



PURCHASING DEPARTMENT

Newport News Public Schools

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**November 4, 2025
Addendum #1
FOR IMMEDIATE ATTENTION**

ADDENDUM NO. 1 TO ALL BIDDERS:

Reference – Invitation for Bid:	IFB #011-0-2026/SB Campus for Student Success Multi-Purpose Room Renovations
For Delivery To:	Newport News Public Schools
Bids Due:	November 14, 2025 at 2:00 PM EST

The above is hereby changed to read:

- 1. Update to II. Special Instructions to Bidders, Letter J., Bid Submittal Requirements, #4:** The following is updated to hereby read, “Bids received by telephone, telegraph, facsimile, email, or any means of electronic transfer other than eVA shall not be accepted.” Only in person, mailed, or bids submitted through eVA shall be accepted.
- 2. Pre-Bid Questions and Responses:** See the following responses.
- 3. Drawings and a Supplemental Architectural Sketch:** See the following.
- 4. Changes to Specifications:** See the following.

All other provisions of the IFB shall remain unchanged.

Sincerely,
Shannon Bailey, VCCO, VCO
Director of Procurement
shannon.bailey1@nn.k12.va.us
757-591-4560 x10752



November 3, 2025

ADDENDUM NO. 1

Invitation to Bid: IFB #011-0-2026/SB
QE Project Number 42025321 Campus For Student Success Multi-Purpose Room Renovations
Receipt Date/Time: November 14, 2025, at 2:00 PM
Opening Date/Time: November 14, 2025, at 2:00 PM
Subject: Questions and Responses to Bidder questions, Specifications, and Drawings Revisions

Prospective Bidder and Others Concerned,

The following changes, corrections, deletions, clarifications, and/or additions constitute Addendum No. 1. The following items represent changes, modifications, and/or clarifications to the Contract Documents for this project. This Addendum shall become a part of the Contract Documents, and all Bidders shall acknowledge its inclusion in their bid.

This Addendum consists of the following:

Six typed pages (Addendum revisions)
Eleven pages of Drawings and a Supplemental Architectural Sketch
Nineteen pages of Specifications (SECTION 230500 HEATING, VENTILATING AND AIR CONDITIONING)

General:

1. Please note the official street addresses for the building is as follows:

Center for Student Success, 747 Adams Drive, Newport News, VA 23601.

Summary of Bidding Questions and Responses:

The following are questions that were received by the Procurement Officer and the related answers have been provided by Quinn Evans and their consultant team. When the answer does not modify the contract documents, there will be no "addendum change" to the contract documents. Where the answer changes the contract documents, either a revised drawing will be issued, or an addendum narrative will be provided to modify the drawings or specifications.

1. QUESTION 1: Drawing A104, Detail 7/A104 – The window detail does not indicate what type of window sill is to be installed. Please provide window sill type and size.

Answer: Please refer to the attached drawing A104, revised October 31, 2025, that is attached to this Addendum, which provides for the revisions noted.

2. QUESTION 2: Drawing S101, Detail 1/S101/S101 – The detail shows the base plate size as 11" x 12" and the note shows the size as ¾" x 11" x 11". Please clarify the base plate size.

Answer: refer to the attached revised drawing S101, revised October 31, 2025.

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3. QUESTION 3: Drawings S101 and S201, The RTU equipment stand is shown on S101 and there is an alternate RTU alternate Mechanical Unit Support. Please clarify that we are to utilize the RTU equipment stand on S101.

Answer: please note that Alternate Support Detail has been deleted as indicated on the attached revised drawing S201, revised October 31, 2025.

4. QUESTION 4: Specification Section 097723, Paragraph 2.02.E Panel Thickness. This paragraph states to reference the Schedule on Drawing. We do not see a Fabric-Wrapped panel on the drawings. Please provide the required panel thickness for the Fabric Wrapped Panels.

Answer – Panels shall be 1-1/2 inches thick. The specifications will be revised in the Addendum.

5. QUESTION 5: Drawing G101, General Work Note #1 – Note 1 states to Refer to Specification Section 01010 Summary of Work. This specification section does not exist in the Project Manual. Please provide clarification.

Answer: Reference specification section “011000 Summary”. This will be clarified in the Addendum.

6. QUESTION 6: Specification section 011000, Paragraph 1.10.B – During the site visit the Architect stated that loud noisy work would have to be done after hours. Paragraph 1.10.B states to Notify Owner not less than two days and Obtain Owners written permission. The specifications do not indicate that noisy work must be done after hours. Please clarify.

Answer: The requirements of the specification will not be revised. Construction work shall not interfere with instruction.

7. QUESTION 7: Drawing A104, Door Schedule – The door schedule HM Frame header and jamb details call out Drawing A105. It appears that all of the door frame header and jamb details are on Drawing A104 not A105. Please clarify.

Answer: Correct. Please refer to the attached drawing A104, revised October 31, 2025, that is attached to this Addendum, which provides for the revisions noted.

8. QUESTION 8: Drawing A103, Detail 112/A103 and Specification Section 260534 Electrical Boxes and Fittings. The specifications for device box depth in the new work indicate a minimum of 1-1/2 inches for a single device and 2-1/8 inches for more than one device. Clearance between the ceramic tile and the face of GWB is 1-1/2". Please provide clarification on how to properly install device boxes and plaster rings with a total depth of 1-1/2 inches, considering the presence of ceramic tile and CMU block behind the finished walls.

Answer: Refer to General Notes on A102, Note 4, that requires selective demolition for routing of piping and conduit if additional depth is required for routing utilities.

9. QUESTION: when will the contractor sign in sheet be released to the attendees?

Answer: the attendees have been posted on eVA.

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10. QUESTION: will there be an opportunity to schedule an additional site visit?

Answer: please forward inquiries to Shannon Bailey, Procurement Officer, shannon.bailey1@nn.k12.va.us , with NNPS.

11. QUESTION: how will the existing door frames be handled when it comes to furring out the walls and running GWB over the wall tiles?

Answer: Refer to the revised drawing A104, revised October 31, 2025, that is attached to this Addendum, which indicates the conditions noted in the question above.

12. QUESTION: are there any details or as-builts that tell us what needs to be demolished under the stage. Wall construction under stage?

Answer: The conditions noted in the construction documents for this project relied upon the existing building documents for the South Morrison Elementary School Project, Newport News, VA, dated November 6, 1959, as prepared by Samuel N. Mayo, AIA. Existing building documents will be made available to the contractor that is awarded the project.

13. QUESTION: A102 Demolition Floor Plan, demo keynote #1 says to remove the six-inch CMU left wall entirely. It & its corresponding right side wall both have 4' wainscot that runs up the step to the stage door. How is the right-side wall wainscot to be treated.

Answer: Refer to the revised drawing A102, revised October 31, 2025, that is attached to this Addendum, which provides for additional references to partition type requirements at the area in question.

14. QUESTION: Detail 5/A104 Head Detail for 102.2 is listed as existing frame. There is no existing door in this location - correct?

Answer: The door and frame for opening 102.2 consists of a new frame and door conditions. The intent is to have the new frame match the existing profiles of the existing frames within the project.

15. QUESTION: after demolition, can the supports be abandoned in place where they are above ceiling?

Answer: For example, the suspension system relating to the existing ceilings that are to be removed shall have the entire assembly removed (ceiling tile, grid system, and suspension wires). With respect to any structural systems or components, they shall all remain in place.

16. QUESTION: at exterior entry demolition, will existing small roof remain?

Answer: The existing canopy roof above the exterior exit stairs (that indicates that the stairs are to be removed on 1/A102), the small canopy roof shall remain as is and shall not be removed.

17. QUESTION: where mech units are removed, can interior CMU be straight cut or will it need to be toothed in?

Answer: interior CMU can be straight cut (since it is not exposed) and the new exterior brick masonry infill shall be toothed into the existing brick masonry.

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18. QUESTION: where interior stairs are removed, please provide detail on how deep it is required to be removed and how is the concrete patch required to be installed for terrazzo?

Answer: Coordinate the depth required relating to the demolition of the stairs with the requirements for the replacement concrete slab that is noted on the structural drawings.

Refer to plan detail 5/A102 for limits of flooring finishes for the new VCT. Assume surface preparation of the existing concrete slab will be required at the wall demolition noted on Demolition Floor Plan 1/A102 (refer to demolition note #1).

19. QUESTION: do the existing (to remain) roof vents vent from a bathroom exhaust?

Answer: Existing roof vents serve bathrooms and janitor closets near the rooftop unit.

20. QUESTION: I noticed that all of Division 27 have been pulled out of this scope - is that because you already have a contractor assigned to that work?

Answer: The telecommunications cabling, which includes data, voice, video, audio/video cabling that is intended to form a complete system will be performed through an allowance noted in "012100 Allowances," article 3.03.B.

CHANGES TO SPECIFICATIONS

1) Section 087100 – DOOR HARDWARE

- a) Article 2.05.A.5.a: DELETE "Sargent Manufacturing (SA) – 10X Line" and ADD "BEST Peaks locks, and if there are any additional electrical rooms, provide Corbin Russwin core."

2) Section 097723 FABRIC_WRAPPED PANELS

- a) Article 2.02.E: DELETE "Reference Schedule on Drawings" and ADD "1-1/2."

3) Section 230500 HEATING, VENTILATING AND AIR CONDITIONING

- a) DELETE the entire section and ADD the replacement section that is attached to this addendum. The changes in this section are as follows:
- i) Article 2.06.D Heat Trace: ADD this article in its entirety.
 - ii) Article 2.08.B.a: DELETE the paragraph and replace it with the following.
 - (1) Article 2.08.B.a: "a. Packaged Rooftop Unit shall be mounted on spring mountings, including the neoprene acoustical pad within a rigid housing that includes vertical limit stops to prevent spring extension when weight is removed and temporary steel spacers between the upper and lower housings. Housings should serve as blocking during erection. When the equipment is at full operating weight, the springs shall be adjusted to assume the weight and the spacers removed, without changing the installed and operating heights. All restraining bolts shall have large rubber grommets to provide cushioning in the vertical as well as horizontal modes. The hole through the bushing shall be a minimum of 0.75" (20mm) larger in diameter than the restraining bolt. Horizontal clearance on the sides between the spring assembly and the housing shall be a minimum of 0.5" (12mm) to avoid bumping and interfering with the spring action. Vertical limit stops shall be out of contact during normal operation. Housings and springs shall be powder coated and hardware electro-galvanized. Mountings shall be SLRSO as manufactured by Mason Industries, Inc."

CHANGES TO DRAWINGS

1) Drawing G101 – LEGENS, SYMBOLS, ABBREVIATIONS, & GENERAL NOTES

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- a) GENERAL WORK NOTES, Note 1: DELETE 01010 and ADD 011100.
- 2) **Drawing A102 – DEMO PLAN, NEW WORK PLAN, & RCP**
 - a) DELETE the drawing and ADD the revised drawing A102, revised October 31, 2025, that is attached to this addendum.
- 3) **Drawing A103 – WALL SECTION, DETAILS, & INTERIOR ELEVATIONS**
 - a) DELETE the drawing and ADD the revised drawing A103, revised October 31, 2025, that is attached to this addendum.
- 4) **Drawing A104 – DOOR SCHEDULE AND DETAILS/ROOF DETAILS**
 - a) DELETE the drawing and ADD the revised drawing A104, revised October 31, 2025, that is attached to this addendum.
 - b) Refer to the attached Supplemental Architectural Sketch SA-1, dated October 31, 2025, that shall add the following door jamb details to drawing A104: ADD detail 14/A104 and 15/A104.
- 5) **Drawing S101 – STRUCTURAL PLANS AND SECTIONS**
 - a) DELETE DRAWING and ADD drawing S101, revised October 31, 2025, that is attached to this addendum.
- 6) **Drawing S101 – STRUCTURAL PLANS AND SECTIONS**
 - a) DELETE DRAWING and ADD drawing S101, revised October 31, 2025, that is attached to this addendum.
- 7) **Drawing S201 – TYPICAL DETAILS**
 - a) DELETE DRAWING and ADD drawing S201, revised October 31, 2025, that is attached to this addendum.
- 8) **Drawing M101 – FLOOR PLANS – NEW WORK - MECHANICAL**
 - a) DELETE DRAWING and ADD drawing M101, revised October 31, 2025, that is attached to this addendum. Changes that are included in this revised drawing include are as follows, but are not limited to;
 - i) **FLOOR PLANS – NEW WORK – MECHANICAL** – REVISED on drawings. Rooftop unit location shifted plan South along with ductwork modifications on the roof and on the floor plan. Section A revised to accommodate changes to floor plans. Indicated by revision triangle number 1.
 - ii) **“NEW WORK NOTES”** Note 7 – REVISED to read “PROVIDE FULL PERIMETER RAIL WITH SPRING ISOLATORS. REFER TO “ROOFTOP UNIT SUPPORT AND VIBRATION ISOLATION DETAIL” ON DRAWING M402. Indicated by revision triangle number 1.
 - iii) **“NEW WORK NOTES”** Note 14 – **ADDED:** CONTRACTOR SHALL CUT HOLE THROUGH ROOF FOR HOT WATER PIPING, INSULATE AND PROVIDE HEAT TRACE. CONTRACTOR TO PROVIDE PITCH POCKET, FLASH AND SEAL ALL PENETRATIONS WATERTIGHT. REFER TO HEAT TRACE DETAILS ON DRAWING M-402. Indicated by revision triangle number 1.
- 9) **Drawing M402 – FLOOR PLANS – MECHANICAL DETAILS**
 - a) DELETE DRAWING and ADD drawing M402, revised October 31, 2025, that is attached to this addendum. Changes that are included in this revised drawing include are as follows, but are not limited to;

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- i) **MECHANICAL DETAILS – REMOVED** detail on drawings. ROOFTOP UNIT MOUNTING DETAIL and **ADDED** “ROOFTOP UNIT SUPPORT AND VIBRATION ISOLATION DETAIL.” Indicated by revision triangle number 1.
- ii) **MECHANICAL DETAILS – ADDED** details on drawings. HEAT TRACE CABLE STAND OFF DETAIL,” “HEAT TRACE ORIENTATION DETAIL,” “TYPICAL HEAT TRACE CABLE – TEE FITTINGS DETAIL” AND “HEAT TRACE THERMOSTAT CONTROLLER DETAIL.” Indicated by revision triangle number 1.

10) Drawings M501 – AUTOMATIC TEMPERATURE CONTROLS

- a) DELETE DRAWING and ADD drawing M501, revised October 31, 2025, that is attached to this addendum. Changes that are included in this revised drawing include are as follows, but are not limited to;
 - i) **AUTOMATIC TEMPERATURE CONTROLS – ADDED** on drawings. Heat trace sequence added to control diagram. **Indicated by revision triangle number 1.**

11) Drawings E301 – ROOF PLANS, DEMOLITION AND NEW WORK, HVAC POWER

- a) DELETE DRAWING and ADD drawing E301, revised October 31, 2025, that is attached to this addendum. Changes that are included in this revised drawing include are as follows, but are not limited to;
 - i) **NEW WORK NOTES**” Notes 37 - **ADDED** to read “PROVIDE ELECTRICAL CONNECTION TO HEAT TRACE VIA THERMOSTAT FURNISHED BY MECHANICAL CONTRACTOR. COORDINATE EXACT LOCATION OF HEAT TRACE CONNECTION WITH MECHANICAL CONTRACTOR PRIOR TO RUNNING CONDUIT AND CONDUCTORS. COORDINATE ALL ADDITIONAL REQUIREMENTS WITH SUPPLIER OF EQUIPMENT.” Indicated by revision triangle number 1.
 - ii) **“NEW WORK NOTES”** Note 7 – REVISED to read “PROVIDE FULL PERIMETER RAIL WITH SPRING ISOLATORS. REFER TO “ROOFTOP UNIT SUPPORT AND VIBRATION ISOLATION DETAIL” ON DRAWING M402. **Indicated by revision triangle number 1.**
 - iii) **“ROOF PLAN – NEW WORK – HVAC POWER” - REVISED** on drawings. Heat trace electrical connection added, and circuit number provided. **Indicated by revision triangle number 1.**

12) Drawings E401 – PANEL SCHEDULES AND RISER DIAGRAM

- a) DELETE DRAWING and ADD drawing E401, revised October 31, 2025, that is attached to this addendum. Changes that are included in this revised drawing include are as follows, but are not limited to;
 - i) **“PANEL “LMP” - REVISED** on drawings. Circuit number 17 revised on schedule and notes added to the bottom of panel. **Indicated by revision triangle number 1.**

ATTACHMENTS:

Specification: Section 230500 – Heating Ventilation & Air Conditioning

Drawings: A102, A103, A104, S101, S201, M101, M402, M501, E301, E401, and Supplemental Architectural Sketch all revised October 31, 2025.

END OF ADDENDUM 1.



ATTACHMENTS

SECTION 230500
HEATING, VENTILATING AND AIR CONDITIONING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification Sections and Section 230100 "Mechanical General Provisions" apply to this Section.
- B. Refer to Specification Sections 230900 "Automatic Temperature Controls" and the Control Diagrams on the Contract Drawings for additional requirements and coordination between equipment and controls.

1.02 WARRANTY-GUARANTEE

- A. Contractor shall furnish written warranty, countersigned and guaranteed by the General Contractor, stating that work executed under this Section of the Specifications shall be free from defects of material and workmanship for a period of 12 months from date of Substantial Completion of the building. Refer to Section 230100 for additional warranty period responsibilities.

1.03 SUBMITTALS

- A. Submit manufacturer's performance data and unit details on all products specified below or indicated on Contract Drawings.

1.04 PROTECTION OF EQUIPMENT AND MATERIAL

- A. All equipment and material not specifically designed for exterior installation shall not be delivered to the job site until an indoor, dry location is available for storage. All equipment and material shall be covered and protected from dirt, debris, moisture, paint, coatings, and damage of any kind. Store off the floor, in a location approved by the Owner, to prevent contact with water.

PART 2 - PRODUCTS

2.01 HEAT GENERATION (NOT USED)

2.02 REFRIGERATION (NOT USED)

2.03 AIR HANDLING EQUIPMENT

- A. Transfer Exhaust Fan (TF-1):
 - 1. Ceiling fans shall be constructed of galvanized steel, with forward curved direct-drive centrifugal fans. Provide factory-wired plug-type disconnect, gravity back-draft damper, and ceiling grille. Provide ceiling grille where indicated.
- B. Packaged Air Conditioning Unit (RTU-1)
 - 1. Packaged air conditioning units shall be accordance with the following specifications and capacities as shown on the plans. Provide unit manufactured by TRANE: Horizon - Model OA or approved equal.

