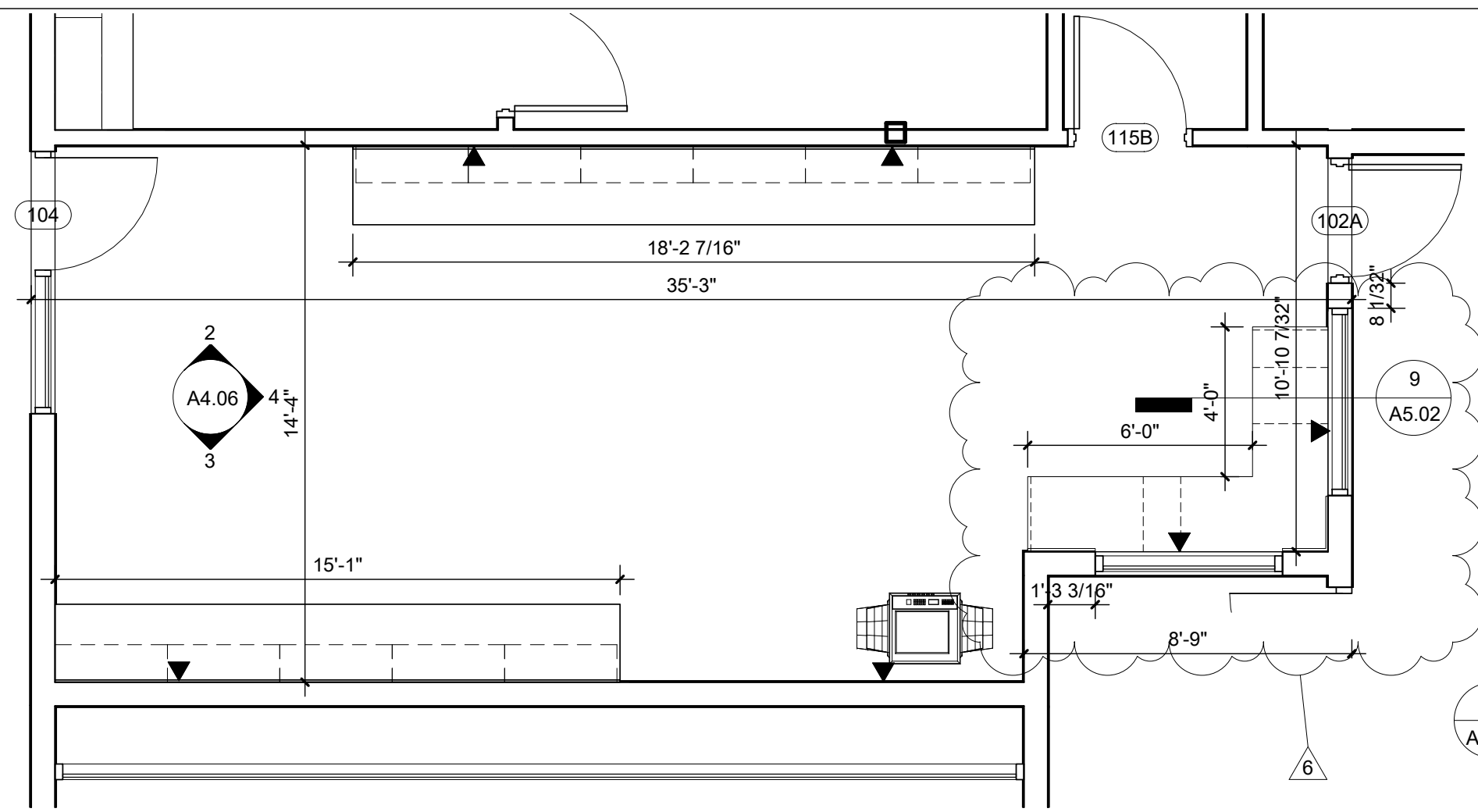
DRAWN: AJC,ALB,SAP/DATE: 05/16/2022  
CHECKED: AJC DATE: 05/16/2022  
APPROVED: AJC DATE: 05/16/2022

PROJECT No. 060-10259

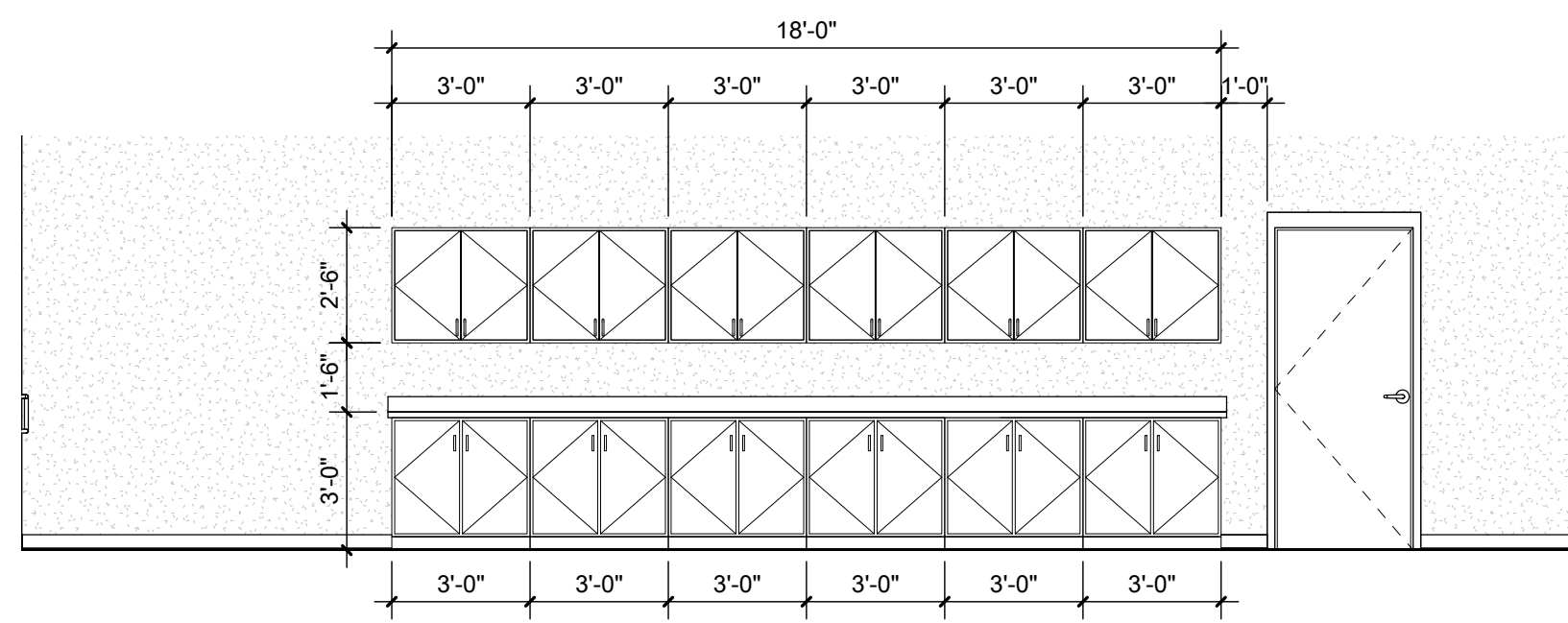
ENLARGED PLAN VIEWS & INT. ELEVATIONS

SHEET No.