2. Packaged rooftop unit shall include compressors, coils, filters, supply fans, exhaust fans, dampers, air-cooled condenser coils, condenser fans, reheat coil and unit controls.
3. Unit shall be specifically designed for outdoor applications and include a weatherproof cabinet. Each unit shall be completely factory assembled and shipped in one piece. Packaged units shall be shipped fully charged with R-454B refrigerant and oil.
4. Unit shall be factory run tested prior to shipment. Factory test shall include refrigeration circuit run test, unit control system operations checkout, refrigerant leak test and final unit inspection.
5. Unit components shall be labeled, including refrigeration system components and electrical and controls components.
6. Estimated sound power levels (dB) shall be shown on the unit ratings sheet.
7. Installation, Operation, and Maintenance manual shall be supplied within the unit.
8. Laminated color-coded wiring diagram shall match factory installed wiring and shall be affixed to the interior of the control compartment's hinged access door.
9. Unit nameplate shall be provided in two locations on the unit, affixed to the exterior of the unit and affixed to the interior of the control compartment's hinged access door.
10. General:
 - a. The supply and return openings shall be horizontal airflow. Cooling performance shall be rated in accordance with ETL testing procedures. All units shall be factory assembled, internally wired, fully charged with R-454B, and 100 percent run tested to check cooling operation, fan and blower rotation, and control sequence before leaving the factory. Wiring internal to the unit shall be colored and numbered for simplified identification. Units shall be ETL listed and labeled, classified in accordance with UL 1995/CAN/CSA No. 236-M40 for Central Cooling Air Conditioners.
 - b. Casing
 - 1) Unit casing shall be constructed of zinc-coated, heavy gauge, galvanized steel. Exterior surfaces shall be cleaned, phosphatized, and finished with a weather-resistant baked enamel finish. Unit's surface shall be tested at a minimum of 672 hours in a salt spray test in compliance with ASTM B117. Unit shall have a 2-inch thick Antimicrobial Insulation. All insulation edges shall be either captured or sealed. The unit's base pan shall have no penetrations within the perimeter of the curb other than the raised downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up. The top cover shall be one piece construction or, where seams exist, it shall be double-hemmed and gasket-sealed. The ribbed top adds extra strength and enhances water removal from unit top.
 - c. Drain Pan
 - 1) The drain pan shall be a single-walled assembly made of Type 304 stainless steel. It shall be sloped in two planes and is fully drainable. The coils shall be mounted above the drain pan to allow easy inspection and cleaning of the drain pan.
 - d. Supply and Exhaust Fans and Motors
 - 1) Fan motor shall be direct drive type with factory installed Variable Frequency Drive. All motors shall be thermally protected. All indoor fan motors meet the U.S. Energy Policy Act of 2005 (EPACT). Fan shall be a high efficiency backward curved impeller.

- e. Condenser Fan
 - 1) Condenser fans shall be controlled via VFD to maintain adjustable pressure to increase reheat capacity where applicable and low ambient control.
 - 2) Provide with condenser hail guards.
- f. Dampers – Low Leak
 - 1) The outside air damper shall have a unit-controlled actuator with parallel-blades. The blade construction shall be 14-gage galvanized steel, roll-formed airfoil-type.
- g. Return Air
 - 1) Dampers shall be low-leak. Each damper shall have a unit-controlled actuator. Inputs shall be provided for unoccupied economizer control, based upon a comparison of the outside air stream to a dry bulb reference point an information-only diagnostic message on the human interface and will allow continued unit operation.
- h. Filters
 - 1) 2-inch MERV-8 filters shall be installed just upstream of the evaporator coil. In addition, 2-inch aluminum mesh mist eliminators shall be located in the intake hood.
 - 2) A Filter Status switch shall indicate when filters require cleaning or replacement.
- i. Sensors
 - 1) A factory installed combination outdoor air sensor located in the outdoor air hood is designed to sense both outdoor air temperature and relative humidity for use by the microprocessor controller to make required ventilation, cooling, dehumidification and heating decisions.
- j. Compressors
 - 1) Unit shall have direct-drive, hermetic, digital scroll type compressors with centrifugal type oil pumps. Motor shall be suction gas-cooled and shall have a voltage utilization range of plus or minus 10 percent of unit nameplate voltage. Internal overloads shall be provided with the scroll compressors. Crankcase heaters shall be included. Compressor shall be able to fully modulate from 20 percent to 100 percent.
- k. Evaporator and Condensing Coils
 - 1) Internally finned copper tubes mechanically bonded to a configured aluminum plate fin shall be standard. Coils shall be leak tested at the factory to ensure the pressure integrity. The evaporator coil and condenser coil shall be leak tested to 500 psig and pressure tested to 500 psig. The condenser coil shall have a

fin design with slight gaps for ease of cleaning. Evaporator coil will have six interlaced rows for superior sensible and latent cooling.

I. Hot Water Heating:

- 1) The hot water coil shall be ARI performance certified and shall bear the ARI symbol. Tubes are to be mechanically expanded into fins (secondary surface) for maximum heat transfer. Materials shall be 5/8" diameter x (0.020) wall thickness. Secondary surface (fins) shall be of the plate-fin design using aluminum with die-formed collars. Fin design shall be waffle in a staggered tube pattern to meet performance requirements. Collars shall hold fin spacing at specified density, and cover the entire tube surface. Fins shall be free of oils and oxidation. The coil shall have MPT connections constructed of copper. Water valves are field supplied and installed.

m. Controls

- 1) Unit is completely factory-wired with necessary controls and contactor pressure lugs for power wiring. Units have a Multi Zone VAV control device with a display. Microprocessor controls are provided for all 24-volt control functions. The resident control algorithms will make all heating, cooling and/or ventilating decisions in response to electronic signals from sensors measuring outdoor temperature and humidity. The control algorithm maintains accurate temperature control, minimizes drift from set point, and provides better building comfort. A centralized micro-processor (UC600) will provide anti-short cycle timing for a higher level of machine protection. Terminals are provided for a field installed dry contact or switch closure to put the unit in the Occupied or Unoccupied modes. A factory provided static pressure sensor will be shipped with the unit for installation inside the supply ductwork.

- n. Short Circuit Withstand Rating of the unit electrical enclosure shall be 65,000 Amps. Rating shall be published in accordance with UL508.

o. Roof Curbs

- 1) Provide factory supplied roof curb, heavy gauge zinc coated steel with supply and return air gasketing. Ship knocked down, and provide instructions for easy assembly.
- 2) Curb shall be manufactured in accordance with the National Roofing Contractors Association guidelines for rooftop equipment support.

p. Warranty

- 1) Refer to Specification section 230100 for additional warranty information.

2.04 UNITARY EQUIPMENT (NOT USED)

2.05 TERMINAL EQUIPMENT (NOT USED)

2.06 HVAC PIPING AND SPECIALTIES

A. Piping

1. Water and HVAC drain piping shall be provided as specified below. Where options of different materials are given for the same service, contractor shall select materials and use them uniformly throughout the system. Contractor shall submit experience with all of the materials and joining methods specified.
2. Hot Water piping:
 - a. Above ground
 - 1) Type L copper (2" and under)
 - 2) Schedule 40 threaded black steel (2" and under)
3. Condensate drain piping
 - a. On rooftop and exterior to building
 - 1) Schedule 40 PVC
4. Type L copper pipe shall conform to ASTM B42 and be assembled with wrought-copper soldering fittings using 95-5 solder or with press fittings as specified herein.
5. Schedule 40 PVC pipe shall be assembled in strict accordance with manufacturer's instructions. Solvent cement shall conform to ASTM D2564.
6. Press Fittings:
 - a. Copper and copper alloy press fittings shall conform to material requirements of ASME B16.18 or ASME B16.22 and NSF/ANSI Standard (NSF 61). Sealing elements for press fittings shall be factory installed EPDM.
 - b. Press fittings 1/2" – 2" press end shall have a leak-before-press feature, which assures leakage from inside the system past the sealing element of an unpressed connection. Fittings 2-1/2" – 4" press end shall have a factory installed means for visual inspection of completed press.
 - c. Copper press fitting joints shall be made in accordance with the manufacturer's installation instructions. The tubing shall be fully inserted into the fitting and the tubing marked at the shoulder of the fitting. The fitting alignment shall be checked against the mark in the tubing to ensure the tubing is fully inserted in the fitting. The joints shall be pressed using the pressing tool and jaws or jaw set, approved by the fitting manufacturer.
 - d. Fitting installer shall be trained by the fitting manufacturer's factory representative.
 - e. Press connected fittings shall be by VIEGA "ProPress," NIBCO "Press System," AALBERTS "Apollo Press," or equal.
7. Piping shall be run concealed, except where no ceiling is provided. Coordinate installation of piping with other disciplines. Locate all piping tight against structure where possible. No piping shall be installed below mechanical equipment, or within mechanical or electrical equipment clearance requirements.
8. Pitch hydronic piping to vent at high points and provide accessible drains at low points.

B. Valves:

1. Valves 2" size and under shall be bronze with soldered ends, rough bodies, and finish trim. Valves 2-1/2" size and over shall be iron-body, bronze-mounted with flanged ends, except where specifically indicated. Catalog numbers indicated below are NIBCO. Valves with equivalent characteristics by APOLLO, or MILWAUKEE are acceptable.

Size	Pipe Material	Ball/Butterfly
2" and under	Copper	S-585-70-66NS
2-1/2" and over	Copper/Steel	LD-2000

2. Balancing valves 2" and smaller shall be NIBCO "S-585-70-66NS". Valves shall be complete with memory stops. Acceptable alternate valves include MILWAUKEE "BA-150S-MS," or APOLLO "70-200-27."

C. Automatic Balancing Valves

1. Provide automatic measuring and balancing valves where indicated for pipe sizes 1/2" to 12". Valves shall be NUTECH "AB," IMI "AC," or CALEFFI "Series 121" for valves 1/2" through 2".
2. The GPM for the automatic flow control valves shall be factory set and shall automatically limit the rate of flow to within 5% of the specified amount.
3. For 1/2" - 2", the flow cartridge shall be removable from the Y-body housing without the use of special tools to provide access for cartridge change out, inspection, and cleaning without breaking the main piping. (Access shall be like that provided for removal of a Y-strainer screen).
4. True operating range of 2 - 32 psid required. The design flow should be achieved at the minimum psi differential. A 50% safety factor applied to the lower operating range is not acceptable.
5. Each valve shall have two P/T ports.
6. All automatic flow control devices shall be supplied by a single source.
7. Five-year product warranty and free first year cartridge exchange.
8. The internal wear surfaces of the valve cartridge shall be Ultrason composite or stainless steel.
9. The flow cartridge design shall incorporate a stainless-steel spring which requires no adjustment screw or shims. A crimped sheet-metal design is not acceptable.
10. The internal flow cartridge shall be permanently marked with the GPM.
11. For 1/2" through 2" pipe sizes: The valve shall consist of a brass Y-type body, O-ring-type union, and integral brass body ball valve with memory stop. The ball valve ID shall be minimum standard port (one size smaller than valve connection size) Reduced port valves are not acceptable.
12. For 2-1/2" and larger flanged connections: Ductile-iron body suitable for mounting wafer style between standard 150# or 300# flanges. The long flange bolts and nuts shall be provided with each automatic flow control valve.
13. All valves shall be factory leak tested at 100 psi air underwater.
14. Ratings: 1/2" through 2" pipe size: 600 psig at 250°F
 2-1/2" through 12" pipe size: 600 psig at 250°F
15. Where indicated on the plans, the differential pressure across the automatic flow control valve shall be measured for flow verification and to determine the amount of system over-heading or under-pumping. Where over-heading exists the ball valve shall be throttled to bring the flow cartridge back within the control range. The valve memory stop shall be set so the valve can be used for isolation and reopened to the balanced position.
16. The flow shall be verified by measuring the differential pressure across the coil served or the wide-open temperature control valve and calculating the flow using the coil or valve Cv.
17. A differential pressure test kit shall be supplied to verify flow and measure over-heading. The kit shall consist of a 4-1/2" diaphragm gauge equipped with 10-foot hoses and P/T adapters, all housed in a vinyl case. Calibration shall be 0-35 PSID for 2-32 PSI spring range or 0-65 PSID for 5-60 PSI range.

18. Install automatic flow control valves on the return lines of coils as indicated on the plans. Balancing valve on supply side is not acceptable. Submit proposed piping arrangement for approval by the Engineer.
19. The standard ports and handles shall clear 1" thick insulation. Handle and port extensions are required for over 1" thick insulation.
20. Install, on the supply side of coils, a Y-strainer with a brass blow-down valve with 3/4" hose end connection with cap and chain.

D. Heat Trace:

1. Provide heat trace on all hot water piping within rooftop unit and on all exterior piping serving rooftop unit. Coordinate required length with installed piping. Install heat trace prior to field insulating of piping.
2. Heater shall be HEAT TRACE PRODUCTS "2700 Series," CHROMALOX "SRL," or THERMON "BSX."
3. The heater in combination with the interconnecting components shall be UL Listed. The self-regulating heater shall consist of two (2) #16 AWG tinned-copper bus wires embedded in parallel in a self-regulating polymer core that varies its power output to respond to temperatures all along its length, allowing the heater to be crossed over itself without overheating, to be used directly on plastic pipe and to be cut to length in the field. The heater shall be covered by a tinned-copper metallic over-shield and a thermoplastic elastomer over-jacket. The heater and equipment protection shall conform with NEC Code. The heater shall operate on line voltages as shown on the Contract Drawings without the use of transformers. The heater shall be selected by the manufacturer and installed to maintain a minimum water temperature of 35°F at an ambient temperature of -10°F.
4. The heater shall be sized according to this table. The required heater output rating is in watts per foot when engaged at 40°F. (Heater selection based on 1" fiberglass insulation on metal piping).

Pipe Size

6" or less

1 strip – 8 watts/lf

5. Power connection and seal, splice, and tee kit components shall be supplied by the manufacturer and applied in the field.
6. The BAS shall monitor each heat trace circuit. The BAS shall monitor the heat trace system using the controller's integral alarm contact.
7. Run the heater linearly along the underside of the pipe after piping has been successfully pressure tested. Secure the heater to piping with fiberglass tape.
8. Install heating cable strictly in accordance with manufacturer's recommendations. Provide wrapping per manufacturer's recommendations for valves, fittings, etc. Also provide additional coverage for locations where pipe goes below grade.
9. Apply "electric traced" signs to the outside of the thermal insulation, one every 10 linear feet.
10. All piping that is protected by heating cable shall have insulation. Insulation shall extend 12" into heated space or 12" beyond the area where water normally stands in the pipe.
11. Coordinate the location and amperage of the heat tracing circuits with the Division 26 installer.
12. Contractor shall be responsible for a complete working system.
13. After installation and before and after installing thermal insulation, subject heat tape to testing using a 1,000-VDC megger and 12-volt DC test to verify cable paths. Minimum

insulation megger resistance reading should be 20 to 1,000 megohms regardless of length. Provide field test report to the Engineer after each successful test.

14. After the final layout for exterior piping has been created by the Contractor, the Contractor shall submit the layout to the Heat Trace Cable manufacturer to determine the required heat trace length. If it exceeds the circuit maximum listed in the schedule, the Contractor shall coordinate an additional circuit with Heat Trace Cable manufacturer.
15. If the Contractor chooses to have the Heat Trace supplier install the heat trace cable and/or Thermostat Controller, Division 26 Contractor shall complete the power wiring. Refer to “Heat Trace Thermostat Controller Detail” on the Contract Drawings for more information.
16. A terminal controller shall control each heat trace circuit. The controller shall be supplied and installed by the contractor. The controller shall be equipped with an ambient temperature sensor and a contact for alarm monitoring via the BAS. The controller shall enable the heater when an ambient temperature of less than 40°F is sensed. The controller shall disable the heater when an ambient temperature of greater than 40°F is sensed.
 - a. Controller shall include two-pole contactor and be rated for maximum 30A current at 120-277 VAC. Controller shall provide ambient and line-sensing local thermostat control modes. Controller shall provide alarms for high/low current, high/low temperature, sensor loss, power loss, and ground fault. Controller shall include normally-closed dry-contact alarm output to tie into BMS system as binary/digital input.
 - b. The heat trace control system shall include self-check capabilities which shall be verified by a PDF report delivered to the Engineer after system start up. Report shall use data from system operation with all heat trace installed on the circuit and shall include values for average voltage, voltage drop, inrush current, steady-state current, inrush ground fault current, steady-state ground fault current and if applicable temperature sensor readings. Report shall be verified prior to system hand-off.
 - c. The heat trace controller shall provide ground-fault equipment protection (GFEP). Default to 30 mA with settable trip threshold up to 300 mA. Heat trace controller shall include self-test and reset capabilities that can be accessed locally from the controller.
 - d. Heat trace controller shall have Modbus connectivity with RS485 connection. System shall have the option to connect via BACnet MSTP or BACnet IP using an external gateway.
 - e. Heat trace controller shall be FRIO “S1-A-0001,” TRACON “FPT-130,” or POWERTRACE “ETC-1.”

2.07 AIR DISTRIBUTION

A. Ductwork:

1. Provide all ducts, plenums, connections, dampers, and related items required to form a complete system as indicated on drawings and specified herein.
2. All ductwork shall be constructed of sheet metal unless otherwise indicated.
3. Sheet-metal ducts shall be fabricated from G90 galvanized-steel sheets, and shall be of gauges called for and as detailed in 2020 SMACNA Manual, HVAC Duct Construction Standards (Metal and Flexible). All ductwork from variable air volume air handlers to the inlet of VAV terminal boxes shall be 3" w.g. pressure class construction and shall be single wall rectangular and single wall round. All ductwork pressure class construction shall be as indicated on the drawings and shall be single wall rectangular or single wall round.

Medium pressure ductwork shall be double wall with 3" insulation encapsulated between inner and outer sheet metal shells.