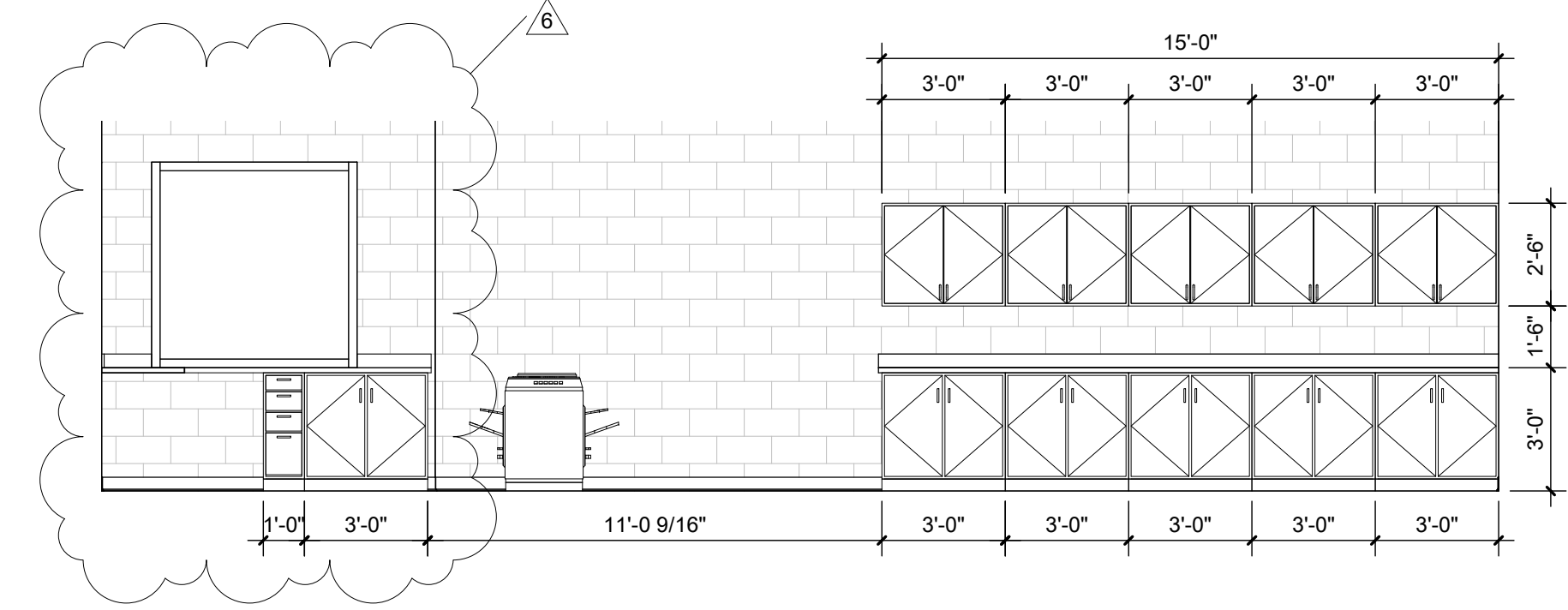




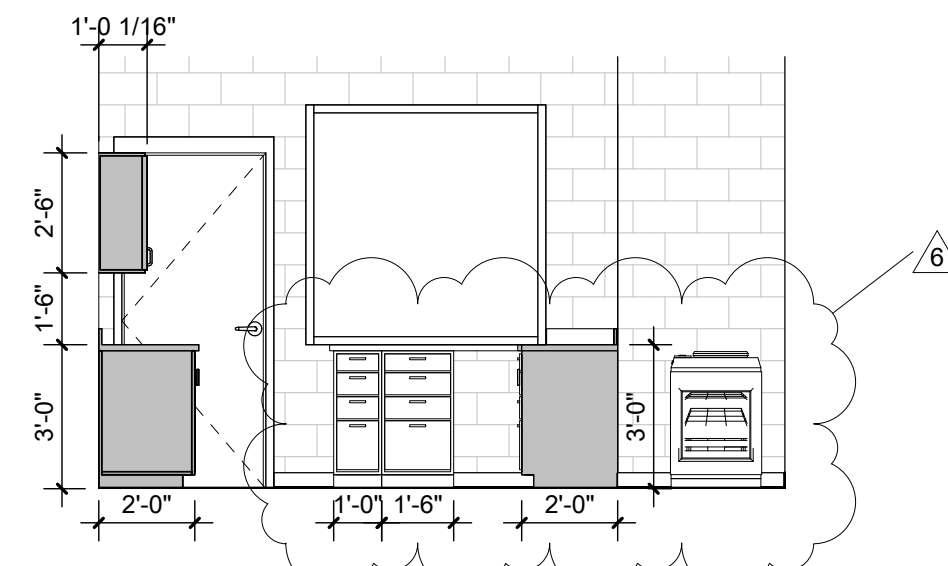
**1 ENLARGED GENERAL OFFICE 104**  
A4.06 1/4" = 1'-0"



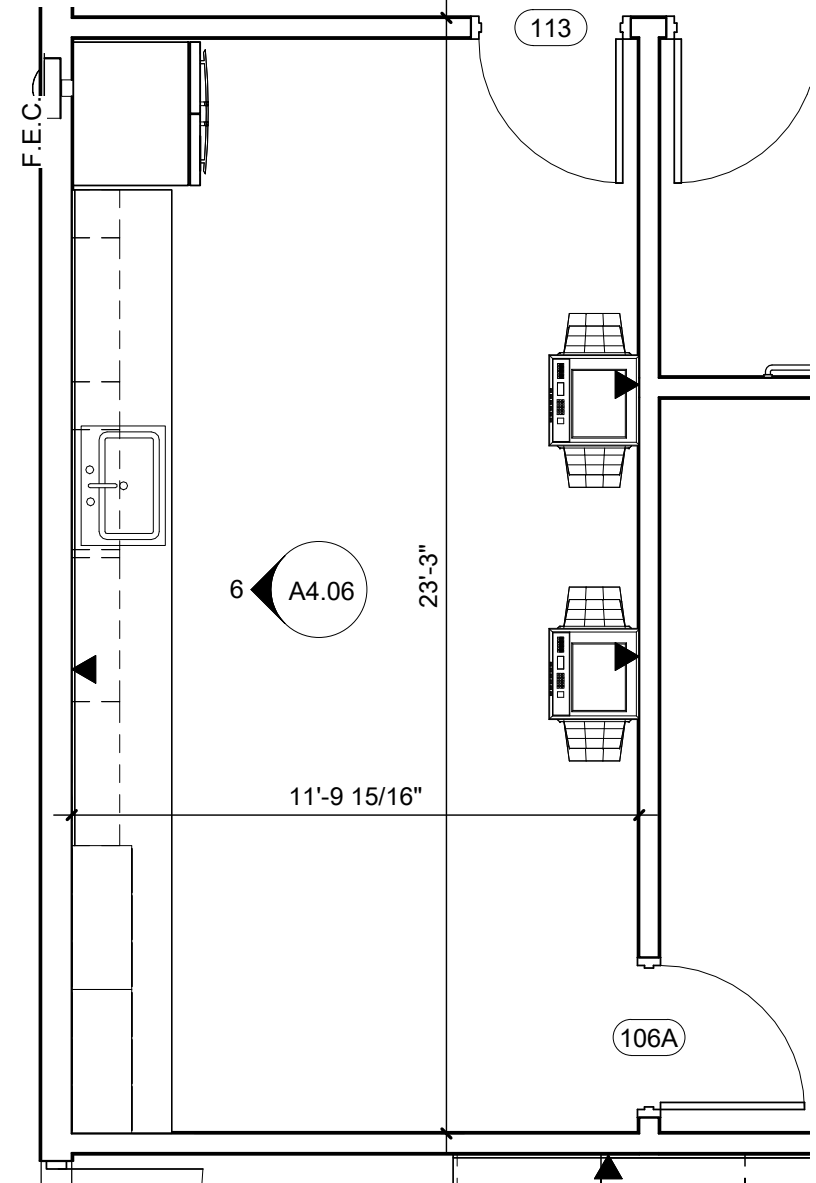
**2 GENERAL OFFICE 104 CASEWORK NORTH ELEVATION**  
A4.06 1/4" = 1'-0"



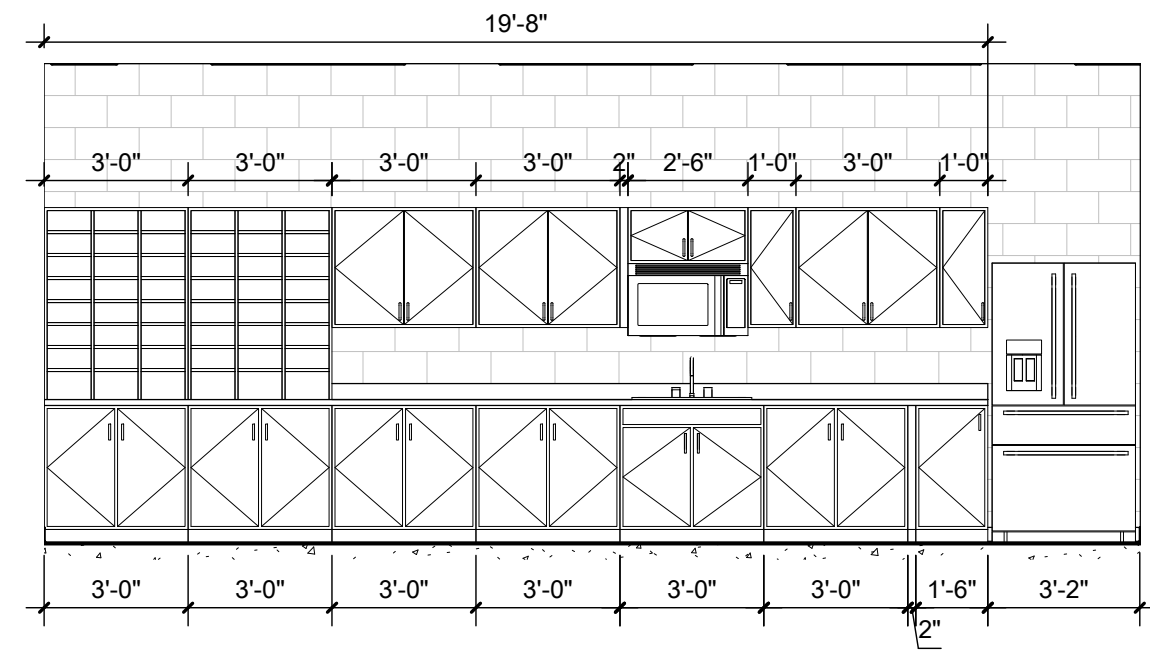
**3 GENERAL OFFICE 104 CASEWORK SOUTH ELEVATION**  
A4.06 1/4" = 1'-0"



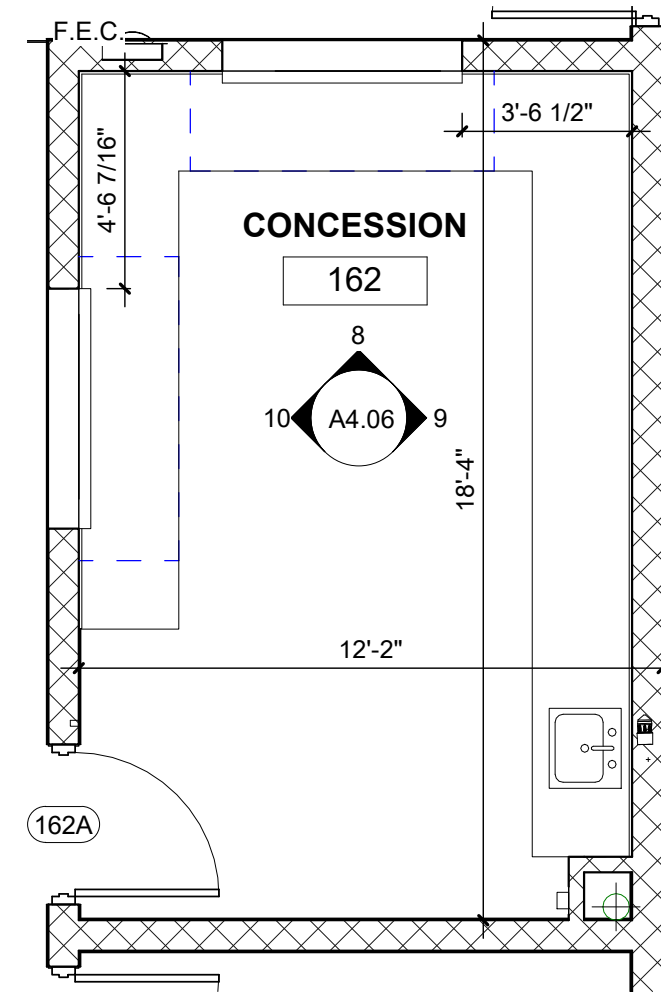
**4 GENERAL OFFICE 104 CASEWORK EAST ELEVATION**  
A4.06 1/4" = 1'-0"