4. Duct sealing requirements shall be Class A for all ductwork.
5. Round duct and fittings shall be manufactured by a company for whom the manufacture of spiral duct and welded fittings has been a principal business for at least 15 years. Contractor fabricated round spiral duct and fittings shall not be acceptable.
6. All companies being considered as potential suppliers of duct and fitting components shall submit drawings and dimension data for approval. These submittals shall serve as a basis for acceptance or rejection of products.
 - a. All fittings furnished for use on a project shall be identical to the approved submittal data.
 - b. Any fittings rejected by the project engineer shall be replaced with fittings equal to the original approved submittals. All expenses incurred in the replacement of fittings that do not conform to these requirements shall be the responsibility of the installing contractor.
7. All medium-pressure supply duct shall be of round spiral lock seam construction where indicated. Steel round duct shall be of standard spiral with 2C corrugations for all duct greater than 14" diameter (without intermediate ribs) or single-rib construction and shall be provided with gauges according to the following 2020 SMACNA HVAC DCS, except no 28-gauge material is allowed:

Diameter (inches)	Standard Spiral Gauge		Single-Rib Spiral Gauge 0-10" w.g.
	0-2" w.g.	2-10" w.g.	
3-8	28	26	--
9-14	28	26	28
15-26	26	24	28
27-36	24	22	28
37-42	22	20	28

8. Duct shall be provided in continuous, un-joined lengths wherever possible. Except when interrupted by fittings, round spiral duct sections shall not be less than 12 feet long. Round spiral pipe and fittings greater than 24" diameter shall have flanged connections. All double-wall rectangular ductwork shall have flanged connections. Flanges for double-wall duct shall also hold the inner liner of dual wall duct concentric without the use of additional couplings or spacers.
9. Duct shall be double-wall, spiral, lock seam construction. Where rectangular take-offs for registers are shown, a tack-welded factory- installed take-off shall be provided. Exposed duct shall have "paint grip" finish suitable for field painting. Exposed ductwork shall be "Architectural" grade and shall receive special care in construction and shipping.
10. Double-wall round shall be used where indicated and shall be of spiral lock seam construction with an airtight outer pressure shell, a 3" thick insulation layer, and a solid inner liner that completely covers the insulation throughout. Fittings to have solid inner liner.
11. Unless otherwise specified, all double-wall duct and fittings shall be a minimum G90 galvanized sheet metal. All spiral pipe used for inner and outer shells shall have 3 intermediate ribs and be fabricated in accordance with ASTM A525 and A527 specifications in the following minimum gauges:

Nominal Duct Size	Inner/Outer Shell (Gauge)	Inner Shell (Gauge)
3-24	26	26
25-34	24	26

35-42	22	26
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12. Fittings for double-wall duct shall be of the following minimum gauges:

Nominal Duct Size	Inner/Outer Shell (Gauge)	Inner Shell (Gauge)
3-34	22	24
35-48	20	22

13. Round fittings may be spot welded and bonded.

14. Insulation shall have the following UL rating:

- a. Flame Spread: 10-20
- b. Fuel Contributed: 10-15
- c. Smoke Developed: 0-20

15. Round spiral duct and fittings shall be "UNITED MCGILL CORPORATION," "VORTEX METAL MANUFACTURING," "HAMLIN SHEET METAL," "SEMCO MANUFACTURING," "LINDAB," or "EASTERN SHEET METAL."

16. Round ductwork shall not be delivered to the job site until just prior to erection. Ductwork with dents or other damage shall not be accepted. Double-wall acoustically-lined ductwork shall be removed from the job site and shall not be used if liner is allowed to become wet to any degree.

17. Rectangular low velocity ductwork shall be constructed from galvanized steel sheets of lock form quality per ASTM A653 with a G90 zinc coating (0.60 oz/ft²), unless otherwise shown on the contract documents. Sheets shall be free of pits, blisters, slivers, and ungalvanized spots.

18. Insulated-flexible acoustical air ducts shall be FLEXMASTER USA "1M," THERMAFLEX "M-KE," or equal, suitable for up to 10" w.g. positive pressure and rated velocity of 5500 FPM. Flexible ductwork shall meet NFPA 90A standards, conform to UL standard 181, and be ETL listed Class 1 air duct. Flexible duct shall have a flame spread of less than 25 and smoke developed of less than 50. Flexible ductwork shall be fabricated with a polyethylene or chlorinated polyethylene inner film, wrapped in 2" thick with a thermal conductance of R-6 fiberglass insulation, with an outer reinforced metallized vapor barrier. The inner film shall be supported by a corrosion resistant galvanized steel helix formed and mechanically locked to the polyethylene fabric. The inside bend radius shall be 1/2 x inside diameter in all sizes. Flexible branch ductwork to diffusers shall be limited to maximum length of 5 feet long and maximum velocity of 600 feet per minute. Contractor to provide proper flex duct size to ensure velocity limit is not exceeded. Support flexible ducts a minimum of every 4 feet. Supports shall not compress or constrict the flexible duct. Refer to the diffuser installation details on the drawings.

19. Provide flexible connections of fiberglass between ducts and air-handling unit connections and fan powered VAV boxes. Connector shall be constructed using double lock gripping fingers at metal to fabric contact. Connector shall be rated airtight and watertight up to 10" w.g. positive to 10" w.g. negative pressure. Provide flexible connections, not less than 4 inches wide, constructed of approved fireproof, waterproof, non-asbestos, glass fabric, at the inlet and outlet connection of each fan unit, securely fastened to the unit and to the ductwork by a 24-gauge galvanized steel band provided with tightening screws. Insulation on flexible connections shall be stretched over the metal band and taped to the inlet and outlet connections of the VAV terminal unit. There shall be no metal-to-metal contact at flexible connections. There shall be no stretching of the flexible material at flexible connections. Flexible duct connections at variable air volume terminals shall be a maximum of 3 feet long. The connection shall be UL listed, to meet NFPA 90A and 90B requirements and the following applications:

- a. Indoor: Neoprene coated glass fabric, minimum 30 oz./sq.yd.
 - b. Outdoor: U.V. resistant Hypalon coated glass fabric, minimum 24 oz./sq.yd.
 - c. Flexible connections shall be DUCTMATE "ProFlex," DURODYNE "Flexible Duct Connector," KINETICS "KINFLEX," or equal.
20. Space suspended duct hangers and roof mounted duct supports every 4 feet, maximum. Insulated duct shall have saddle hangers. Suspended duct hangers attached to the side of the ductwork are acceptable. Refer to duct support details on the drawings.
 21. Fabricate ductwork with airtight joints, presenting smooth surface on inside, neatly finished on outside. Unless otherwise indicated, provide square or rectangular elbows and provide double wall turning vanes in all elbows. Deflecting vanes shall be double wall blades, fit into side rails, and screw or rivet to duct elbow in field. Blades and side strips shall be small or large double vanes as detailed in SMACNA Duct Manual. Turning vanes shall be DUCTMATE "ProRail," AERODYNE "H-E-P Turning Vanes," DURODYNE "Vane and Rail" or equal.
 22. Construct, brace, and support ducts and air chambers in a manner that they will neither sag nor vibrate to any perceptible extent when fans are operating at maximum speed or capacity.
 23. Provide sandwich type or square framed access doors for service temperature and pressure required, where indicated and where not indicated, in locations and of sizes which shall afford easy access to multi-blade dampers, smoke detectors, fire dampers, and other equipment and devices requiring inspection and servicing. Access doors shall be installed to avoid lights, piping, conduit, ceiling grid, etc., to provide unobstructed access. Access doors shall be installed on the underside of the ductwork. Access doors shall be a minimum of 24" x 18" where possible. Access doors in all factory fabricated ductwork shall be factory installed and sizes and locations shall be identified on the ductwork shop drawing submittal. Duct access doors shall be DUCTMATE "Sandwich Access Door," GREENHECK "CAD-10," ACUDOR "CD-5080," or equal.
 24. Connect ductwork to intake and discharge louvers, dampers, and other work installed in various trades requiring sheet-metal connections.
 25. Make sheet-metal connections to masonry work airtight and watertight in approved manner.
 26. Provide opposed-blade dampers for control of air volume and for balancing system, where indicated or required. Dampers shall be of sheet metal at least one gauge heavier than duct and reinforced; shall be installed in an accessible location. Provide indicating quadrant and locking device for adjusting and locking dampers in position. Provide extended shafts on all volume dampers greater than the thickness of the insulation to provide free movement of damper positioner. Stiffen duct at damper location; install damper in manner to prevent rattling.
 27. Where dampers are located above inaccessible ceilings, provide remote cable operated volume damper for control and balancing of air volume. The damper shall be constructed of galvanized steel. The inner wire of the casing shall be stainless steel with tensile strength of 260,000 lbs. For application where the diffuser or grille is installed in hard ceiling below 16'-0" AFF, the adjustable controller shall be installed on either the diffuser or grille face, or mounted to the ceiling surface. Otherwise, provide 50' cable and locate adjustable controller concealed in wall with 3-3/4" cover plate. A list of acceptable manufacturers is listed below:

Manufacturer	Damper Model	Diffuser/Ceiling Mounted Controller	Wall Mounted Controller
UNITED ENERTECH	BO-RI	BO-150	BO-702
DURODYNE	DuroZone	CSB	WSB
METAIRTECH	RT-250	RT-CCM	RT_CCS

28. Provide square to round transition fittings with balancing dampers at all round duct take-offs to supply diffusers and registers.
29. Duct sizes are inside free area. Increase duct sizes as required.
30. Ductwork and accessories shall not be delivered to the job site until just prior to erection and shall be stored in an approved manner.
31. All ductwork shall be internally cleaned by vacuuming prior to installation.
32. All ductwork open ends shall be sealed with polyethylene and duct tape during construction after hanging.

B. Grilles, Registers, and Diffusers:

1. Refer to drawings for types, material, models, finishes, and manufacturers. Air devices shall have performance characteristics (throw, noise, and pressure drop) equal to air devices scheduled on the drawings. Provide performance data with submittal. PRICE, TITUS, GREENHECK, or equal.
2. Grille and register frames and louvers shall be one-piece construction.
3. Paint interior surfaces of ducts behind grilles and registers with flat black enamel.

C. Dynamic 1.5 Hour Fire Dampers:

1. This section contains dynamic curtain-style fire dampers meeting requirements of UL 555 7th Edition. Fire dampers shall be GREENHECK "DFD-110," RUSKIN "DIBD2," POTTORFF "VFD-10D," or equal.
2. Submit the following manufacturer's product data:
 - a. Include UL ratings for fire resistance, velocity, differential pressure, size limitations and mounting orientation.
 - b. Indicate materials, construction, and dimensions.
 - c. Verify conformance to latest versions of NFPA 80, 90A, and 101.
 - d. Include pressure drop data for all damper sizes in accordance with AMCA 500-D test figures 5.2 (Ducted Inlet, Free Outlet), 5.3 (Ducted Inlet, Ducted Outlet) and 5.5 (Free Inlet, Free Outlet).
 - e. Include a copy of UL Installation Instructions.
3. Dampers shall be tested, rated, and labeled in accordance with UL 555 (Seventh Edition), Listing R13317.
4. Performance:
 - a. Dampers shall have a UL 555 fire resistance rating of 1½ hours.
 - b. Each fire damper shall be equipped with a factory installed heat responsive device (fusible link) rated to close the damper when temperature at the damper reaches 165°F.
 - c. Dampers shall have a minimum UL 555 differential pressure rating of 4 in. w.g.
 - d. Dampers shall have a minimum UL 555 velocity rating of 2000 fpm.
5. Construction
 - a. Frame: Galvanized steel in gauges required by manufacturer's UL listing.
 - b. Blades: Galvanized steel curtain style.
 - c. Sleeve: Damper shall be supplied with a factory sleeve.
 - d. Retaining Angles: Damper shall be supplied with factory retaining angles sized to provide installation overlap in accordance with the manufacturer's UL listing.
 - e. Fire Closure Device: Damper shall be supplied with fusible link.
 - f. Mounting: Dampers shall be mounted horizontally or vertically depending on the application. Refer to the Contract Drawings for required orientation.

- g. Finish: Galvanized steel.
- 6. Installation
 - a. Install dampers in accordance with manufacturer's UL Installation Instructions, labeling, and NFPA 90A at locations indicated on the drawings. Any damper installation that is not in accordance with the manufacturer's UL Installation Instructions shall be approved prior to installation.
 - b. Dampers shall be accessible to allow inspection, adjustment, and replacement of components. The sheet metal contractor shall furnish any access doors in ductwork or plenums required to provide this access. The general contractor shall furnish any access doors required in walls, ceilings, or other general building construction. Dampers shall be provided with an access door that is not less than 12 inches square or provided with a removable duct section. Access doors shall be permanently identified on the exterior face with a 1" tall label.
 - c. Install dampers square and free from racking.
 - d. Do not compress or stretch the damper frame into the duct or opening.
 - e. Attach multiple damper section assemblies together in accordance with manufacturer's instructions. Install support mullions as reinforcement between assemblies as required.
 - f. Handle dampers using the frame or sleeve. Do not lift or move dampers using blades, actuator, or jackshaft.
- 7. All fire dampers must be "drop tested" in the presence of a representative of the Newport News Building Inspection Department.

D. Series Fan-Powered Variable Air Volume Terminal Boxes:

- 1. Terminal boxes shall be size, type, and capacity indicated on drawings. TRANE CO., or equal by PRICE, TITUS. Units shall be series fan-powered type as indicated. Units shall be ARI certified. Submit sound level data indicating radiated and discharge NC levels for each terminal unit at design airflows.
- 2. Units shall be complete with insulated casing, electric air valve, and direct digital controls. The direct digital controls shall be furnished by the Temperature Control Contractor and factory installed by the unit manufacturer.
- 3. Casing: Provide 22-gauge, acoustically lined, galvanized-steel casing. Lining shall be 1" thick, 1.5-lb. per cubic foot density, foil faced, fibrous glass which meets requirements of NFPA 90A. Provide access panel for access to air valves.
- 4. Primary Air Valve: Provide cylindrical volume control device with electric actuator. Valve inlet shall be 18 gauge steel cylinder sized to fit standard round flexible ductwork. Maximum leakage rate shall be 1% at 4" w.c. pressure differential. Provide with multiple point averaging flow sensor to provide primary airflow measurement within $\pm 5\%$ of rated unit airflow with 1-1/2 diameters of straight duct upstream of unit. Provide integral flow taps and calibration chart on each unit.
- 5. Fan shall be forward-curved blade, with direct-drive, ECM motor, and disconnect switch.
- 6. Provide 1" fiberglass media filter with filter frame in plenum intake or ducted inlet as indicated.
- 7. Electric Reheat Coil: The coil shall factory provided and mounted on the discharge outlet. The coils have a resistance open-type heater with a disc-type automatic reset thermal primary safety device. Heater element material is nickel-chromium. Provide heaters with the following options:
 - a. Mercury Contactor: An electric heater contact for use with direct digital control or analog electronic controls.

- b. Airflow Switch: An air pressure device designed to disable the heater when the unit fan is off.
 - c. Line Fuse: A safety fuse located in the electric heater's line of power to prevent power surge damage to the electric heater. A line fuse shall be provided for the fan motor to prevent power surge damage to the motor.
 - d. Disconnect Switch: A factory provided disconnect switch with an interlocking door on the heater control panel.
- 8. Units shall have removable access panel or access door for service access.
 - 9. Units shall be installed with strict attention paid to manufacturer's recommended length of straight inlet duct.
 - 10. Automatic Controls: Provide factory-installed automatic (direct digital) controls provided by the control vendor. The control vendor shall furnish and variable volume terminal unit manufacturer shall install Direct Digital Controller. Controller shall provide the sequence of operation specified. Controller shall provide the required signals to achieve pressure independent operation throughout the specified volume range of the unit. Variable volume terminal unit manufacturer shall examine terminal unit locations indicated on drawings and shall locate controllers on most accessible side of unit. All costs associated with factory mounting of vendor's controls shall be included in this Section.

2.08 VIBRATION ISOLATION

- A. Mechanical equipment indicated below shall be isolated from the structure by resilient vibration and noise isolations. Equipment to be isolated includes, but is not limited to, the following:
 - 1. Packaged Rooftop Unit
 - 2. Series Fan-powered VAV
- B. Vibration Isolation Rail System:
 - a. Packaged Rooftop Unit shall be mounted on spring mountings, including the neoprene acoustical pad within a rigid housing that includes vertical limit stops to prevent spring extension when weight is removed and temporary steel spacers between the upper and lower housings. Housings shall serve as blocking during erection. When the equipment is at full operating weight, the springs shall be adjusted to assume the weight and the spacers removed, without changing the installed and operating heights. All restraining bolts shall have large rubber grommets to provide cushioning in the vertical as well as horizontal modes. The hole through the bushing shall be a minimum of 0.75" (20mm) larger in diameter than the restraining bolt. Horizontal clearance on the sides between the spring assembly and the housing shall be a minimum of 0.5" (12mm) to avoid bumping and interfering with the spring action. Vertical limit stops shall be out of contact during normal operation. Housings and springs shall be powder coated and hardware electro-galvanized. Mountings shall be SLRSO as manufactured by Mason Industries, Inc.
- C. Hanger and Guide Supports:
 - 1. Spring Isolators:
 - a. Series fan powered variable air volume terminal units shall be suspended with vibration spring isolators. Isolators shall be MASON "30N," VIBRO-ACOUSTICS "SHRB," KINETICS "SRH," or equal.