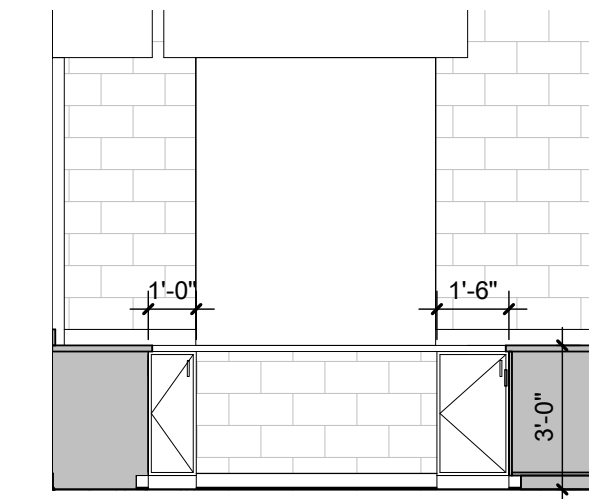
**5 ENLARGED WORK ROOM 113**  
A4.06 1/4" = 1'-0"



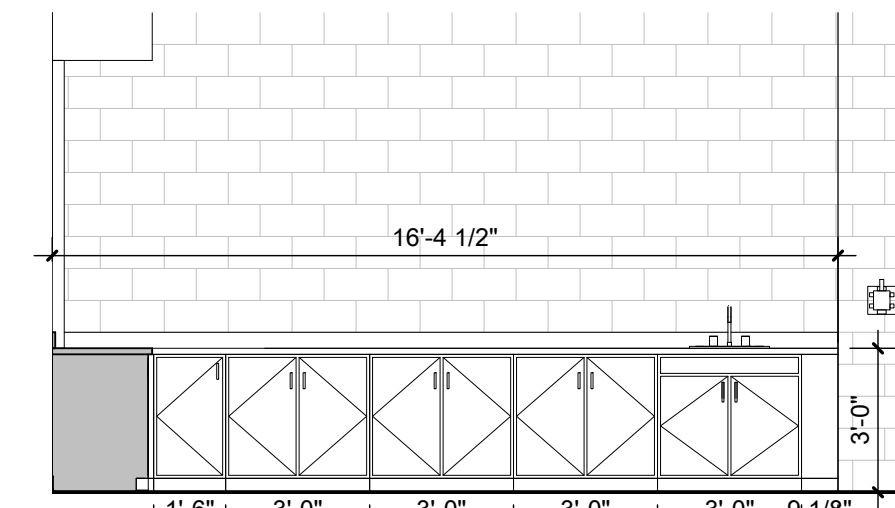
**6 WORK ROOM 113 CASEWORK ELEVATION**  
A4.06 1/4" = 1'-0"



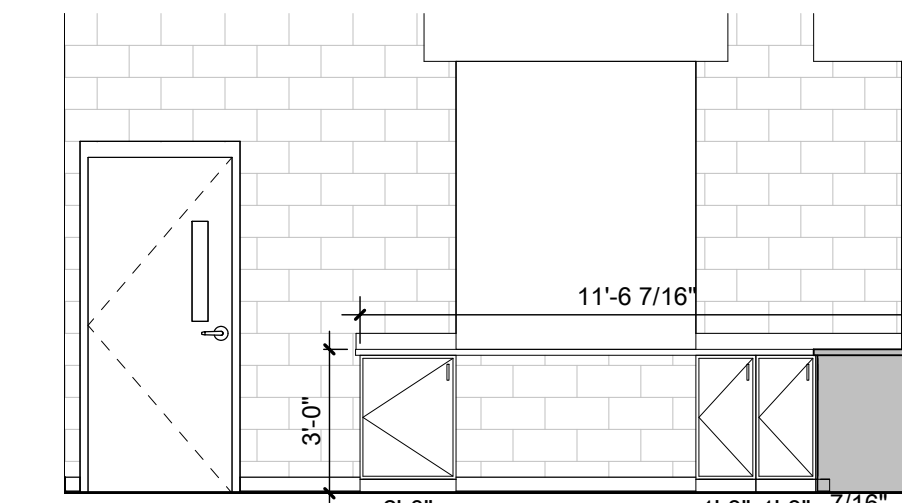
**7 ENLARGED CONCESSION 162**  
A4.06 1/4" = 1'-0"