- b. Hangers shall consist of rigid steel frames containing minimum 1-1/4" thick neoprene elements at the top and a steel spring seated in a steel washer reinforced neoprene cup on the bottom. The ratio of the spring diameter divided by the compressed spring height shall be no less than 0.8. Springs shall have a minimum additional travel to solid equal to 50% of the rated deflection. The neoprene element and the cup shall have neoprene bushings projecting through the steel box. To maintain stability, the boxes shall not be articulated as clevis hangers, nor the neoprene element stacked on top of the spring. Spring diameters and hanger box lower hole sizes shall be large enough to permit the hanger rod to swing through a 30° arc from side to side before contacting the cup bushing and short circuiting the spring.
- D. Rooftop Acoustical Systems: Provide acoustical material inside the roof curb as indicated on the Contract Drawings. Acoustical material shall be furnished by the isolation curb manufacturer, and consist of the following:
 - 1. Vibration Isolation Rail System: Provide 2 layers of moisture resistant 5/8" gypsum board on top of 3/8" x 1-3/4" foam pads. Foam pads shall be mounted on 2" aluminum channel that extends the width of the curb rail. The aluminum channel shall be installed above the spring isolator to attenuate acoustical vibrations translated through the roof curb.
 - 2. Provide 2" thickness ROCKWOOL "AFB," OWENS-CORNING "705," or JOHNS MANVILLE "Insul-SHIELD" acoustic batt insulation with 2.8 lbs./sf density on top of the gypsum board.
- E. Low Voltage Condensate Overflow Shut-off Switch
 - 1. Low voltage condensate overflow shut-off switches shall be installed on all condensate drain pans as manufactured by RECTORSEAL "AquaGuard," LITTLE GIANT "ACS-2," ASURITY "CC-1," or equal.
 - 2. Mechanical equipment without adequate pan clearance to install a primary drain pan switch shall provide a switch installed on the primary drain pan outlet. The condensate shut-off switch shall detect downstream clogs in condensate drains and interrupts the thermostat circuit to shut off the unit before flooding occurs. Switch shall be RECTORSEAL "Safe-T-Switch," LITTLE GIANT "ACS-5," ASURITY "CS-1," or equal.
 - 3. The condensate shut-off switch shall detect rising water in condensate drain pans and interrupts the thermostat circuit to shut off the unit before flooding occurs. The device shall be installed on the primary drain pan rim with a two-piece clamp system that does not require drilling.
 - 4. The switch shall incorporate a high capacity 5-amp, 24-volt AC magnetic float switch in a fully housed protective cover. The housing shall include a pull up test knob for functional testing of system.
 - 5. The switch shall include an alarm wire to connect to the BAS. The switch shall send an alarm signal to the BAS front-end workstation. The mechanical contractor shall be responsible for coordinating the switch connections with the controls contractor.
 - 6. The switch shall be UL Listed to comply with UL 508.
- F. Bipolar Ionization
 - 1. This section describes the design, performance, and installation of a needlepoint bipolar ionization (NBPI) air purification system intended for use as part of another manufacturer's air handling unit or mounted on the duct as shown on the plans, details, and equipment schedules.
 - 2. Project Design
 - a. Maximum ozone emissions shall be in accordance with limits stated in UL 2998. Provide products listed as UL2998-compliant.

- b. Provide ionization device that does not require preheat protection when relative humidity of entering air exceeds 85%. Device shall be suitable for relative humidity from 0-100%, condensing, without causing damage, deterioration, or dangerous conditions within air ionization system.
 - c. Provide systems that produce positive and negative ions. Unipolar ionization devices are unacceptable.
 - d. Device shall be tested by UL, proving compliance with UL 2998 ozone standard when tested using UL 867 (5th edition) methodology. Perform large chamber testing and peak ozone test for electronic devices in accordance with UL 2998.
 - 1) Demonstrate interior ion concentration levels, both positive and negative collectively, to minimum 2000 ions/cc measured 5 ft from floor where air is delivered from the duct system
 - 2) Provide ionization systems suitable for air exchange rates through full operating range of constant volume or variable air volume (VAV) system.
 - 3) Minimum air velocity: 300 fpm
 - e. Provide ionization device enclosures constructed of corrosion-resistant, non-metallic materials. Configure enclosure without thermal bridging. Provide units certified to UL 2998.
 - f. Provide ionization units having manufacturer's recommended number of electrodes and power generators, sized to system air flow.
 - g. Electrodes shall consist of carbon fiber clusters having minimum 45000 needles each.
 - h. Ionization system shall be energized continuously.
 - i. Additional Design Requirements for Non-Auto Coil Cleaning Installations:
 - 1) Multi-voltage input shall allow 24V or 110-240VAC power supply.
 - 2) Provide magnets for mounting ionization system to fan inlet.
 - 3) Provide integral alarm dry contacts, SPST (NO), rated 0.3 A at 125VAC.
 - j. Additional Design Requirements for Auto Coil Cleaning Installations:
 - 1) Provide electrodes in six-inch sections for field assembly by installer to cover entire finned width of coil.
 - 2) Provide one modular ionization bar for every 5ft. of coil height.
 - 3) Electrode spacing shall be 0.5 to 1 inch apart.
 - 4) Output shall be 140 million ions/cc per inch of bar, measured 1 inch from carbon fiber brushes.
 - 5) Ionization Bars:
 - a) Length shall be 12 ft. maximum
 - b) Provide ac power supply for field installation, capable of powering four ionization bars requiring 20W each.
 - c) Include integral on/off switch and LED "power on" light.
 - d) Include BAS interface alarm dry contacts, SPST (NO), rated 1A at 250VAC.
 - e) Power source shall be 24VAC, 110VAC, or 208-240VAC.
 - f) Power supply enclosure class shall be NEMA 250, Type 4.
 - k. NPBI devices shall be provided with internal short-circuit protection, overload protection, and automatic fault reset circuit breakers.
3. General Installation
- a. Position each electronic air cleaner unit with clearance for service and maintenance. Anchor electronic air cleaners to substrate.

- b. Install air cleaner devices between upstream filter and cooling coil. Where unit configuration does not allow this installation location, air cleaner devices shall be installed upstream or downstream of supply fan.
- 4. Factory-fabricated, modular bipolar ionization device
 - a. Subject to compliance with requirements, provide GPS “i-MOD,” PHENOMENAL AIRE “Series C Universal,” ATMOSAIR “ActiveOx R” or equal.
 - b. Capacity and Characteristics
 - 1) Materials: Composite and carbon fiber
 - 2) Capacity: 50 to 250 cfm per inch of length
 - 3) Voltage selector switch and illuminated on-off switch
 - 4) LED operational status light
 - 5) Six high-voltage output connections
 - 6) Alarm contacts: SPDT, dry
 - 7) Auxiliary terminals for connections of remote ion sensor
 - 8) Temperature range: -40°F to 140°F
 - 9) Relative humidity range: 0-100%
 - 10) Power Entry: UL listed, line cord with three-prong plug
 - 11) Power unit dimensions: 9" L x 3.25" W x 4.75"H
 - 12) Ionizer bar dimensions: 1.6"H x 0.75" W
 - a) Length per section: 6 inches, having nine brushes per section
 - b) Maximum assembled bar length: 144 inches
 - c) Provide rare earth magnets for mounting
 - 13) Power unit weight: 4.63lb
 - 14) Ionizer bar weight: 0.24lb per 6-inch section
 - c. Electrical Characteristics
 - 1) Electrical Listings: UL/ETL
 - 2) Compliance and Certifications: IAQP, UL 867, UL 2043, UL 2998
 - 3) Input voltage: 24V AC or DC, 110VAC, 240VAC
 - 4) Amperes: 0.5A at 24V, 0.12A at 110V, 0.1A at 240V
 - 5) Output power: 5 kV RMS
 - 6) Total ion output: 140 million ions/cc per inch of bar, measured 1 inch from carbon fiber brushes
 - d. Provide ion sensor compatible with ionization device.
 - e. Provide one ionization bar assembly on each coil up to 60 inches in height. Space bars maximum 60 inches apart. Install bar to cover entire finned width of coil to nearest 6 inches without exceeding finned width of coil.
- 5. Auto-cleaning NBPI device for unit mounting
 - a. Subject to compliance with requirements, provide GPS “FC24-AC,” PHENOMENAL AIRE “Series C-6,” ATMOSAIR “ActiveOx R” or equal.
 - b. Capacity and Characteristics
 - 1) Materials: Nonmetallic composite with carbon fiber ion emitters
 - 2) Capacity: 0-2400 cfm
 - 3) Provide integral alarm dry contacts, SPST (NO), rated 1.0A at 250VAC
 - 4) Provide inline on-off switch and programmable autocleaning cycle
 - 5) Temperature range: -20°F to 140°F

- 6) Relative humidity range: 0-100%
- 7) Power unit dimensions: 7.9" L x 1.1" W x 5"H
- 8) Ionizer unit weight: 1.25lb
- c. Electrical Characteristics
 - 1) Electrical Listings: UL
 - 2) Compliance and Certifications: IAQP, UL 867, UL 2043, UL 2998
 - 3) Input voltage: 24VAC to 240VAC
 - 4) Power Consumption: 4W operating, 8W cleaning
 - 5) Output power: 2 kV RMS
 - 6) Total ion output: 300 million ions/cc, measured 1 inch from carbon fiber brushes
- d. Provide rare earth magnets for mounting.
- e. Provide ion sensor compatible with ionization device.
- f. Install ionization emitter perpendicular to air flow direction. Mount so ion emitters are exposed to, and perpendicular to, airstream. Mount ion emitters so airflow passes between them.

PART 3 - EXECUTION

3.01 TESTS

- A. Refer to Section 230593 "Testing, Adjusting and Balancing" for related requirements.
- B. At their discretion, the Owner shall be represented at all tests. Contractor shall provide 48 hours' notice to the Owner prior to the tests unless otherwise specified.
- C. Before insulation is installed and before piping is concealed, test water piping hydrostatically and prove tight under 100 psig pressure. Test pressure shall be held for minimum of 8 hours. An air test in lieu of water may be used when danger of freezing is possible and when approved.

3.02 EQUIPMENT COORDINATION

- A. The Prime contractor shall conduct an HVAC Coordination meeting after submission of the HVAC equipment, fire alarm, and controls submittals to the Engineer, and prior to the return of the reviewed controls submittal to the Prime Contractor. The Prime Contractor shall coordinate the meeting time, date, and location with all parties, provide a written agenda, provide written meeting minutes, and provide a detailed issues summary (if unresolved issues remain open after the meeting).
- B. The Prime Contractor shall provide follow-up action as required with the following in mandatory attendance:
 - 1. Prime Contractor Project Manager and Project Superintendent
 - 2. Equipment manufacturer technical services representative (not a sales representative)
 - 3. Controls contractor technical services representative (not a sales representative)
 - 4. Mechanical engineer
 - 5. Owner's representative
 - 6. Fire alarm system representative
- C. The purpose of this meeting is to review equipment, control sequences, and the selected manufacturer's available control points. Upon completion of this meeting, the General Contractor shall be required to submit a meeting report detailing all discussed issues and coordinated

solutions. Any unresolved issues shall require another mandatory meeting to ensure all items have been considered and coordinated prior to construction.

3.03 DUCTWORK LEAKAGE TESTING

- A. Test all medium pressure supply duct systems to determine the leakage in the systems. The leakage testing shall be performed in accordance with the requirements of SMACNA - ADLTM in presence of Owner or Owner's Representative.
- B. Coordinate test opening size requirements with the test equipment.
- C. Coordinate scheduling of tests and all preparations for tests with the Engineer and Owner. The Contractor's air balancing Contractor and Owner shall witness all leak tests.
- D. All medium pressure supply air ductwork shall be leak tested at 3.0" w.c. Allowable leakage shall be in accordance with SMACNA HVAC Air Duct Leakage Test Manual.
- E. The air balancing Contractor shall review the test results and provide recommendations for repair and/or modification to any systems which do not meet the allowable leakage rate criteria. Once repairs and/or modifications are complete, the Contractor shall repeat the leakage testing. This process shall continue until the system meets or exceeds the allowable leakage rate criteria. Additional testing shall be performed at the Contractor's expense.
- F. Leakage testing shall be performed prior to above ceiling Punch List, insulation of the ductwork and installation of the finished ceilings.
- G. Forward all test results to the Engineer for review. Provide copy of all tests to Owner upon completion.

END OF SECTION

ADDENDUM NO. 1

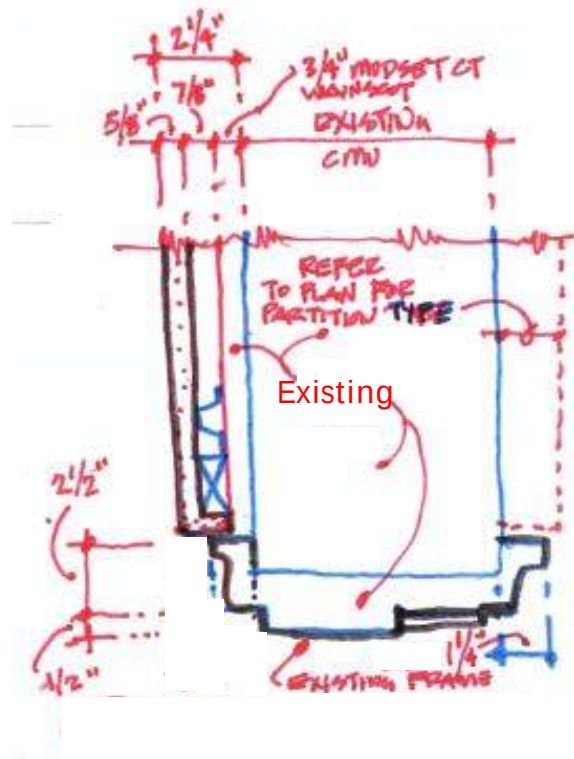
Invitation to Bid: IFB #011-0-2026/SB
QE Project Number 42025321 Campus For Student Success Multi-Purpose Room Renovations

Receipt Date/Time: November 14, 2025, at 2:00 PM

Opening Date/Time: November 14, 2025, at 2:00 PM

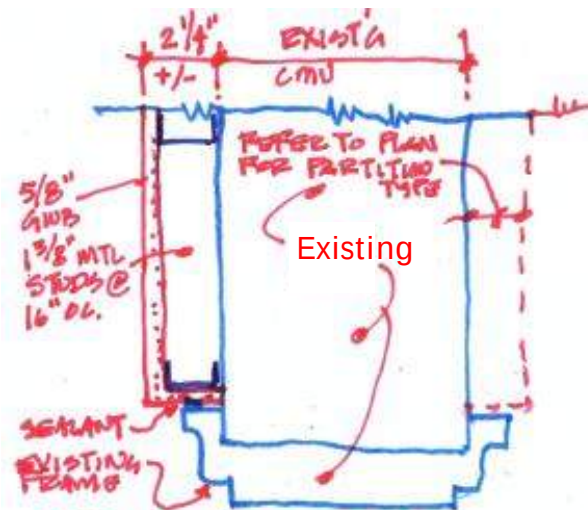
Subject: Questions and Responses to Bidder questions, Specifications, and Drawings Revisions

The sketches below shall be added to drawing A104.



Jamb Detail Typical 14/Drawing A104

Condition noted is from FF to top of CT wainscot @ +4'-6" AFF



Jamb Detail Typical 15/Drawing A104

Condition noted is above CT wainscot to 4" above ceiling height.

Supplemental Architectural Sketch SA-1, dated October 31, 2025 **Addendum #1**

GENERAL NOTES

1. DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED U.N.O., REMOVAL OF PARTITIONS INCLUDES REMOVAL OF ALL ITEMS FIXED TO PARTITIONS (DOORS, CASEWORK, ELECTRICAL, PLUMBING, ETC). EXTENT OF SELECTIVE DEMOLITION SHALL BE AS REQUIRED FOR INSTALLATION OF NEW WORK. EXISTING WORK TO REMAIN, IF DAMAGED BY DEMOLITION OPERATIONS, SHALL BE REPAIRED TO MATCH ORIGINAL SURFACE CONDITION OR AS INDICATED IN THE DRAWINGS.

2. PRIOR TO REMOVAL OR MODIFICATION OF WALLS OR OTHER LOAD BEARING ELEMENTS, THE ACTUAL SIZE AND LOCATION OF THE STRUCTURAL COMPONENTS AND LOAD BEARING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR BY MEANS OF SELECTIVE DEMOLITION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY UNUSUAL OR HAZARDOUS CONDITION INCLUDING BUT NOT LIMITED TO CRACKS, ABSENCE OF BRACING, OR LOOSE ELEMENTS AND COMPONENTS.

3. CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO SAFELY SUPPORT ALL LOADS, INCLUDING ROOF LOADS, AND TO MAINTAIN EXISTING FRAMING TO REMAIN IN ITS EXISTING LOCATION WHILE MAKING MODIFICATIONS REQUIRED UNDER THIS CONTRACT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

4. REFERENCE MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR REMOVAL OF ALL EQUIPMENT, FIXTURES, DEVICES, WIRING, PIPING, ETC. DEMOLISH ALL EXISTING WIREMOLD. ABANDONED PIPING AND CONDUIT SHALL BE CAPPED IN CONCEALED LOCATIONS AFTER BEING SECURED IN PLACE. PATCH EXPOSED WALLS BEHIND REMOVED EQUIPMENT, INCLUDING LARGER AREAS OF WALL WHERE ELECTRICAL PANELS ARE BEING REMOVED FROM WALLS TO REMAIN IN PLACE, ACCORDING TO GENERAL NOTE 6A. AT ALL AREAS WHERE NEW PIPING OR CONDUIT IS BEING INSTALLED IN AN EXISTING WALL, DEMOLISH THE EXISTING WALL AS REQUIRED AND PATCH WITH NEW WALL TO MATCH EXISTING. TOOTH-IN NEW MASONRY AS REQUIRED TO ACHIEVE AN "AS NEW" CONDITION.

5. TYPICAL DEMOLITION, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:

A. WALLS/PARTITIONS: REMOVE ENTIRELY WHERE SHOWN DASHED. WHERE WALLS ARE INDICATED TO REMAIN, REMOVE ALL ITEMS MOUNTED TO WALL. AT INTERSECTIONS OF ONE OR MORE WALLS TO BE REMOVED OR WHERE NEW DOOR OPENINGS ARE CUT, REPAIR REMAINING EXPOSED MASONRY SURFACES BY TOOTHING NEW MASONRY INTO EXISTING COURSING AND/OR REPAIR SURFACE OF DRYWALL TO ACHIEVE AN "AS NEW" CONDITION. WHERE FRAMES, LINTELS, AND PORTIONS OF EXISTING MASONRY WALLS ARE SCHEDULED TO BE REMOVED, REPAIR WALLS BY TOOTHING IN MASONRY. AT ALL LOCATIONS WHERE THIS EXISTING MASONRY IS BRICK, REPAIRS SHALL BE MADE WITH SALVAGED BRICK OR BRICK TO MATCH EXISTING TOOTHED INTO EXISTING COURSING. WHERE PARTITIONS EXTEND BELOW FLOOR, REMOVE PARTITIONS TO 8" MINIMUM BELOW FLOOR AND REPAIR EXISTING SLAB. WHERE NEW PARTITIONS ARE SCHEDULED TO BE INSTALLED AT SAME LOCATION AS REMOVED PARTITION REFERENCE STRUCTURAL DRAWINGS FOR DETAILS.