**8 CONCESSION 162 CASEWORK NORTH ELEVATION**  
A4.06 1/4" = 1'-0"

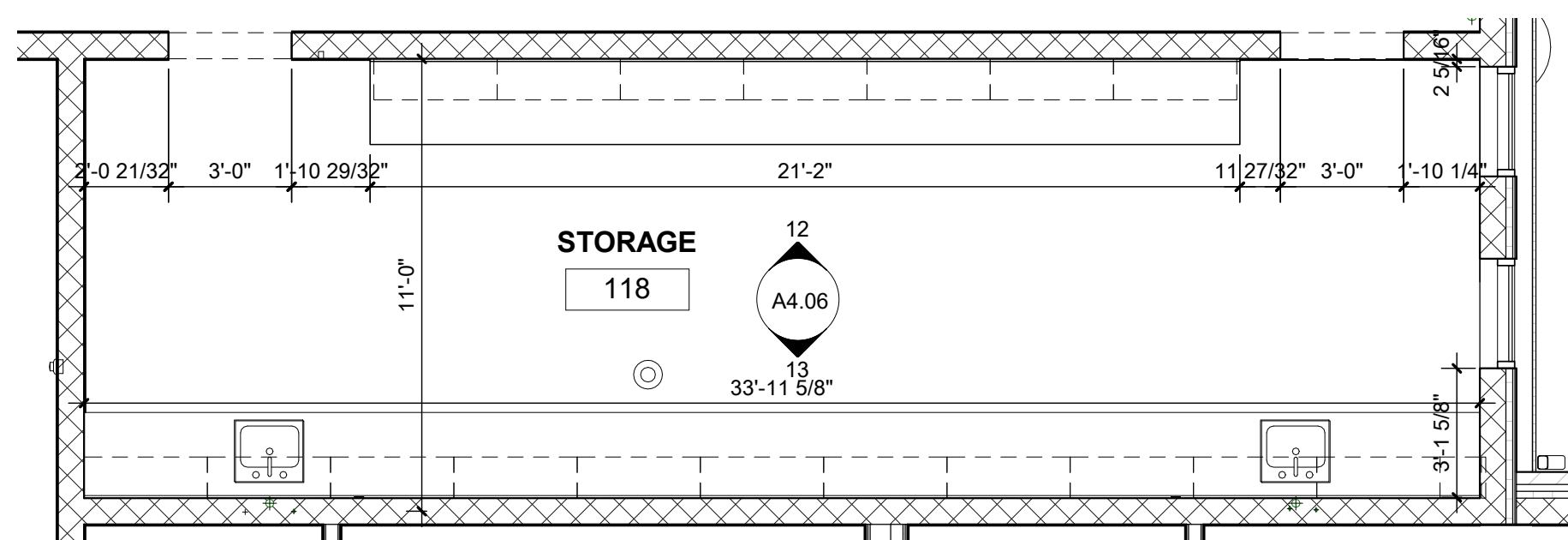


**9 CONCESSION 162 CASEWORK EAST ELEVATION**  
A4.06 1/4" = 1'-0"

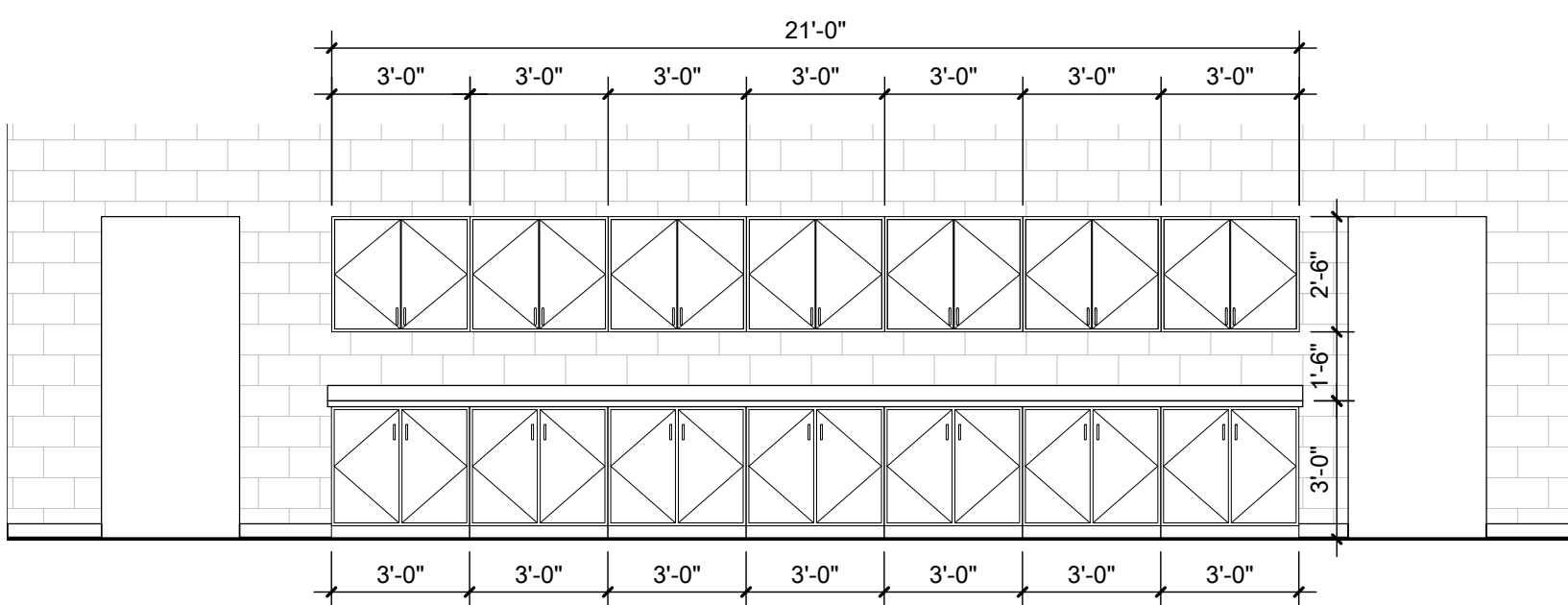


**10 CONCESSION 162 CASEWORK WEST ELEVATION**  
A4.06 1/4" = 1'-0"

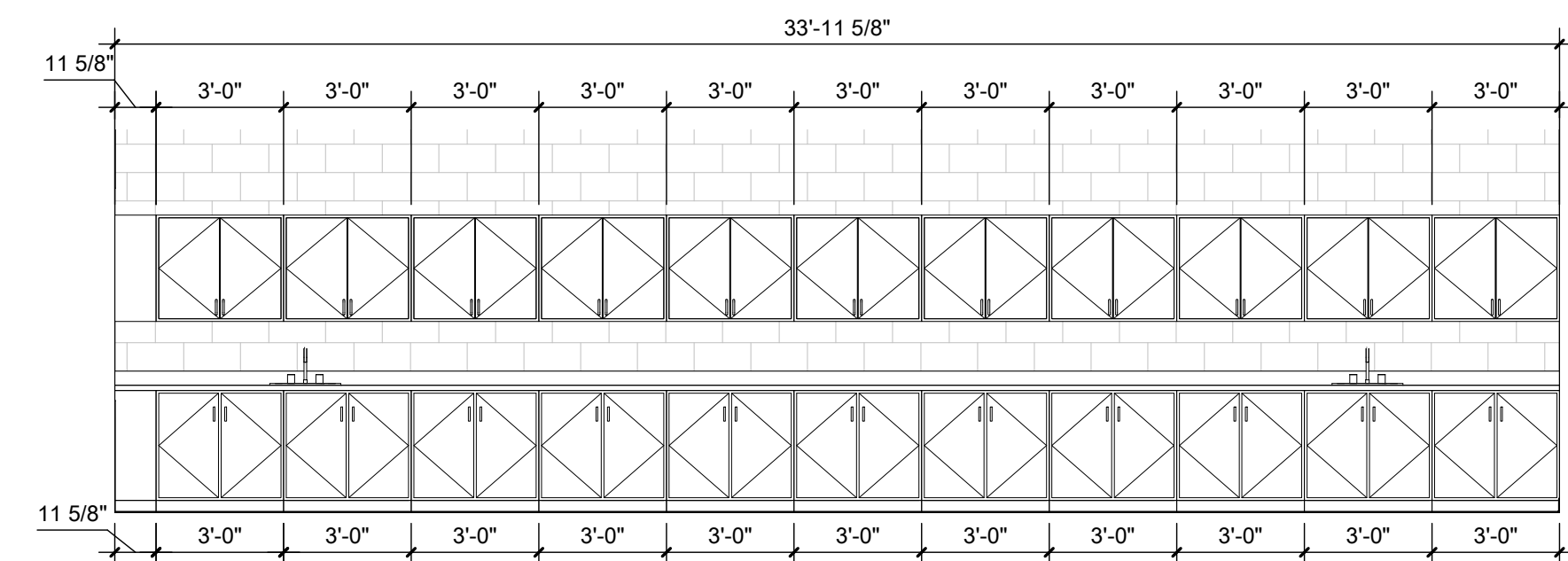
**CASEWORK LEGEND**  
P-LAM 1:  
SOLID SURFACE 1:



**11 ENLARGED STORAGE 118**  
A4.06 1/4" = 1'-0"



**12 STORAGE 118 CASEWORK NORTH ELEVATION**  
A4.06 1/4" = 1'-0"



**13 STORAGE 118 CASEWORK SOUTH ELEVATION**  
A4.06 1/4" = 1'-0"

NO.	BY	DATE	DESCRIPTION
6	ALB	07/20/2022	REVISION 6

**THE NEW SPENCER MIDDLE SCHOOL**  
ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
CONSTRUCTION DOCUMENTS

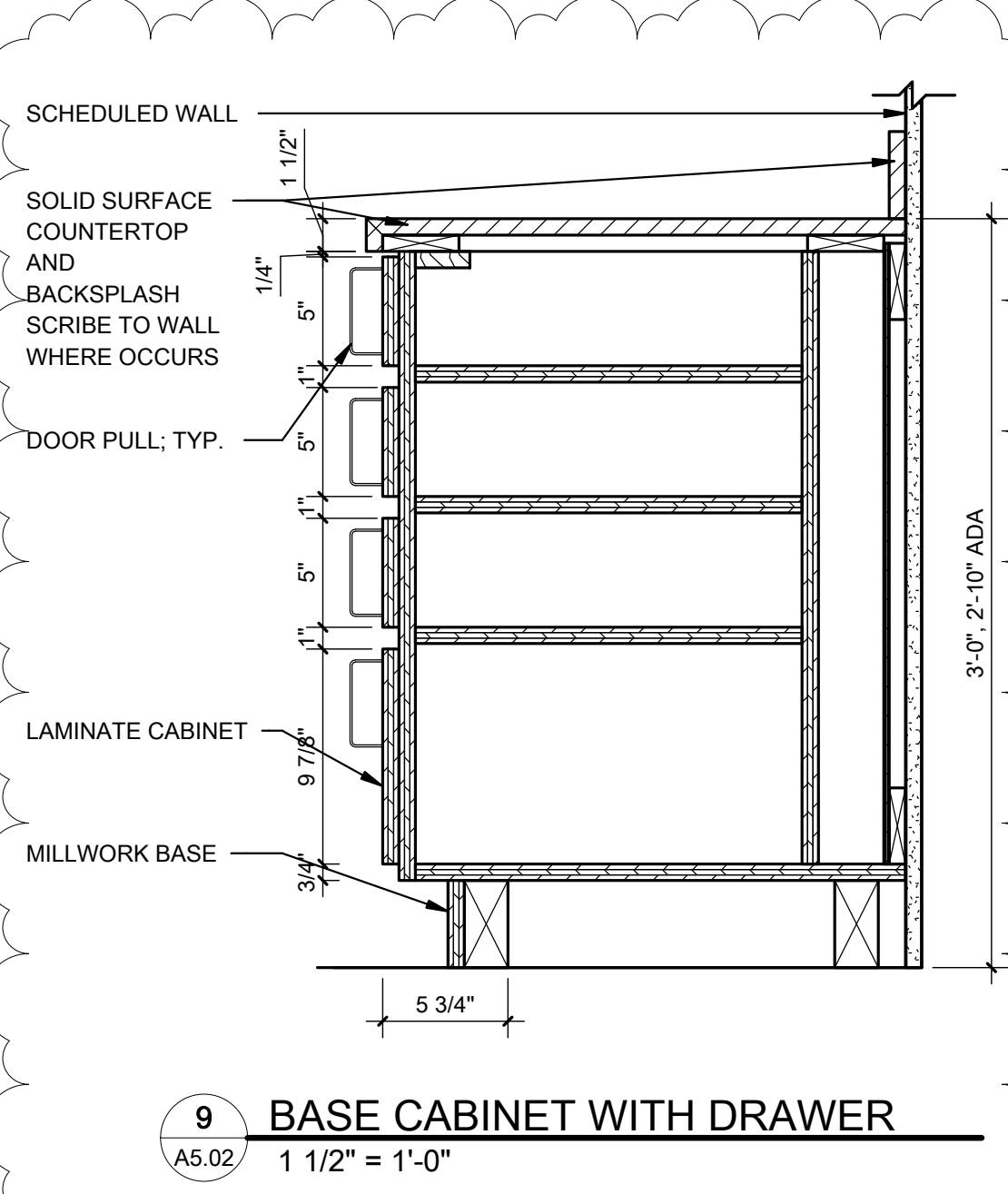
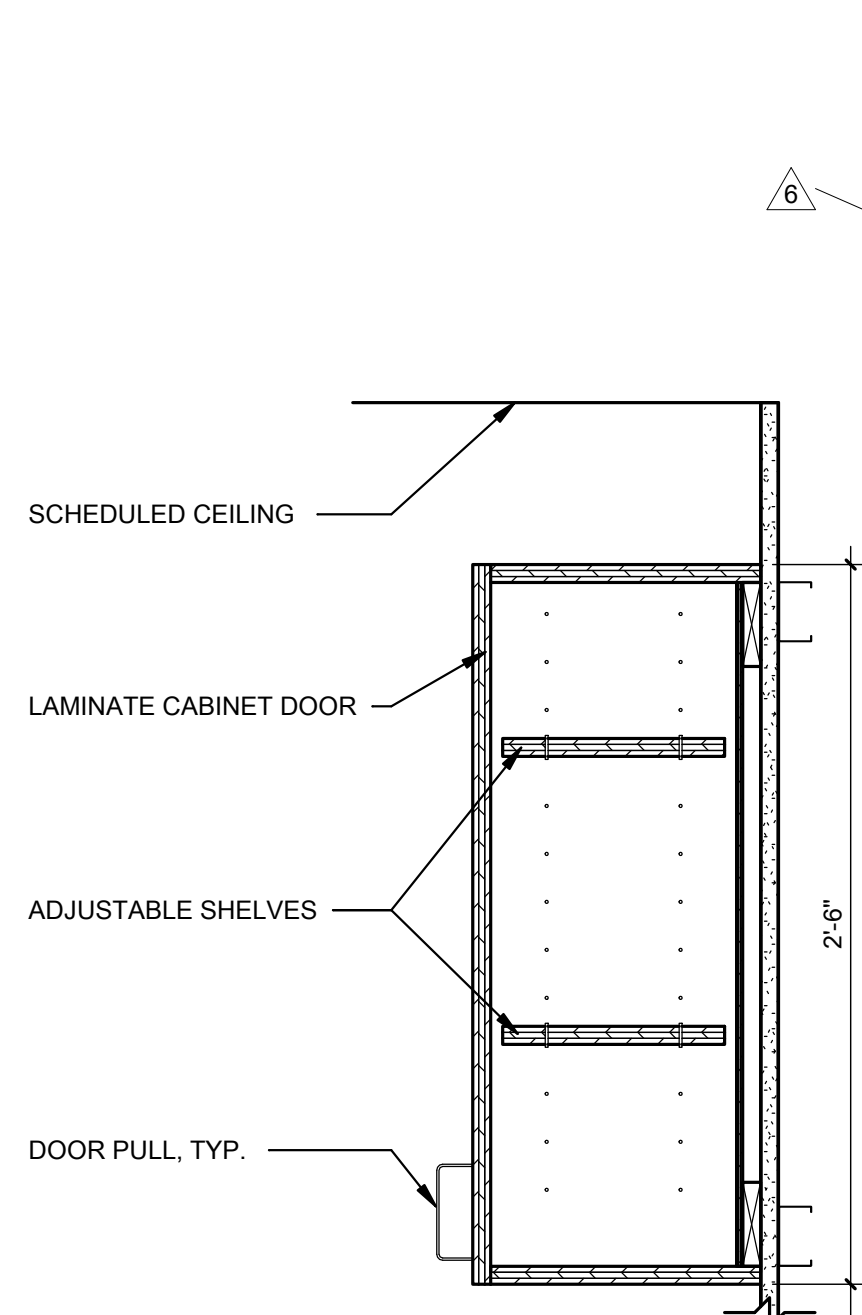
DRAWN: AJC,ALB,SAP/DATE: 05/16/2022  
CHECKED: AJC DATE: 05/16/2022  
APPROVED: AJC DATE: 05/16/2022