B. WALL BASE: REMOVE BASE MATERIAL FROM ALL WALLS/PARTITIONS INCLUDING ALL OF THOSE EXISTING TO REMAIN. PATCH EXISTING SURFACES AS REQUIRED TO RECEIVE NEW BASE MATERIAL.

C. FLOORS: REMOVE IN ITS ENTIRETY U.N.O. RESILIENT FLOORING (VINYL COMPOSITION TILE), CARPET AND MASTIC. EXISTING FLOORS TO RECEIVE NEW FINISHES SHALL BE PREPARED AS REQUIRED (STRIPPING, GRINDING, FLASH PATCHING, ETC) TO RECEIVE NEW FINISHES. COORDINATE WITH FINISH SCHEDULE. WHERE EXISTING CONCRETE IS NEW FINISH, GRIND SMOOTH AND PATCH EXISTING FLOOR WITH FLOOR LEVELING COMPOUND AND AS REQUIRED IN ALL AREAS WHERE ADJACENT SLABS ARE NOT LEVEL AFTER REMOVAL OF WALLS.

D. CEILINGS AND BULKHEADS: UNLESS NOTED OTHERWISE REMOVE ALL SUSPENDED ACOUSTIC CEILINGS AND GRID SYSTEMS, EXISTING DRYWALL/PLASTER CEILINGS AND SUPPORT ITEMS.

E. DOORS: WHERE BOTH DOORS AND FRAMES ARE SCHEDULED TO BE REMOVED, REMOVE DOORS, LINTELS, FRAMES AND RELATED HARDWARE. WHERE DOORS ARE SCHEDULED TO BE REMOVED, REMOVE DOORS AND RELATED HARDWARE. PREPARE EXISTING TO REMAIN FRAMES TO RECEIVE NEW HARDWARE AND PAINT AS REQUIRED. REFERENCE DEMOLITION PLAN LEGEND AND FRAME SCHEDULE FOR EXISTING FRAME TO REMAIN.

F. FURNISHINGS/EQUIPMENT: CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL CASEWORK AND ALL ITEMS AFFIXED TO WALLS INCLUDING BUT NOT LIMITED TO MARKERBOARDS, TACKBOARDS, SHELVING AND BRACKETS. ANY OTHER FURNISHINGS AND BUILT-IN EQUIPMENT, INTERIOR OR EXT, LEFT IN PROJECT AREA AT TIME OF TURNOVER TO CONTRACTOR SHALL BE REMOVED BY THE CONTRACTOR.

6. AT ALL WALL LOCATIONS WHERE EXISTING CHASE WALL HAS BEEN REMOVED AND THE INTERIOR CHASE WALL IS BEING EXPOSED AND SCHEDULED TO REMAIN, REPOINT CMU AND/OR BRICK AS REQUIRED TO ACHIEVE AN "AS NEW" WALL CONDITION.

7. ALL DIMENSIONS INDICATED IN DEMOLITION PLANS ARE TO FINISHED FACE OF NEW OPENING U.N.O. CONTRACTOR TO COORDINATE EXTENT OF DEMO NECESSARY WITH NEW WORK.

8. GRIND SMOOTH AND PATCH EXISTING FLOOR WITH FLOOR LEVELING COMPOUND AND AS REQUIRED IN ALL AREAS WHERE ADJACENT SLABS ARE NOT LEVEL AFTER REMOVAL OF WALLS. PREPARE FOR INSTALLATION OF NEW FINISHES.

9. AT ALL LOCATIONS WHERE THE EXTERIOR ENVELOPE IS BEING DEMOLISHED OR INFILLED, THE CONTRACTOR SHALL PROVIDE SECURITY CLOSURE AND WEATHER PROTECTION IN ORDER TO SECURE THE BUILDING AND PROTECT IT AGAINST THE ELEMENTS.

10. AT ALL NEW RECESSED FIRE EXTINGUISHER CABINETS TO BE INSTALLED IN EXISTING WALLS, DEMOLISH PORTION OF WALL REQUIRED FOR INSTALLATION OF NEW RECESSED FEC. COORDINATE WITH NEW WORK.

11. AT EXTERIOR FACE BRICK DEMOLITION, SALVAGE AND PREPARE EXISTING FACE BRICK FOR REUSE WITHIN EXISTING INFILL.

DEMOLITION KEYNOTES

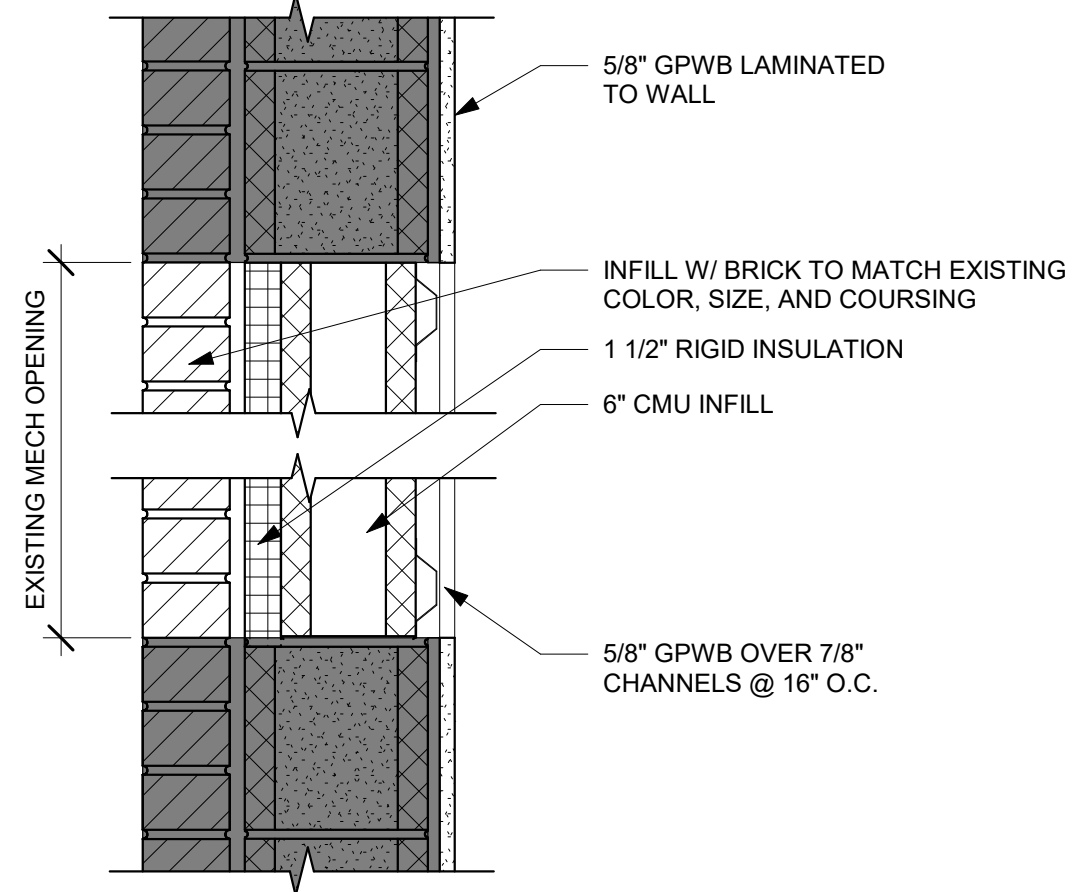
REFERENCE 1/A102

1. REMOVE 6-INCH CMU WALL ENTIRELY AND PATCH THE ADJACENT WALL AND FLOOR AS REQUIRED FOR NEW WORK.
2. REMOVE EXISTING WINDOW TREATMENT AND HARDWARE.
3. REMOVE ALL CURTAINS, TRACK, HARDWARE, PROJECTION SCREENS, HVAC, LIGHTING AND OTHER CEILING MOUNTED COMPONENTS NOT REQUIRED FOR NEW WORK.
4. REMOVAL OF EXISTING ELEVATED STAGE FLOOR STRUCTURE: EXISTING TOP OF FINISHED WOOD FLOOR FOR THE STAGE IS 2'-10"+/- (VIF) ABOVE THE MAIN FLOOR ELEVATION. THE EXISTING WALL SECTION DENOTES BACKFILL OF SOIL FILL MATERIALS AND STONE UNDER STAGE AREA. REMOVE ALL FLOOR AND SLAB MATERIALS AND EXCAVATE TO THE LEVEL REQUIRED FOR NEW WORK.

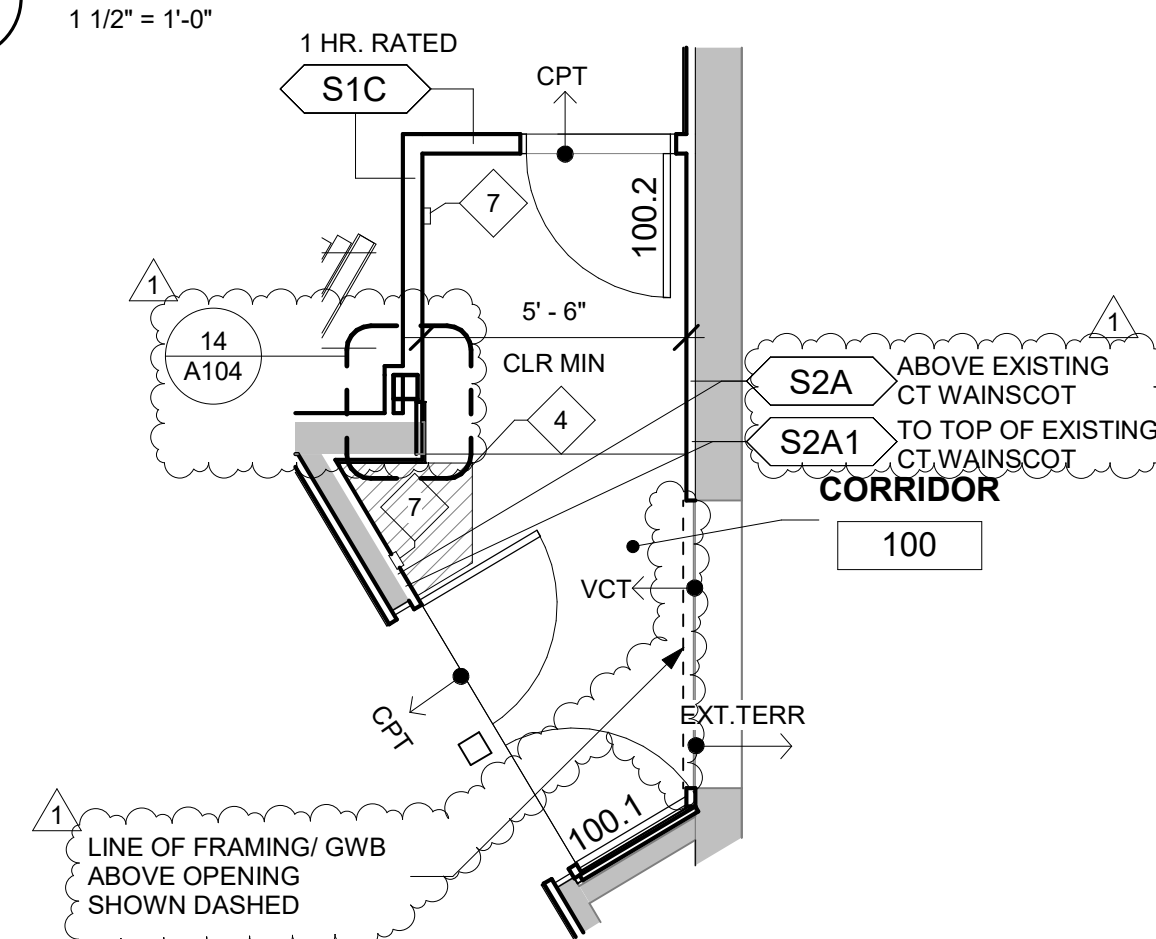
NEW WORK KEYNOTES

REFERENCE 2/A102

1. NEW MASONRY INFILL AT ABANDONED MECHANICAL LOUVER APPROXIMATELY 5'-4" WIDE X 2'-8" TALL - VERIFY DIMENSIONS IN THE FIELD. TOOTH IN NEW BRICK MASONRY TO MATCH EXISTING COLOR AND COURSING.
2. AT CONCRETE STAIR DEMOLITION, REMOVE EXISTING CMU IN PLANE OF BUILDING EXTERIOR WALL AND INFILL AREA COVERED BY STAIR AND LANDING WITH NEW FACE BRICK TO MATCH EXISTING EXTERIOR BRICK WALLS.
3. TOOTH IN NEW CMU AT NEW OPENING IN EXISTING CMU WALLS TO MATCH EXISTING. APPLIES TO NEW OPENINGS AND HOLLOW METAL DOOR JAMBS (BOTH SIDES) AND HEAD.
4. AT REMOVAL OF EXISTING CMU WALLS AT THE NEW OPENING AREA, PATCH TERRAZZO FLOOR SLAB WITH NEW CONCRETE INFILL AND LAMINATE 5/8-INCH GPDW WALL SURFACE OVER EXISTING CMU/TILE WALL. SHIM GYP AS REQUIRED TO PROVIDE A CONSISTENT, VERTICAL SURFACE.
5. APPROXIMATE LOCATION OF DUCT PENETRATION ABOVE CEILING. COORDINATE LOCATION MECHANICAL INSTALLATION. REFERENCE DETAILS ON SHEET A104.
6. INFILL DUCT LOCATION IN EXISTING 6-INCH CMU WALL. TOOTH IN NEW MASONRY TO MATCH WALL COURSING.
7. NEW DOOR ACCESS CONTROL CARD READER. ROUGH IN AS NOTED ON ELECTRICAL DRAWINGS. CABLING AND READER CONTROLS AND HARDWARE BY OWNERS.
8. DIGITAL PROJECTOR CONTROL LOCATION. ROUGH IN AS NOTED ON ELECTRICAL DRAWINGS. CABLING, CONNECTIONS AND HARDWARE BY OWNER.
9. FURNISH AND INSTALL 6'-0" TALL, 3/4"-INCH FIRE RETARDANT TREATED PANELS ON WALL FOR MOUNTING AV/IT SYSTEMS.