PROJECT No. 060-10259

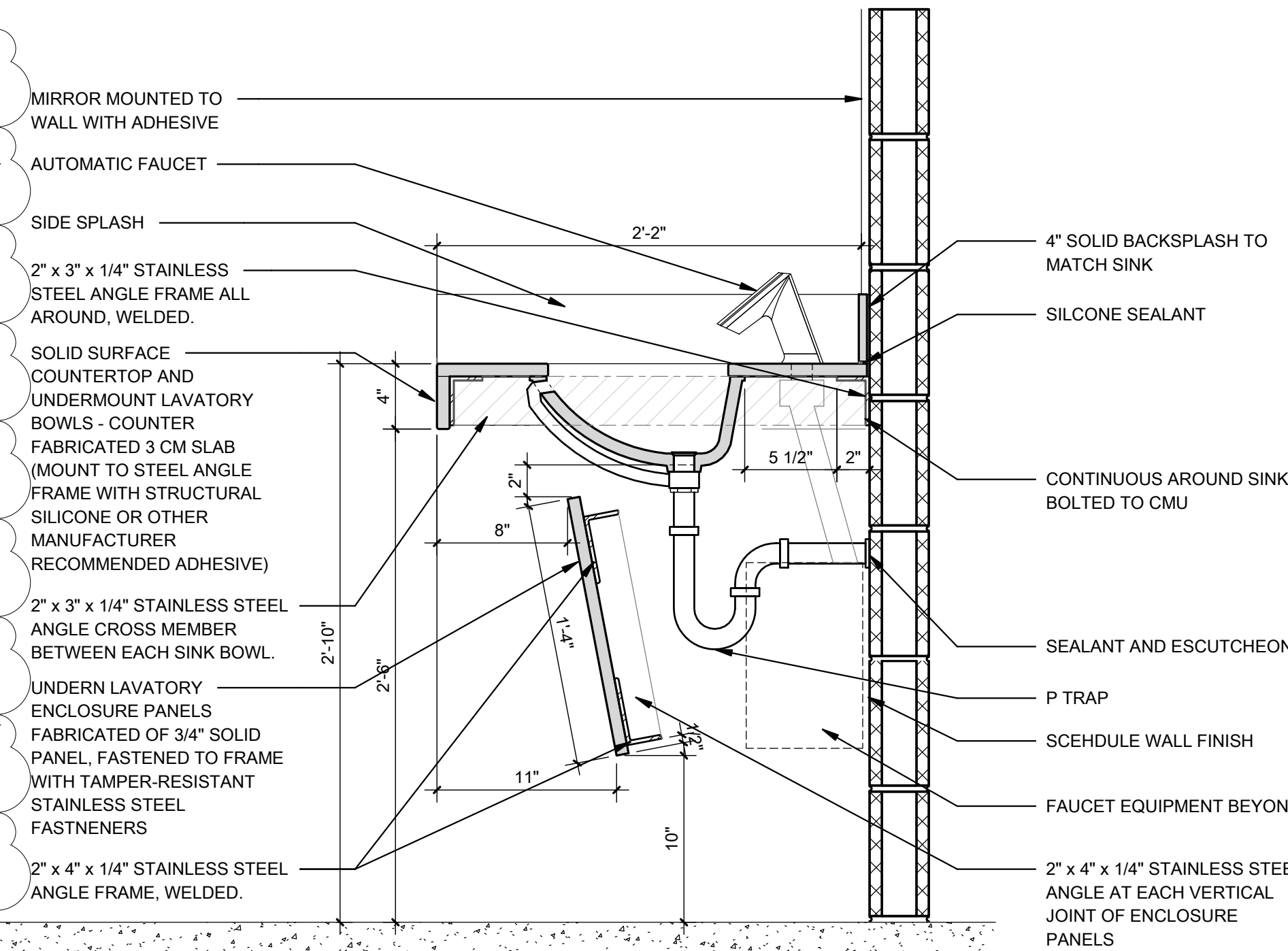
ENLARGED PLAN VIEWS & INT. ELEVATIONS

SHEET No.

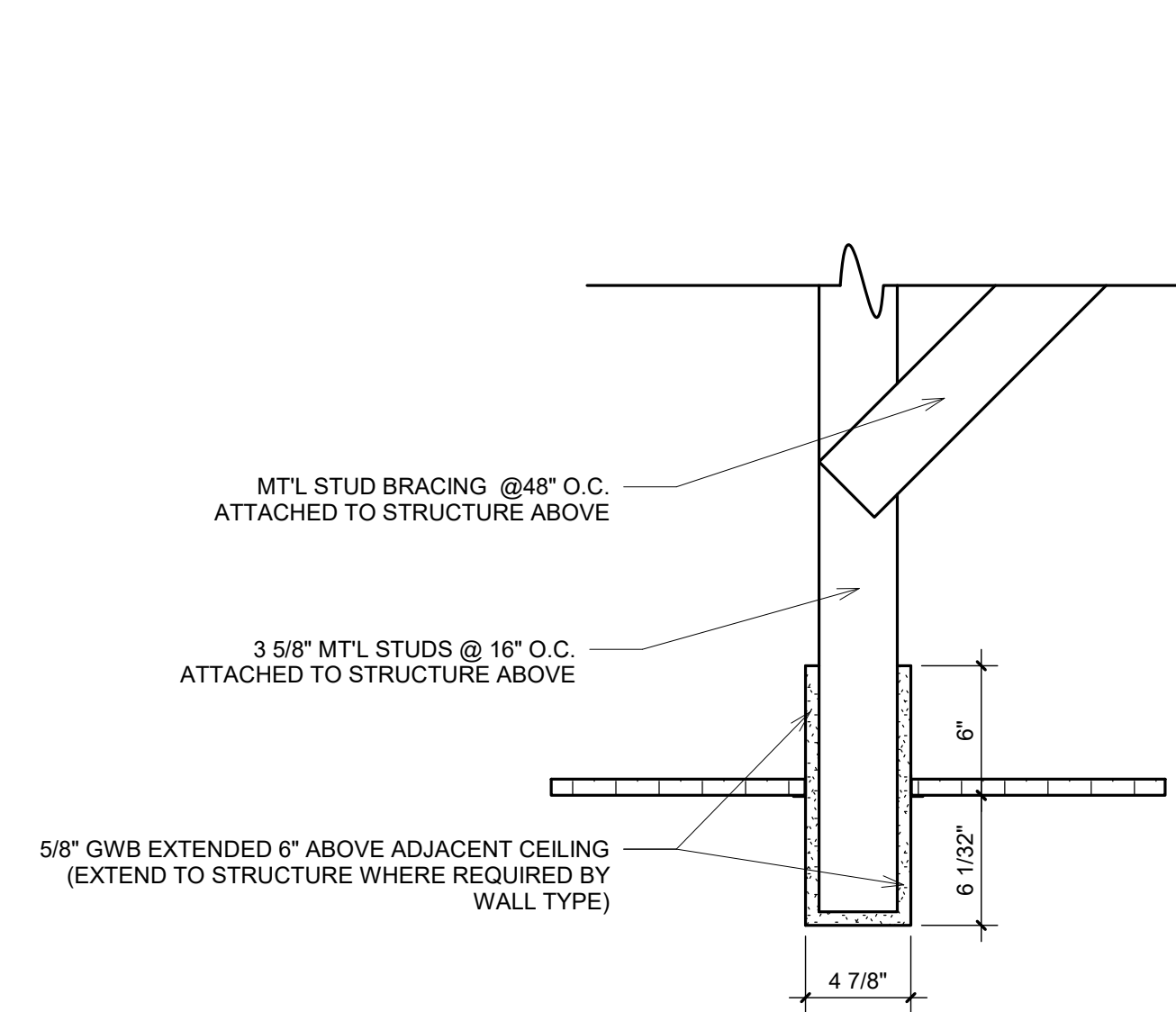
**A4.06**



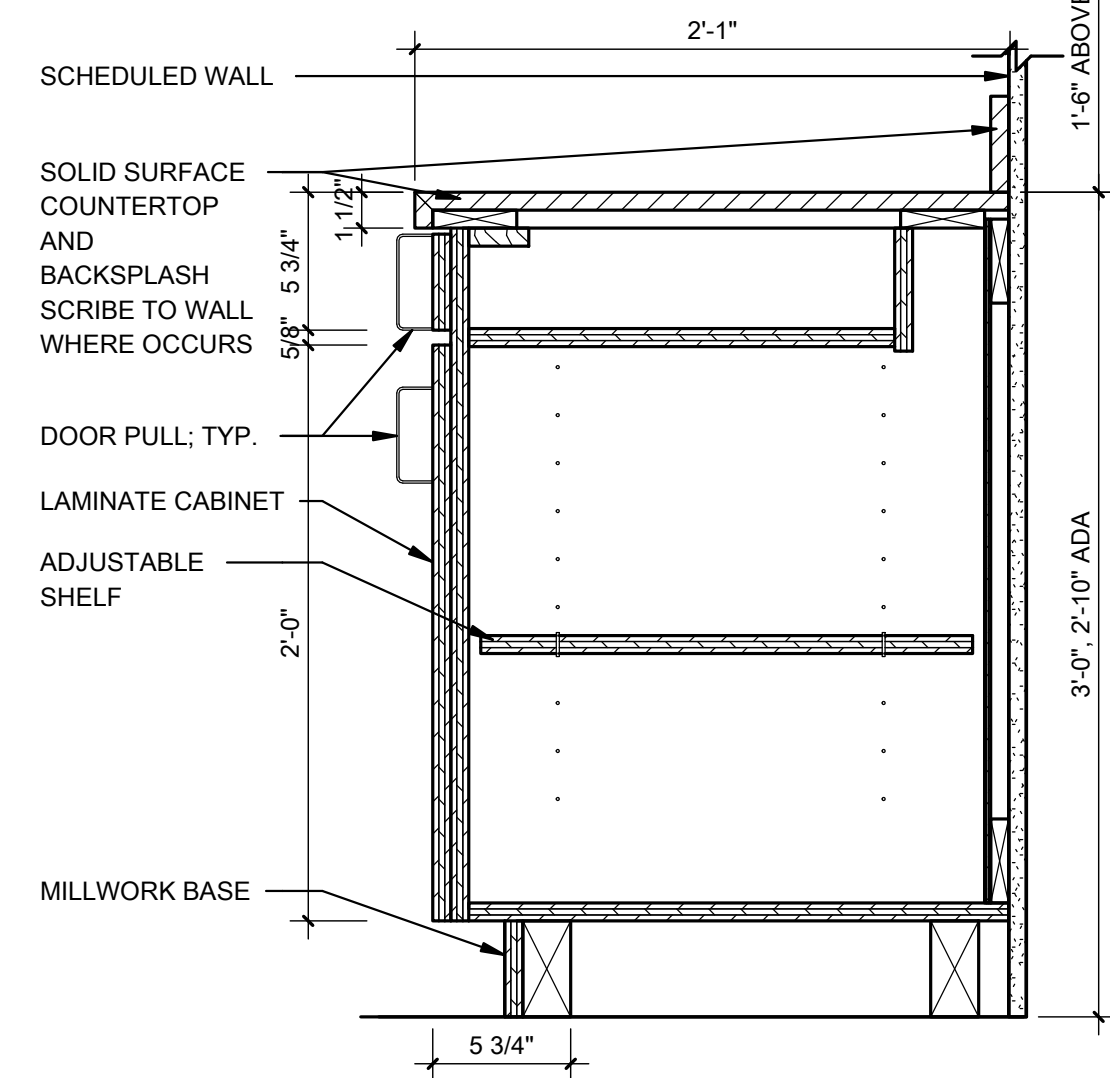
**9 BASE CABINET WITH DRAWER**  
A5.02 1 1/2" = 1'-0"



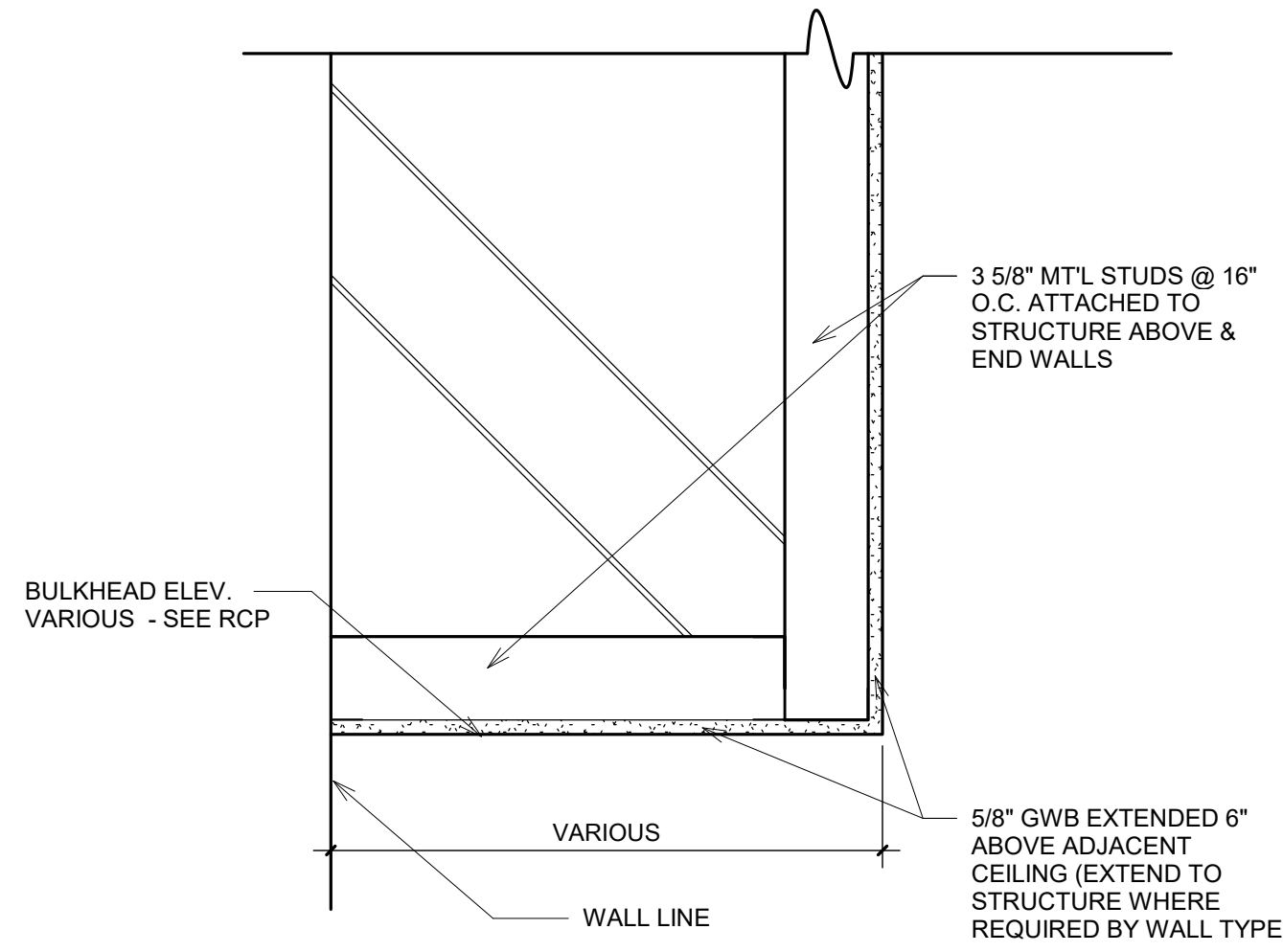
**3 APRON & SINK SECTION DETAIL**  
A5.02 1 1/2" = 1'-0"



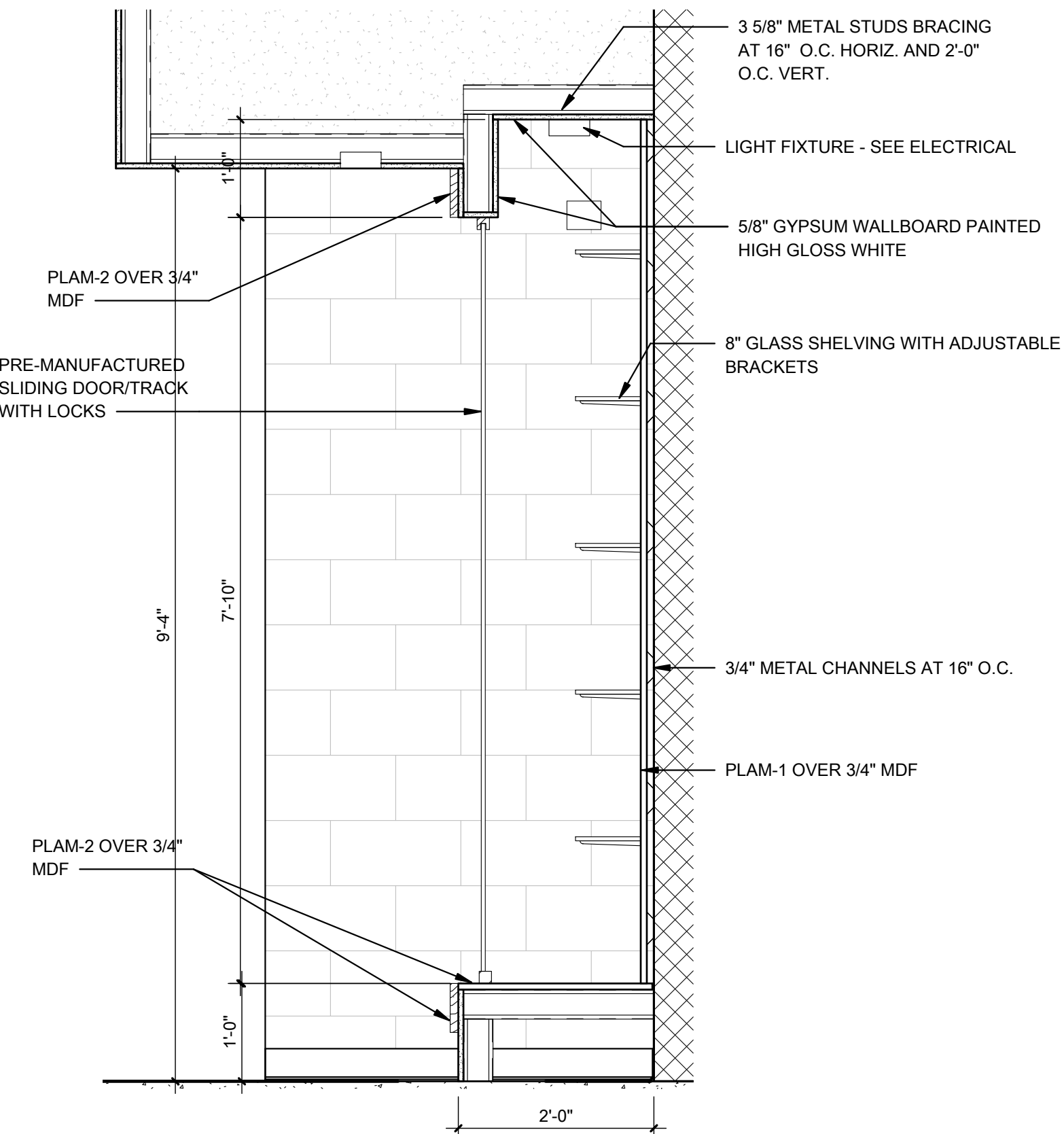
**4 TYPICAL BULKHEAD**  
A5.02 1 1/2" = 1'-0"