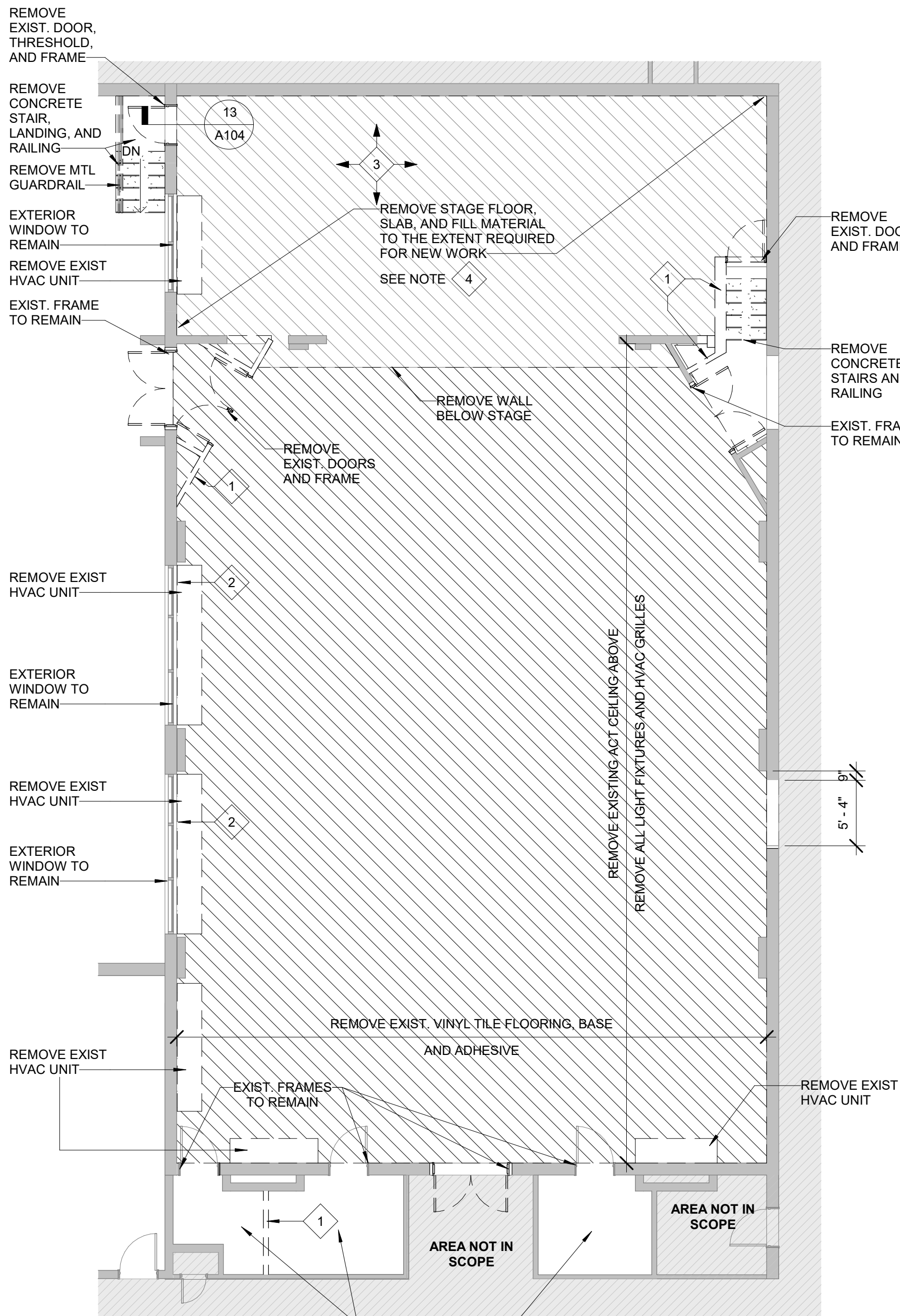


MECH. VENT INFILL DETAIL



ENLARGED VIEW - NEW WORK

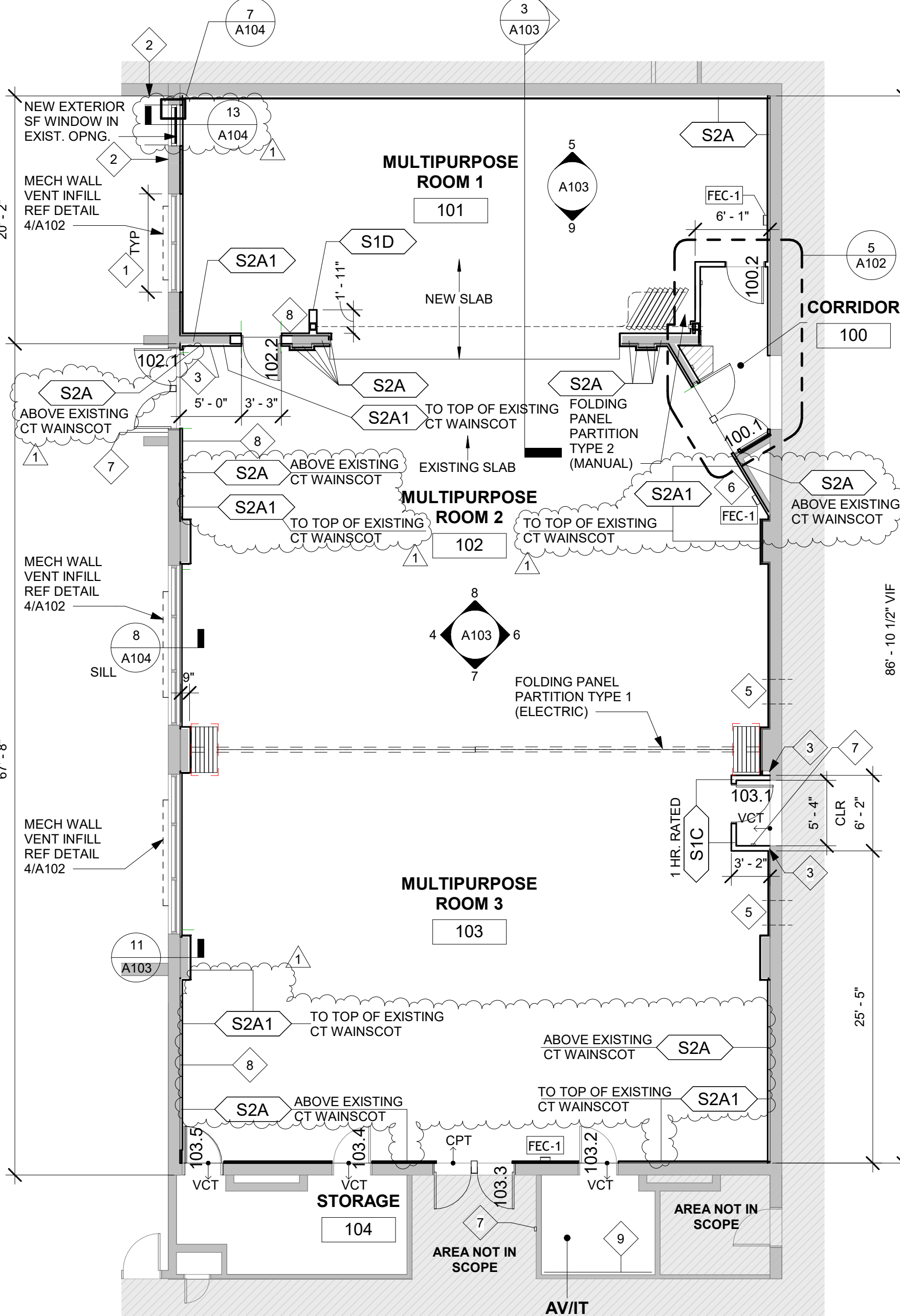
1/4" = 1'-0"



GENERAL DEMOLITION NOTES APPLY TO THIS FLOOR PLAN

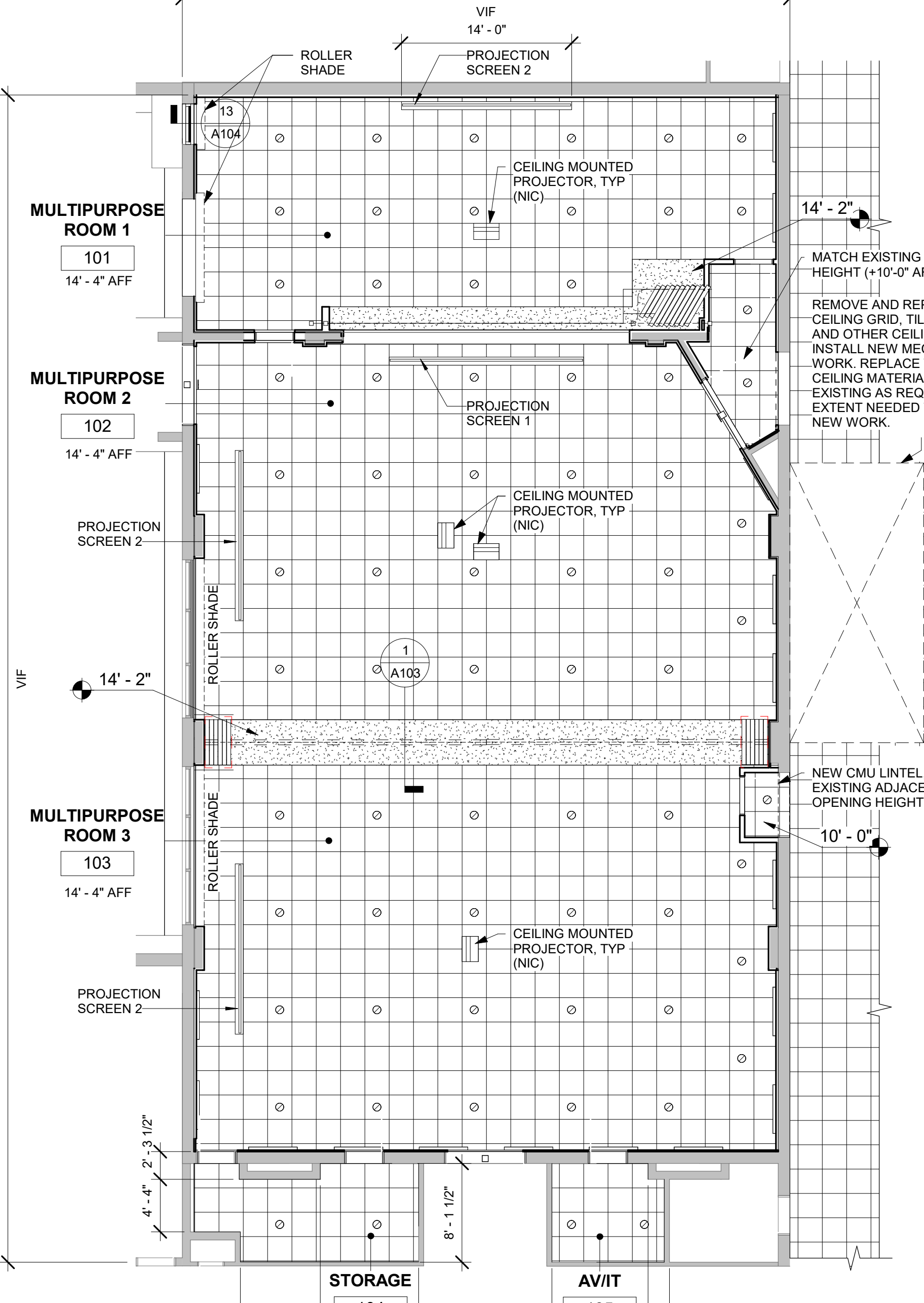
DEMOLITION FLOOR PLAN

1/8" = 1'-0"



NEW WORK FLOOR PLAN

1/8" = 1'-0"



NEW WORK REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL NEW WORK NOTES

1. DIMENSION ARE TO FINISH FACE UNLESS INDICATED OTHERWISE.
2. INTERIOR PARTITIONS TO BE:
 - A. TYPE **S2A1** UNLESS INDICATED OTHERWISE.
 - B. ALL INTERIOR EXISTING WALLS TO RECEIVE S2A1 WALL ASSEMBLY ON FULL HEIGHT OF WALL
 - C. ALIGNED WITH ADJACENT CONSTRUCTION WHERE SHOWN.
3. PAINT ALL NEW AND EXISTING WALLS, HOLLOW METAL DOORS AND FRAMES, AND GWB CEILINGS IN NEW WORK AREA
4. AT ALL NEW ELECTRICAL WALL OUTLET BOXES AND ASSOCIATED CONDUITS, ROUTE OR TRENCH OUT CMU/CERAMIC TILE WALL TO CONCEAL NEW WORK WITHIN FINISHED WALL SURFACE
5. INTERIOR FINISHES (REFERENCE SPECIFICATIONS) AND COLORS:

FLOORS:	CARPET AND VCT
WALL BASE:	RUBBER
WALLS:	FIELD COLOR, PNT-1
WALLS:	ACCENT COLOR, PNT
FABRIC WALL PANEL:	FWP-1
CEILING:	ACT-1
6. ALL COLORS SHALL BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE.
7. ALL GWB WALLS - EGGSHELL FINISH
8. ALL CMU WALLS - SEMI-GLOSS FINISH
9. GWB CEILINGS AND BULKHEADS - FLAT FINISH
10. ALL HM DOORS AND FRAMES - SEMI-GLOSS FINISH
11. RUBBER TRANSITION STRIPS - SHALL BE INSTALLED AT NEW AND EXISTING FLOOR FINISH TRANSITIONS.

RCP LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- PARTITION
- ACOUSTIC PANEL CEILING
- GYPSUM BOARD CEILING
- RECESSED CAN LIGHT
- PROJECTOR (NIC)

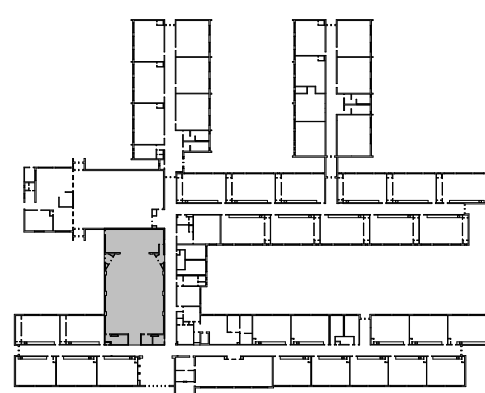
NEW WORK LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING DOOR TO REMAIN
- WALL / PARTITION
- DOOR

DEMOLITION LEGEND

- EXISTING CONSTRUCTION TO REMAIN
- EXISTING DOOR TO REMAIN
- ITEM / CONSTRUCTION TO BE REMOVED, SALVAGED OR REINSTALLED
- DOOR TO BE REMOVED, SALVAGED OR REINSTALLED
- EXTENT OF SLAB/FLOOR FINISH REMOVAL

KEY PLAN:



0' 2' 4' 8' 16'

QUINN EVANS

1840 WEST BROAD STREET
SUITE 400
RICHMOND, VA 23220
v 804.788.4774

QUINNEVANS.COM



CAMPUS FOR STUDENT SUCCESS - MULTIPURPOSE ROOM NEWPORT NEWS PUBLIC SCHOOLS

746 ADAMS DRIVE, NEWPORT NEWS, VIRGINIA 23601

1 10/31/2025 ADDENDUM 01

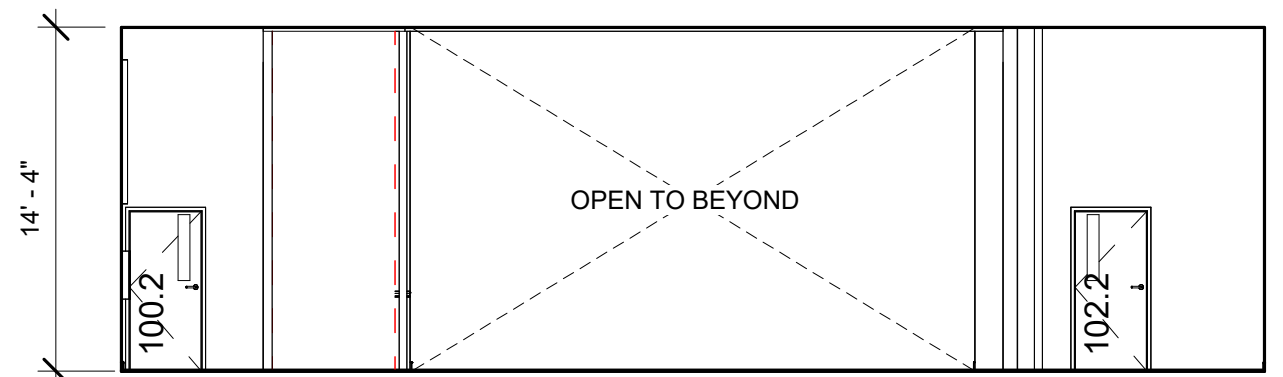
No. Date Description
PROJECT MANAGER: CT
DRAWN BY: MN

ISSUED FOR BID: IFB #011-0-2026/SB
QEA No. Project Number 52406380

ISSUED FOR BID
OCTOBER 1, 2025

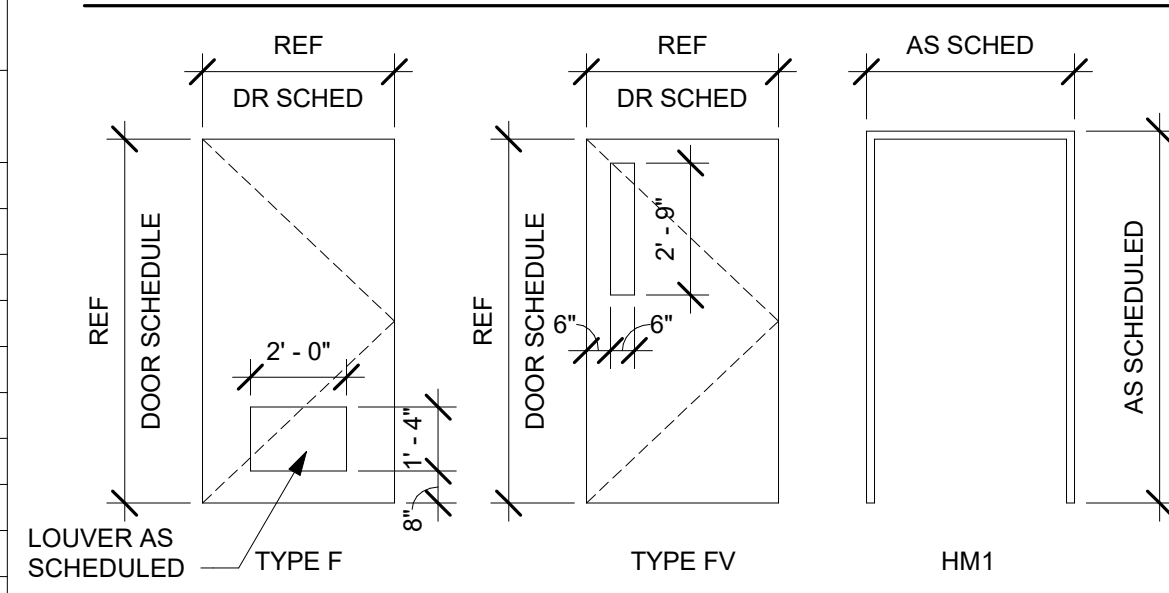
DEMO PLAN, NEW WORK PLAN, & RCP

A102



1		2		3		4		5		6		7		8				
M	LOCATION		DOOR				DOOR		FRAME						DOOR HDWE	FIRE RATING	NOTES	
	DOOR NUMBER	LOCATION	SIZE			TYPE	MAT'L	GLAZING	FINISH	TYPE	MAT'L	FINISH	DETAILS					
			W	H	T								HEAD	JAMB				SILL
	GROUND																	
	100.1	CORRIDOR	6' - 0"	6' - 8"	0' - 1 3/4"	FV	WD	GL-1	PREFIN	EXIST.	HM	PTD.	5/A104	2/A104		3	20 MIN	NEW DOORS IN EXISTING FRAMES; VIF
	100.2	CORRIDOR	3' - 0"	6' - 8"	0' - 1 3/4"	FV	WD	GL-1	PREFIN	NEW	HM	PTD.	4/A104	1/A104		4	20 MIN	NEW DOORS IN EXISTING FRAMES; VIF
	102.1	MULTIPURPOSE ROOM 2	6' - 0"	6' - 8"	0' - 1 3/4"	FV	HM	GL-2	PTD	EXIST.	HM	PTD.	6/A104	6/A104		2	-	REFER TO JAMB DETAILS 14 & 15 ON A104
	102.2	MULTIPURPOSE ROOM 2	3' - 0"	6' - 8"	0' - 1 3/4"	FV	WD	GL-1	PREFIN	NEW	HM	PTD.	5/A104 SIM	2/A104		4	-	
	103.1	CORRIDOR	3' - 0"	6' - 8"	0' - 1 3/4"	FV	WD	GL-1	PREFIN	NEW	HM	PTD.	4/A104	1/A104		4	20 MIN	
	103.2	AV/IT	3' - 0"	6' - 8"	0' - 1 3/4"	F	WD	-	PREFIN	EXIST.	HM	PTD.	6/A104	3/A104		1	-	PROVIDE DOOR LOUVER WITH 1-FT SQ OF FREE AREA
	103.3	CORRIDOR	6' - 0"	6' - 8"	0' - 1 3/4"	FV	WD	GL-1	PREFIN	EXIST.	HM	PTD.	6/A104	3/A104		3	20 MIN	NEW DOORS IN EXISTING FRAMES; VIF
	103.4	STORAGE	3' - 0"	6' - 8"	0' - 1 3/4"	F	WD	-	PREFIN	EXIST.	HM	PTD.	6/A104	3/A104		1	-	PROVIDE DOOR LOUVER WITH 1-FT SQ OF FREE AREA
L	103.5	STORAGE	3' - 0"	6' - 8"	0' - 1 3/4"	F	WD	-	PREFIN	EXIST.	HM	PTD.	6/A104	3/A104		1	-	PROVIDE DOOR LOUVER WITH 1-FT SQ OF FREE AREA
	Grand total: 9																	