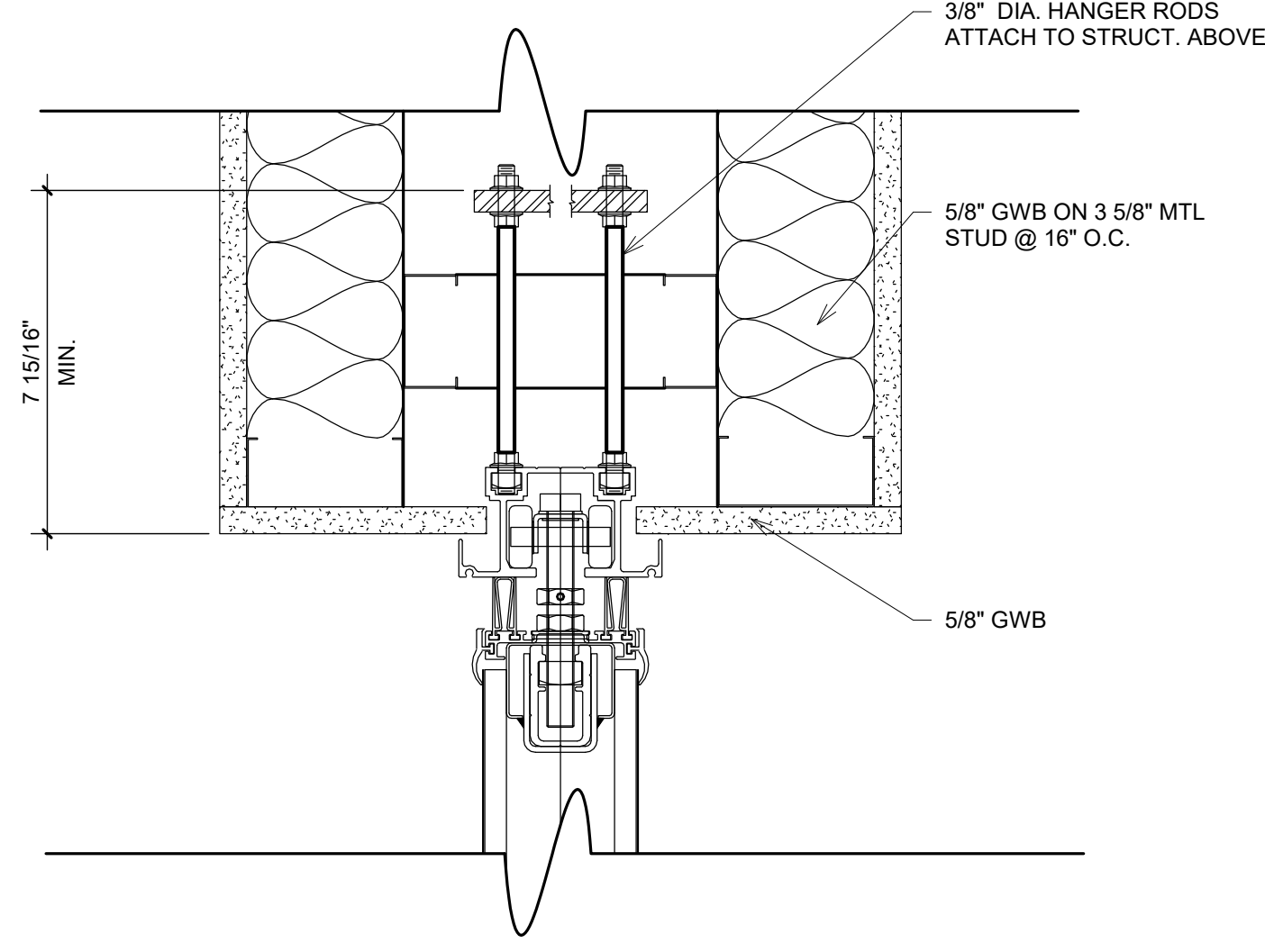
**1 BASE CABINET WITH WALL CABINET**  
A5.02 1 1/2" = 1'-0"



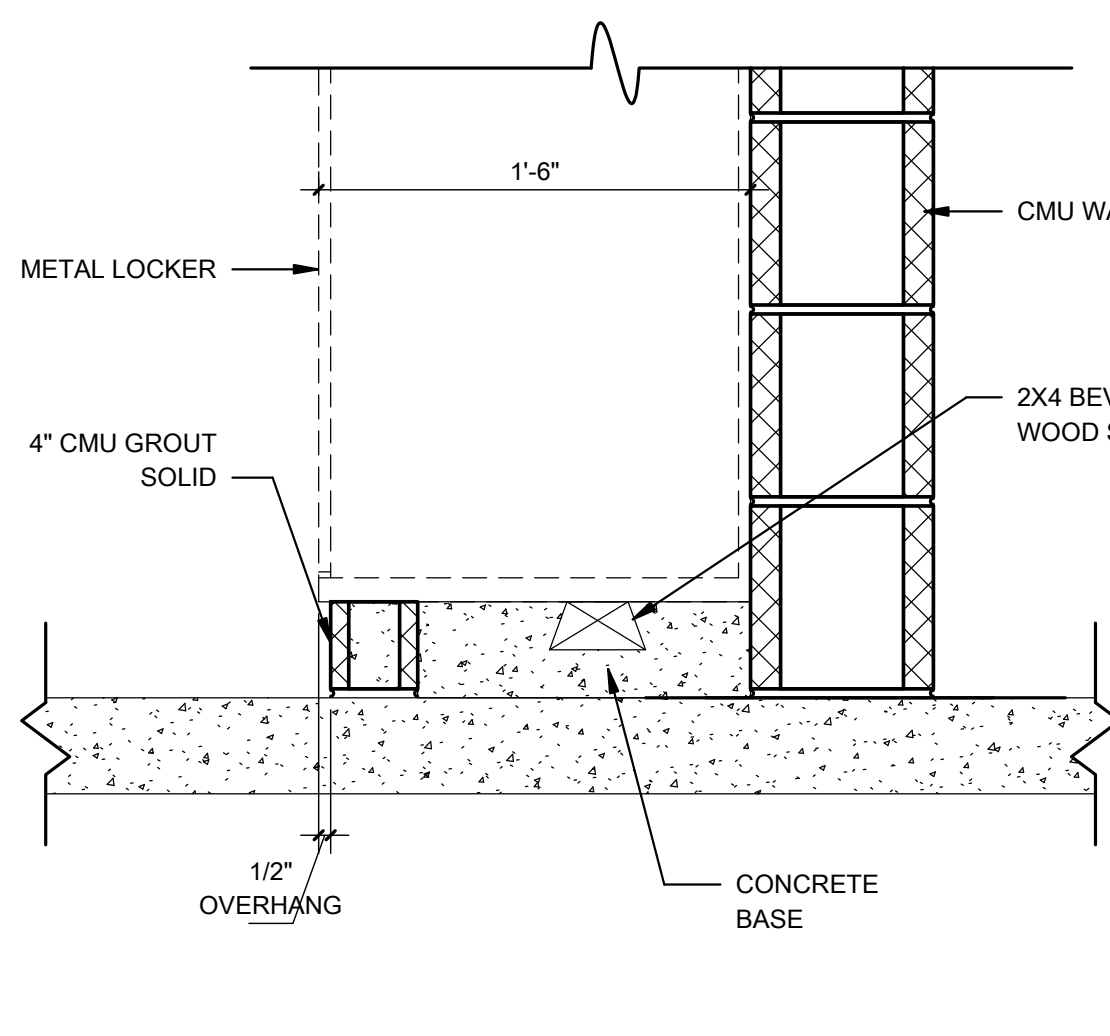
**2 BULKHEAD IN CORRIDOR**  
A5.02 1 1/2" = 1'-0"



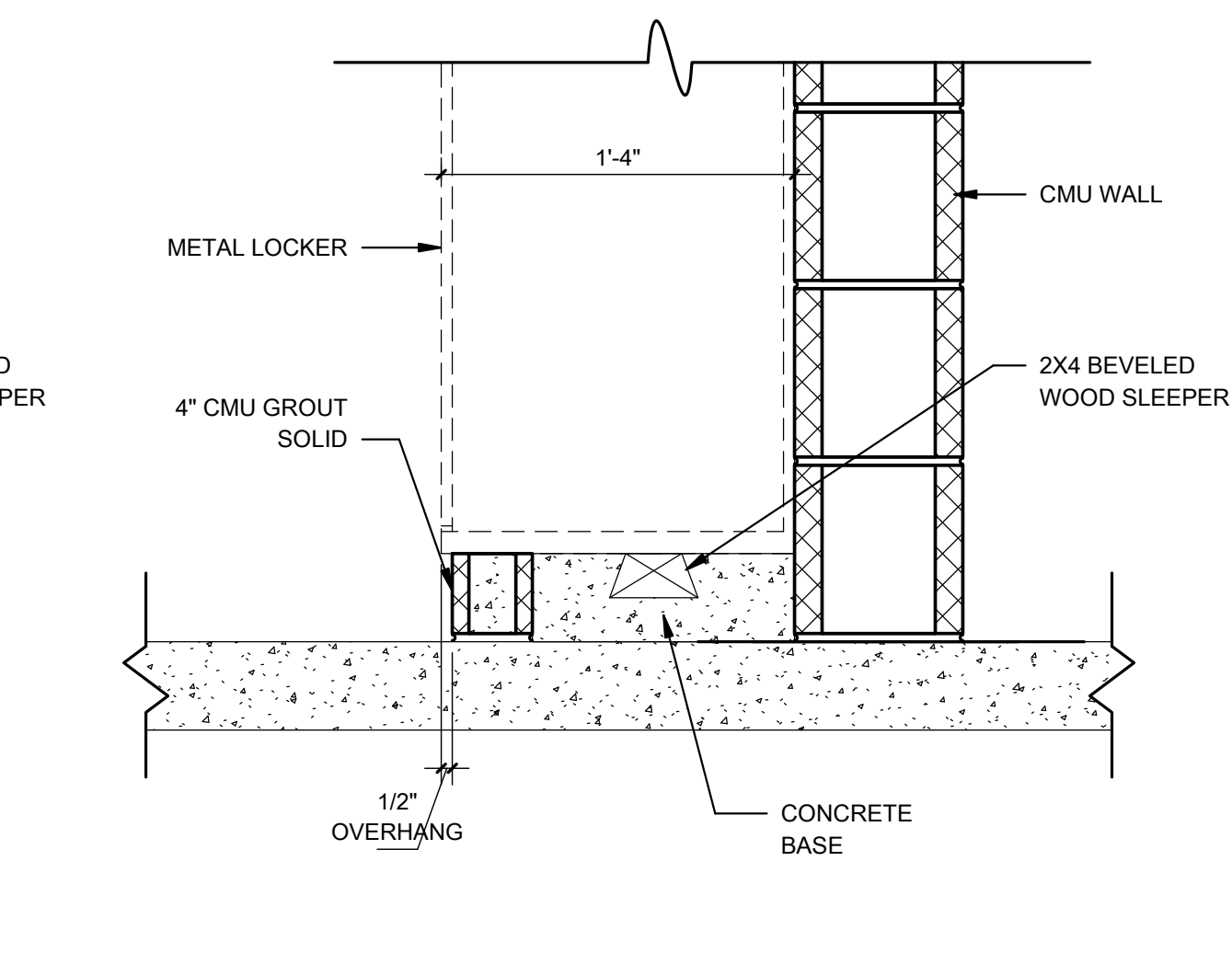
**7 DISPLAY CASE SECTION**  
A5.02 3/4" = 1'-0"



**8 WALL - INT. - OPERABLE PARTITION TRACK DETAIL**  
A5.02 3" = 1'-0"



**5 ATHLETIC LOCKER ROOM BASE DETAIL**  
A5.02 1 1/2" = 1'-0"



**6 CORRIDOR LOCKER BASE DETAIL**  
A5.02 1 1/2" = 1'-0"

NO.	BY	DATE	DESCRIPTION
6	ALB	07/20/2022	REVISION 6

**THE NEW SPENCER MIDDLE SCHOOL**  
ROANE COUNTY SCHOOLS  
SPENCER, WV  
APRIL 15, 2022  
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DRAWN: AJC,ALB,SAP/DATE: 05/16/2022  
CHECKED: AJC DATE: 05/16/2022  
APPROVED: AJC DATE: 05/16/2022  
PROJECT No. 060-10259

DETAILS  
SHEET No. **A5.02**



DOOR, FRAME, & HARDWARE SCHEDULE

#	DOOR						FRAME				ASSEMBLY				
	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME TYPE	FRAME DEPTH	FRAME MATERIAL	FRAME FINISH	DETAILS	FIRE RATING	HARDWARE SET	REMARKS	
100A	FG	6'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	3	4 1/2"	ALUM.	ANOD.	(4, 9, 17 /A6.05)	--	2.0	5	
100B	FG	6'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	3	4 1/2"	ALUM.	ANOD.	(4, 9, 17 /A6.05)	--	1.0	5	
106C	FG	6'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	4	4 1/2"	ALUM.	ANOD.	(4, 9/A6.05)	--	23.0	2	
100D	FG	6'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	4	4 1/2"	ALUM.	ANOD.	(4, 9/A6.05)	--	22.0	2	
101	N	6'-0"	7'-0"	1 3/4"	GALV. H.M.	PTD	2	5 3/4"	GALV. H.M.	PTD	(6, 14, 17 /A6.05)	--	10.0	5	
102A	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	--	30.0	1	
102B	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	4	4 1/2"	ALUM.	ANOD.	(2, 10 /A6.05)	SMOKE	18.0	2	
103A	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	5	4 1/2"	ALUM.	ANOD.	(4, 9 /A6.05)	--	24.0	2	
103B	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	10	4 1/2"	ALUM.	ANOD.	(2, 10 /A6.05)	--	5.0	5	
104	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	10	4 1/2"	ALUM.	ANOD.	(4, 9 /A6.05)	SMOKE	17.0	2	
105	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11 /A6.05)	SMOKE	36.0	1	
106A	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11 /A6.05)	--	40.0	1	
106B	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11 /A6.05)	SMOKE	43.0	1	
107	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11 /A6.05)	SMOKE	40.0	1	
108	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11 /A6.05)	SMOKE	36.0	1	
109	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11 /A6.05)	SMOKE	40.0	1	
110	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11, 18 /A6.05)	SMOKE	46.0	1	
111	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11, 18 /A6.05)	SMOKE	46.0	1	
112	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	10	4 1/2"	ALUM.	ANOD.	(12, 16 /A6.05)	--	48.0	1	
113	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11 /A6.05)	SMOKE	43.0	1	
114	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	39.0	1	
115A	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	31.0	1	
115B	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(3, 11 /A6.05)	SMOKE	31.0	1	
116A	FG	3'-0"	7'-11"	1 3/4"	ALUM.	ANOD.	12	4 1/2"	ALUM.	ANOD.	(7, 15, 17 /A6.05)	5.0	5	1	
116B	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	11	4 1/2"	ALUM.	ANOD.	(4, 9 /A6.05)	SMOKE	21.0	1	
119A	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	10	4 1/2"	ALUM.	ANOD.	(4, 9 /A6.05)	SMOKE	21.0	1	
119B	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	18	4 1/2"	ALUM.	ANOD.	(7, 13, 17 /A6.05)(6/A6.06)	5.0	5	1	
120	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	SMOKE	34.0	1	
122	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	SMOKE	34.0	1	
123	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	SMOKE	46.0	1	
124	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	SMOKE	34.0	1	
125	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	SMOKE	46.0	1	
126	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	--	34.0	1	
127	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	--	42.0	1	
128	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	1	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	44.0	1	
129	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	44.0	1	
130A	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	45 MIN.	28.0	1	
130B	FG	3'-2"	7'-0"	1 3/4"	ALUM.	ANOD.	17	4 1/2"	ALUM.	ANOD.	(7, 15, 17 /A6.05)	--	5.0	5	
130C	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	45 MIN.	27.0	1	
131	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	--	47.0	1	
133	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	--	40.0	1	
135	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	--	40.0	1	
136	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
137	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
138	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
139	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
140	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
141	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
144	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
145A	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
145B	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	8	4 1/2"	ALUM.	ANOD.	(7, 13, 17 /A6.05)(6, 10 /A6.06)	--	5.0	5	
146	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	SMOKE	34.0	1	
147	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	SMOKE	34.0	1	
148	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	--	32.0	1	
149	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	1	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
150	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	SMOKE	46.0	1	
151	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	SMOKE	46.0	1	
152A	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	--	54.0	1	
152B	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	--	54.0	1	
153A	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	45 MIN.	28.0	1	
153B	FG	3'-2"	7'-0"	1 3/4"	ALUM.	ANOD.	17	4 1/2"	ALUM.	ANOD.	(7, 15, 17 /A6.05)	--	5.0	5	
153C	N	3'-0"	7'-0"	1 3/4"	GALV. H.M.	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	45 MIN.	27.0	1	
154A	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
154B	FG	3'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	8	4 1/2"	ALUM.	ANOD.	(7, 13, 17 /A6.05)(6, 10 /A6.06)	--	5.0	5	
155	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	51.0	1	
156A	F	3'-0"	7'-0"	1 3/4"	GALV.H.M.	PTD	1	5 3/4"	GALV. H.M.	PTD	(2, 10, 17 /A6.05)	11.0	1	1	
156B	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	SMOKE	55.0	1	1
158A	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	35.0	1	1
158B	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	35.0	1	1
159	N	6'-0"	7'-0"	1 3/4"	GALV. H.M.	PTD	2	5 3/4"	GALV.H.M.	PTD	(2, 10, 17 /A6.05)	--	10.0	5	1
160A	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	34.0	1	1
160B	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	34.0	1	1
161	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	SMOKE	55.0	1	1
162A	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	43.0	1	1
162B	OH	5'-0"	6'-0"	3"	METAL	PTD	14	1 1/2"	METAL	PTD	(1, 5 /A6.05)	SMOKE	--	1	1
162C	OH	5'-0"	6'-0"	3"	METAL	PTD	14	1 1/2"	METAL	PTD	(1, 5 /A6.05)	SMOKE	--	1	1
163A	F	3'-0"	7'-0"	1 3/4"	GALV.H.M.	PTD	1	5 3/4"	GALV. H.M.	PTD	(2, 10, 17 /A6.05)	11.0	1	1	
163B	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	SMOKE	55.0	1	1
165A	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	SMOKE	37.0	1	1
166	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	1	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	--	45.0	1	1
167	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	SMOKE	55.0	1	1
168	N	6'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	--	1	1	1
169	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10, 19 /A6.05)	45 MIN.	25.0	1	1
170	N	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	45 MIN.	49.0	1	1
171	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	--	38.0	1	1
172	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	1	5 3/4"	H.M.	PTD	(2, 10, 18 /A6.05)	45.0	1	1	1
173	F	3'-0"	7'-0"	1 3/4"	SCWD	STAINED	2	5 3/4"	H.M.	PTD	(2, 10 /A6.05)	45 MIN.	26.0	1	1
174	F	3'-0"	7'-0"	1 3/4"	GALV. H.M.	PTD	1	5 3/4"	GALV. H.M.	PTD	(2, 10, 17 /A6.05)	14.0	1	1	1
175	F	6'-0"	7'-0"	1 3/4"	GALV. H.M.	PTD	2	5 3/4"	GALV. H.M.	PTD	(2, 10, 17 /A6.05)	--	13.0	1	1

DOOR, FRAME, & HARDWARE SCHEDULE

#	DOOR						FRAME				ASSEMBLY			
	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME TYPE	FRAME DEPTH	FRAME MATERIAL	FRAME FINISH	DETAILS	FIRE RATING	HARDWARE SET	REMARKS
176A	FG	6'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	9	4 1/2"	ALUM.	ANOD.	(7, 15, 17 /A6.05)(11, 12, 13 /A6.06)	--	2.0	5
176B	FG	6'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	9	4 1/2"	ALUM.	ANOD.	(7, 15, 17 /A6.05)(11, 12, 13 /A6.06)	--	9.0	5
176C	FG	6'-0"	7'-0"	1 3/4"	ALUM.	ANOD.	9	4 1/2"	ALUM.					