DOOR AND FRAME TYPES

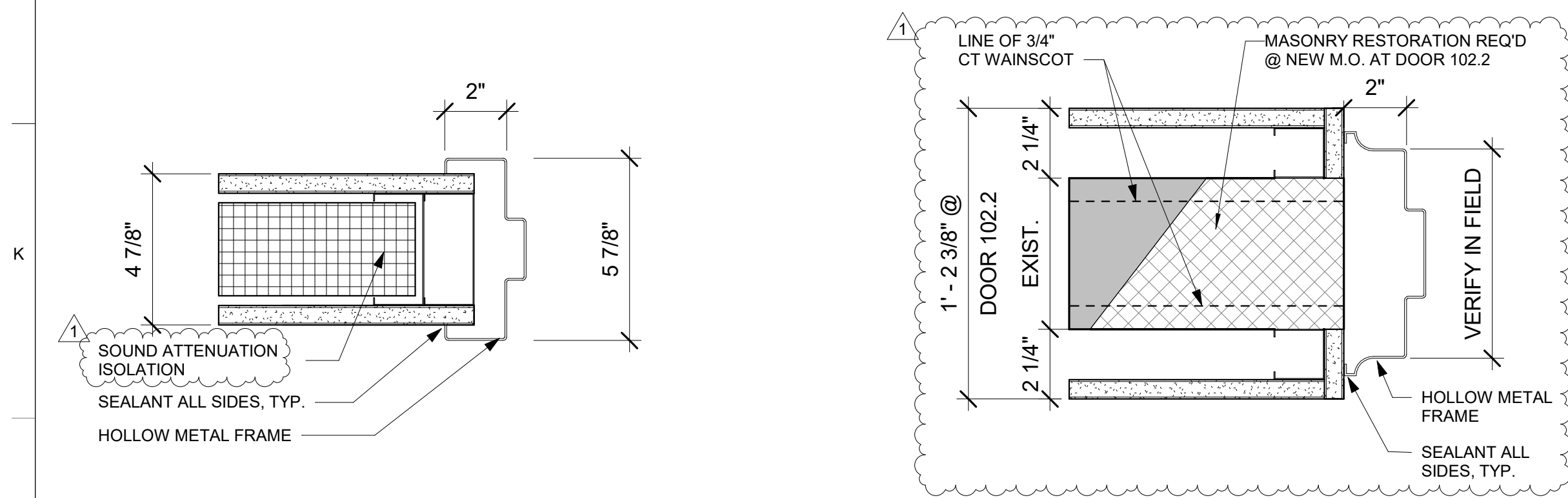


GLAZING TYPES

MARK	DESCRIPTION
GL-1	1/4" CLEAR, TEMEPERED. RATED WHERE REQUIRED
GL-2	1" CLEAR, INSULATED GLASS TINTED TO MATCH EXISTING

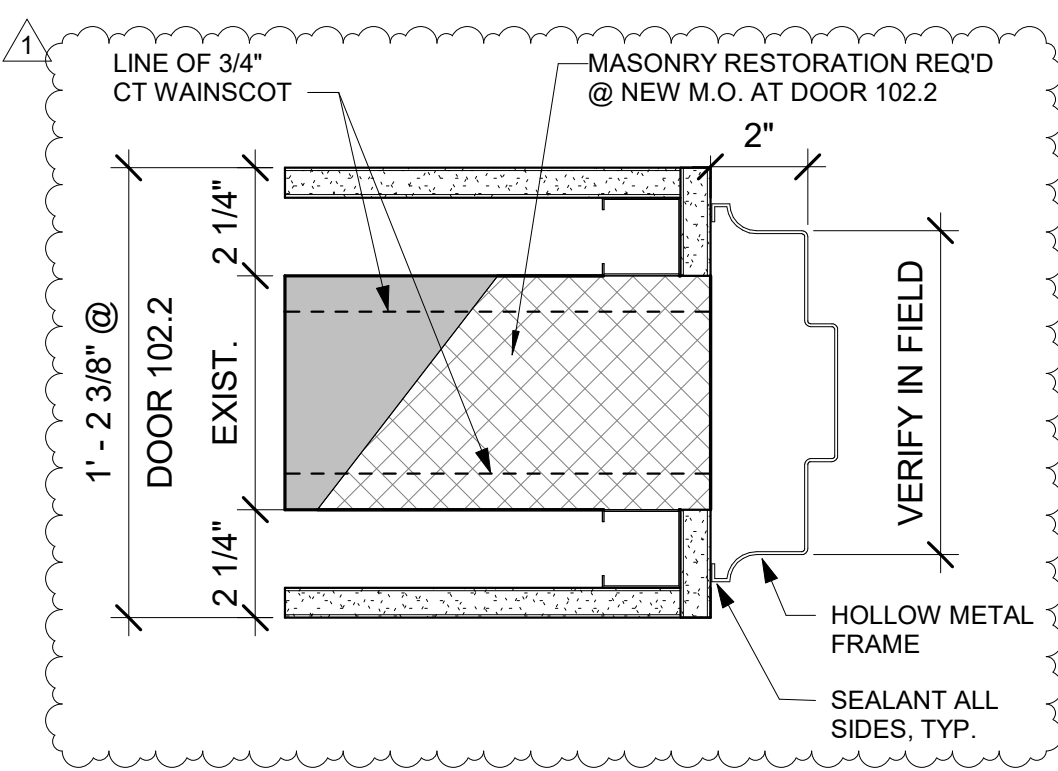
TYP. DOOR SCHEDULE NOTES

- FIELD VERIFY EXISTING FRAME DIMESIONS PRIOR TO MANUFACTURING DOORS.
- REFER TO DETAILS 14 AND 15 ON A104 FOR JAMB CONDITIONS RELATING TO EXISTING CT WAINSCOT.



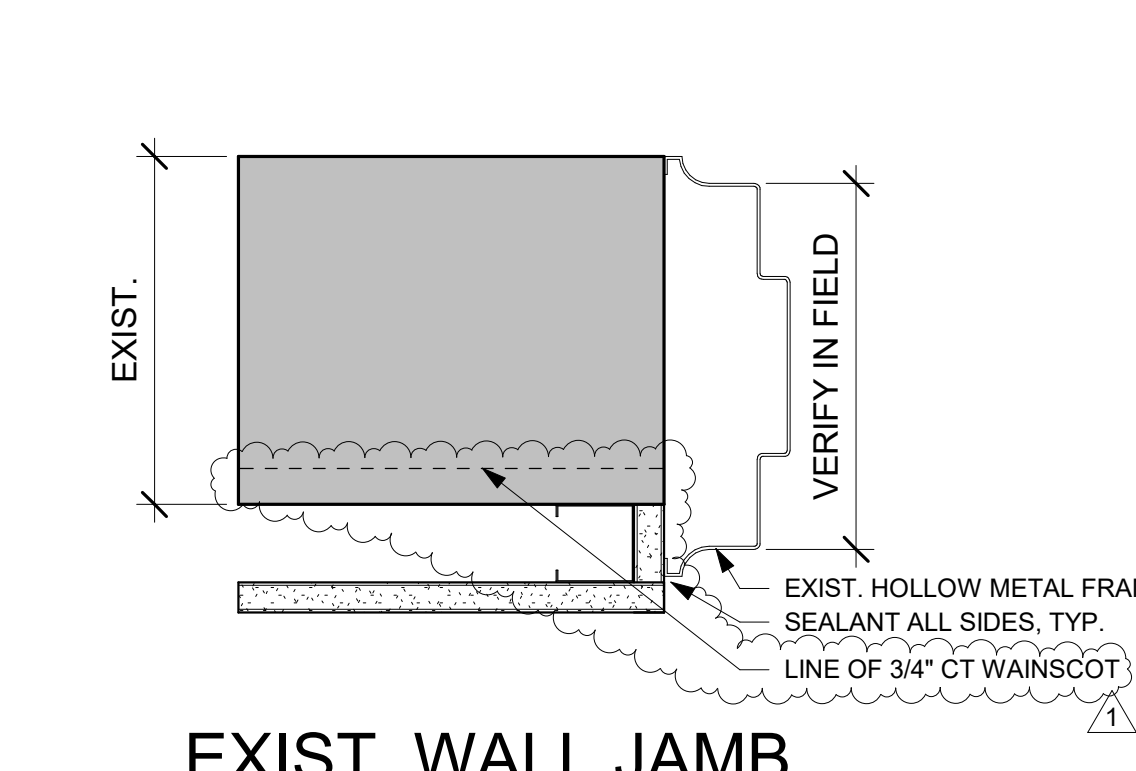
JAMB DETAIL

1
A104
3\"/>



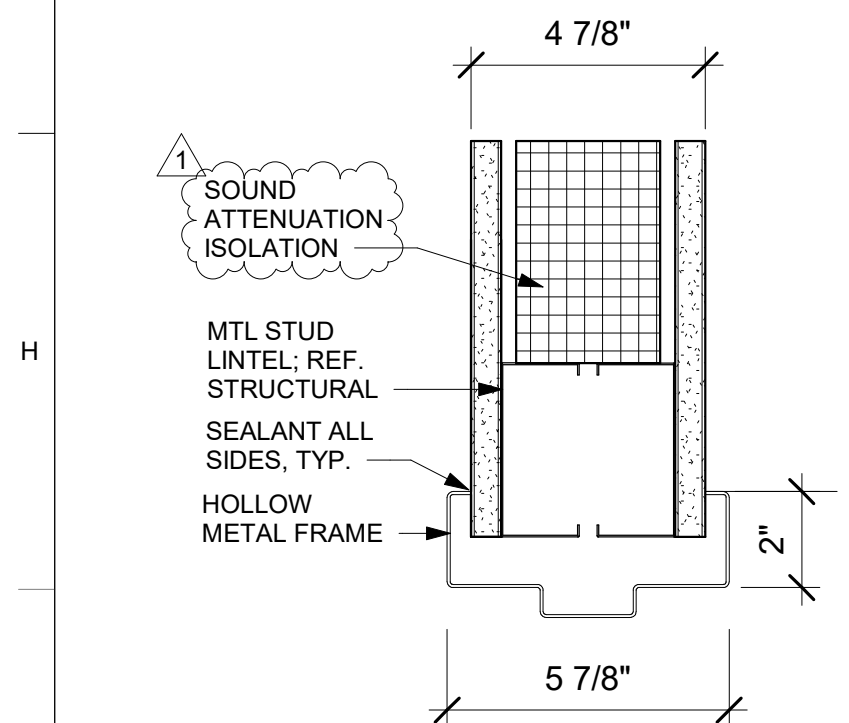
WALL JAMB DETAIL

2
A104
3\"/>



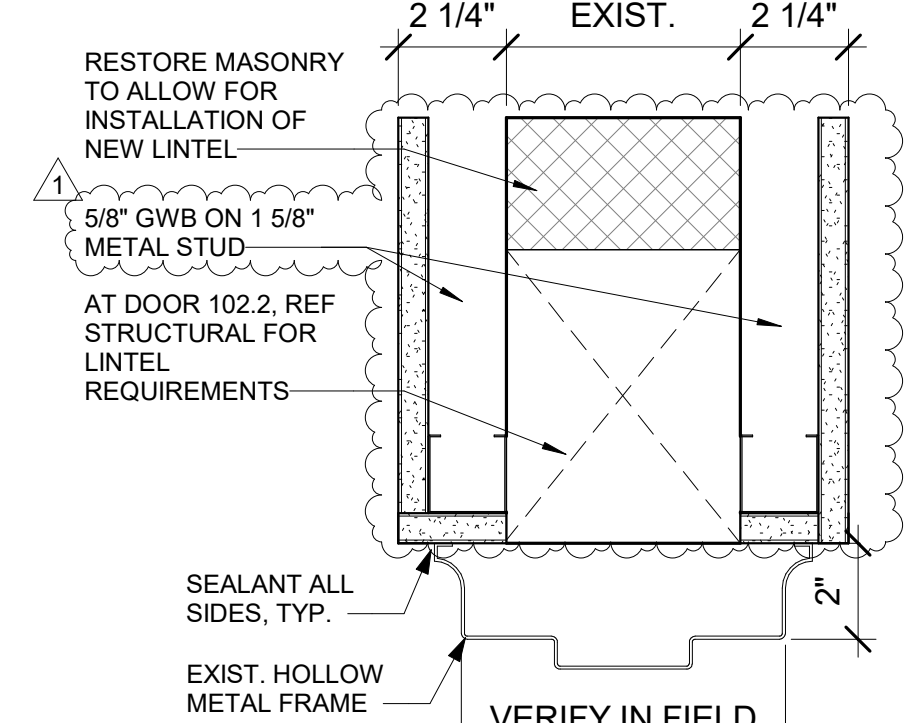
EXIST. WALL JAMB DETAIL SINGLE

3
A104
3\"/>



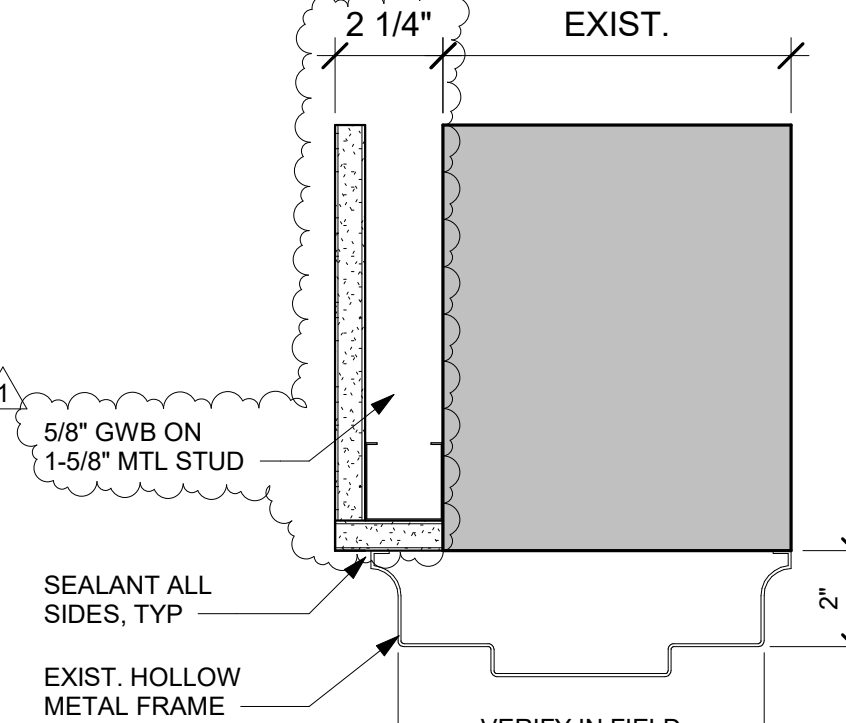
GWB ASSEMBLY HEAD DETAIL

4
A104
3\"/>



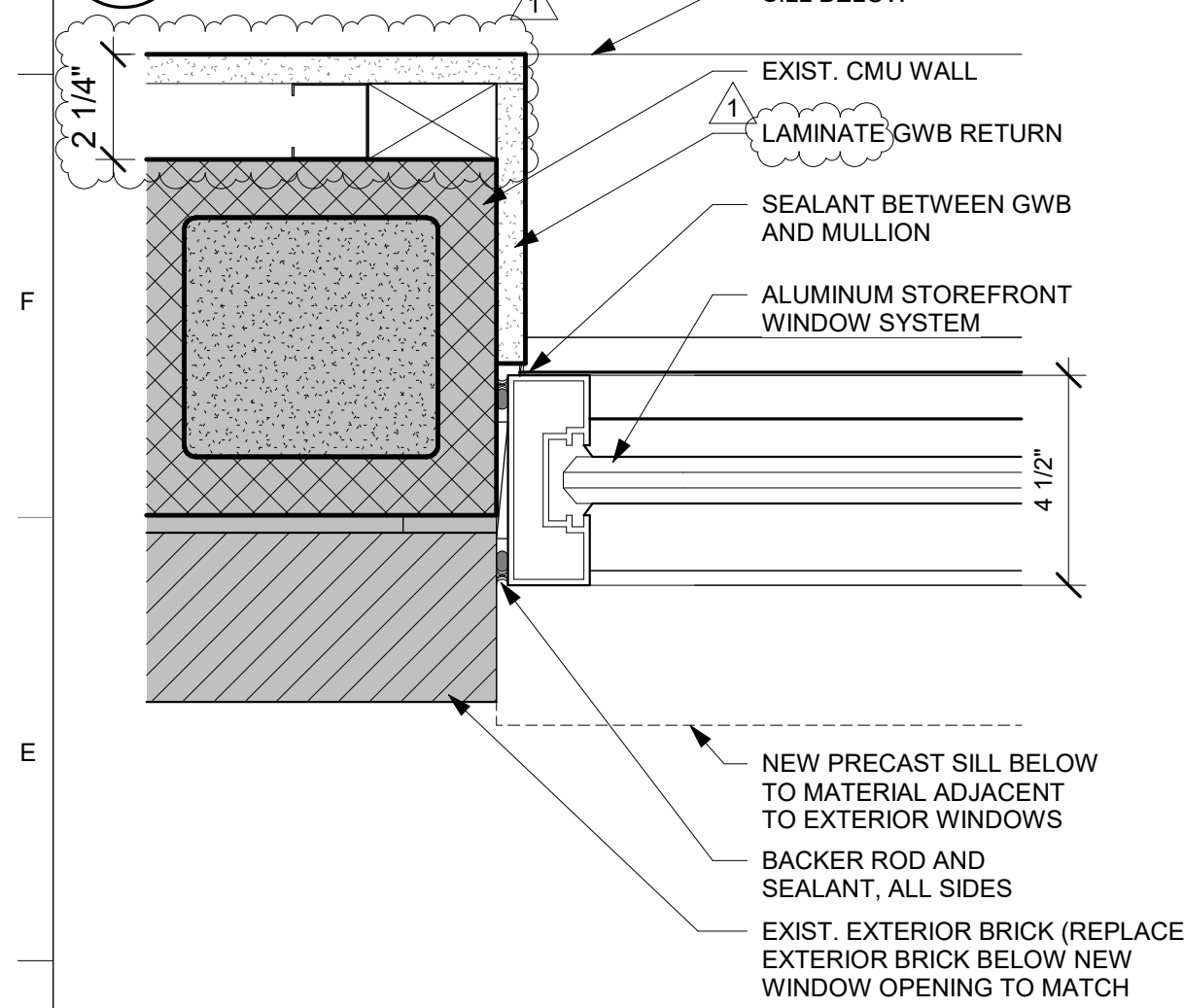
EXIST. WALL HEAD DETAIL

5
A104
3\"/>



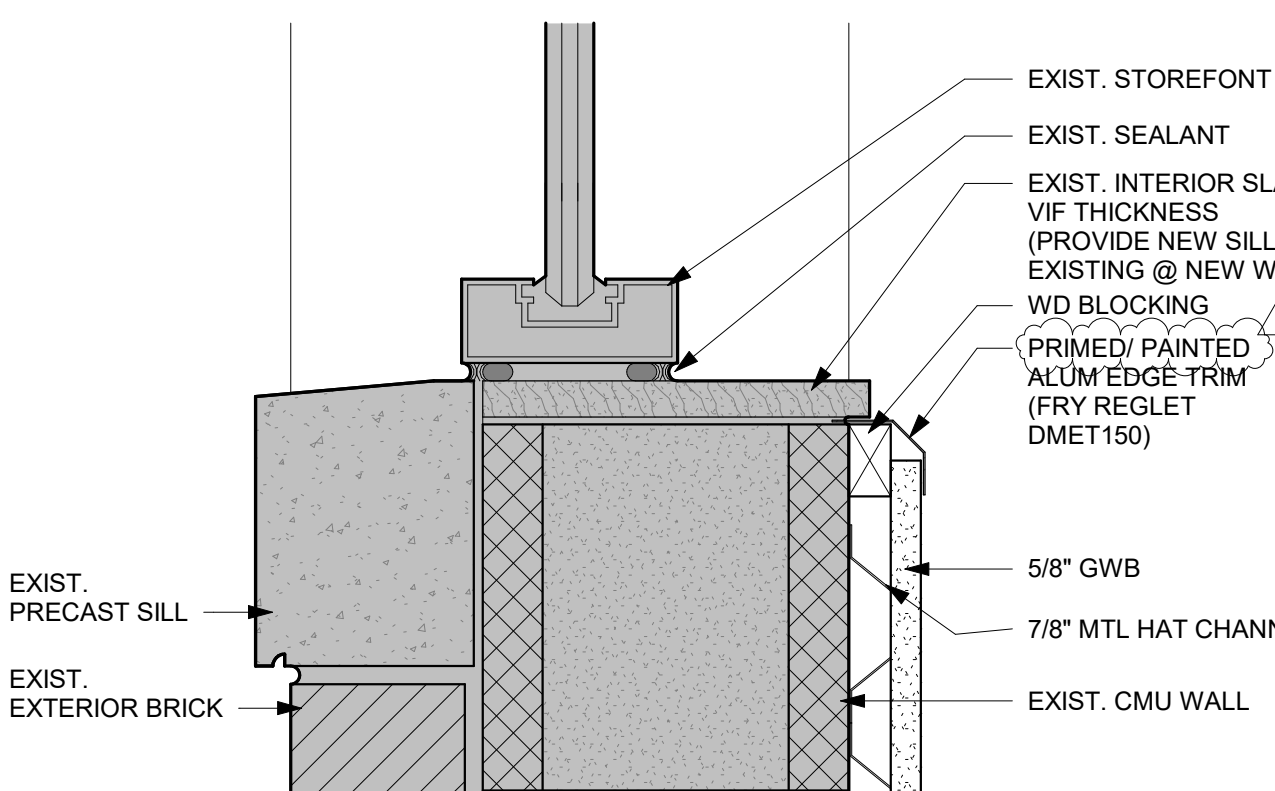
EXIST. WALL HEAD DETAIL SINGLE

6
A104
3\"/>



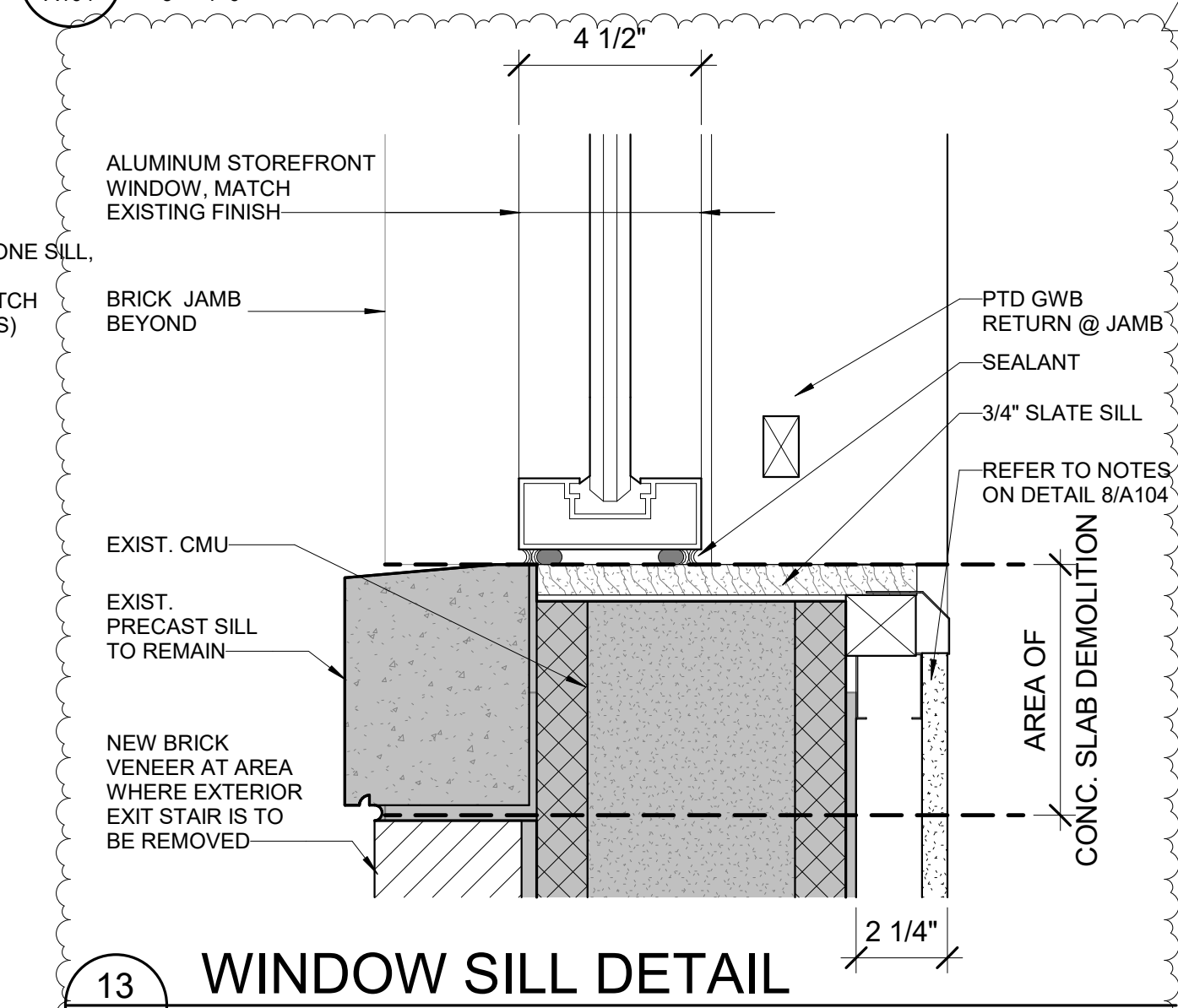
SF WINDOW JAMB DETAIL (HEAD/SILL SIM)

7
A104
3\"/>



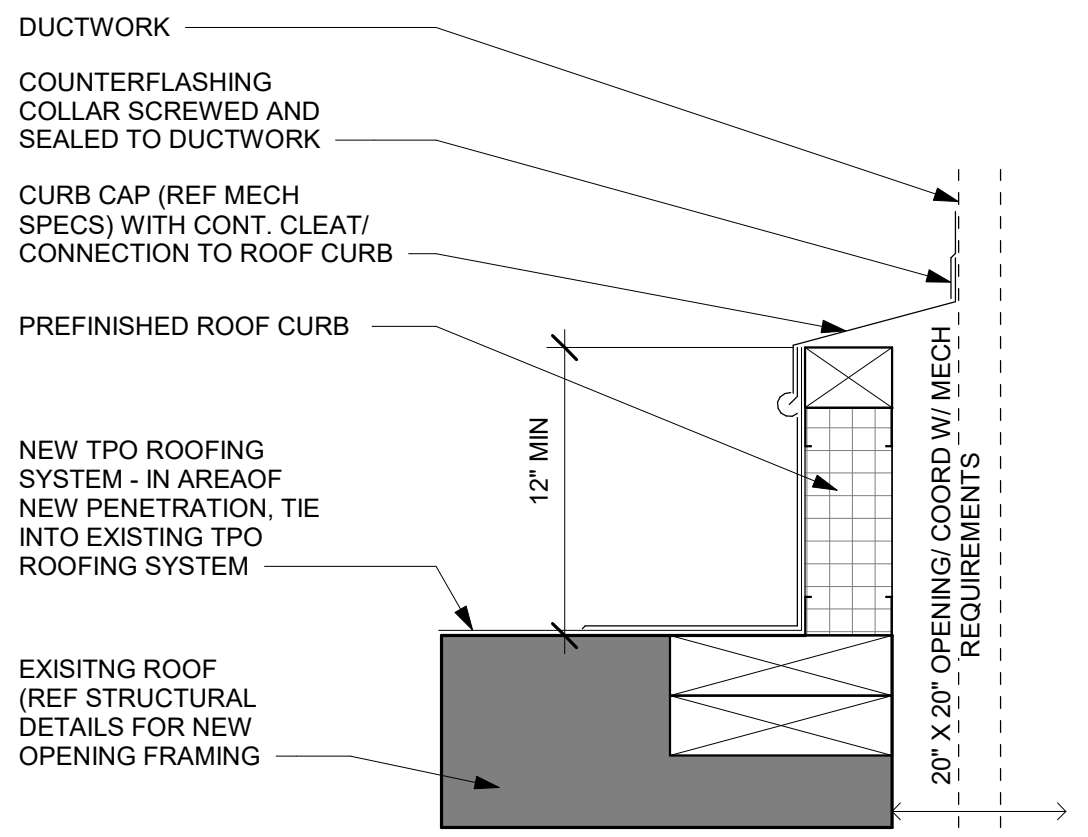
EXIST. WINDOW SILL DETAIL

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A104
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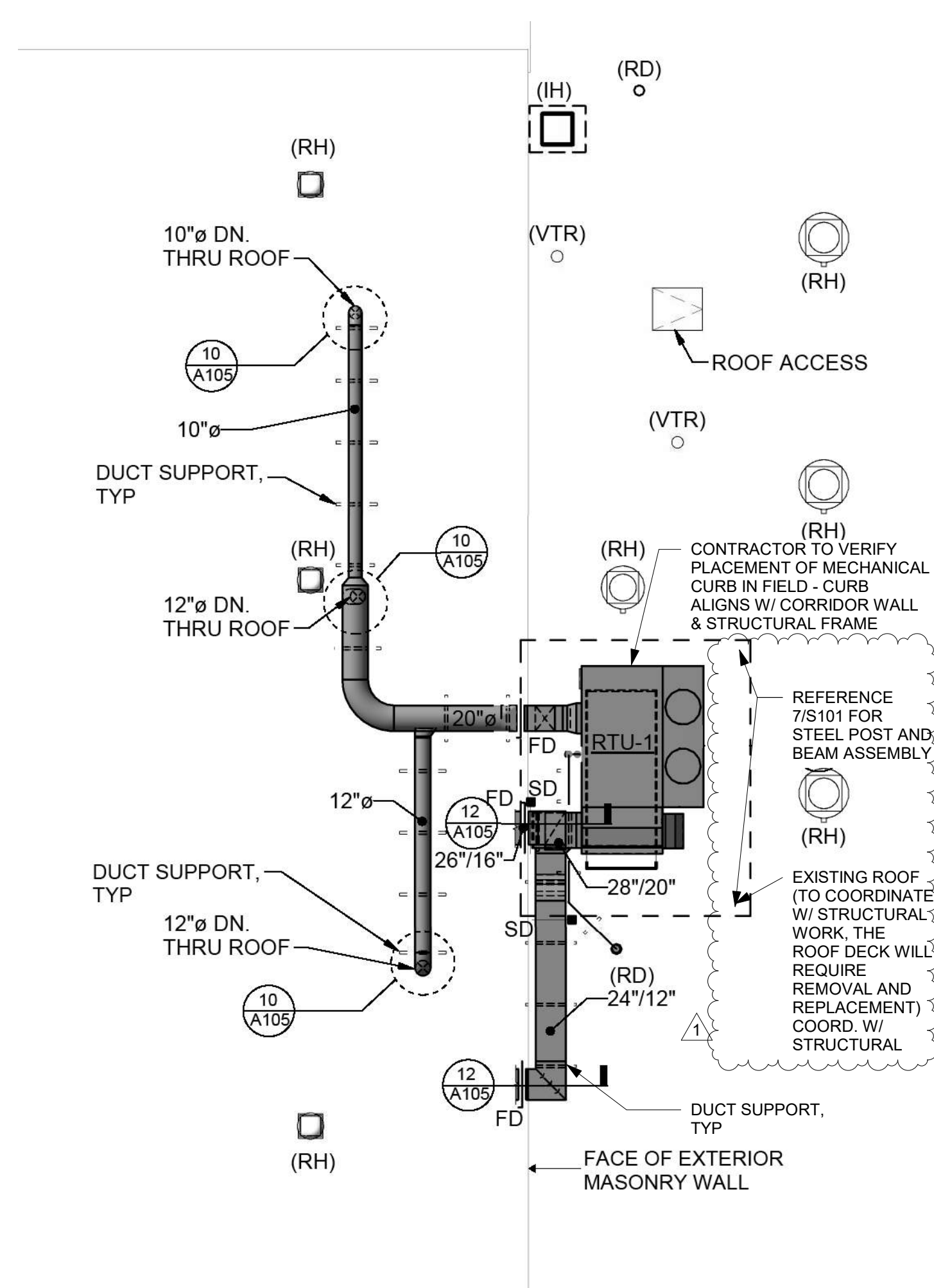
WINDOW SILL DETAIL

13
A104
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ROOF DETAIL - DUCTWORK

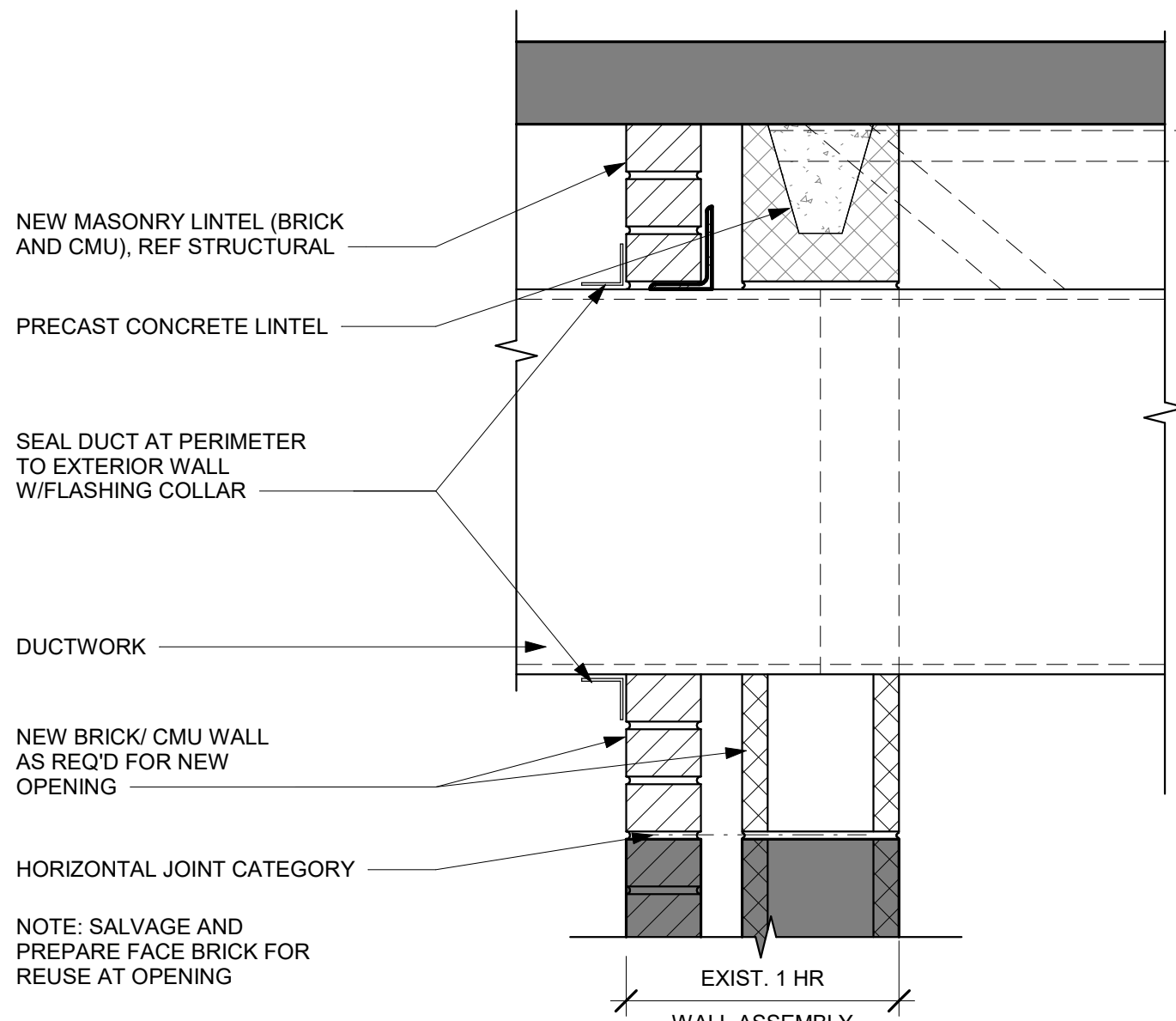
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ROOF PLAN DIAGRAM

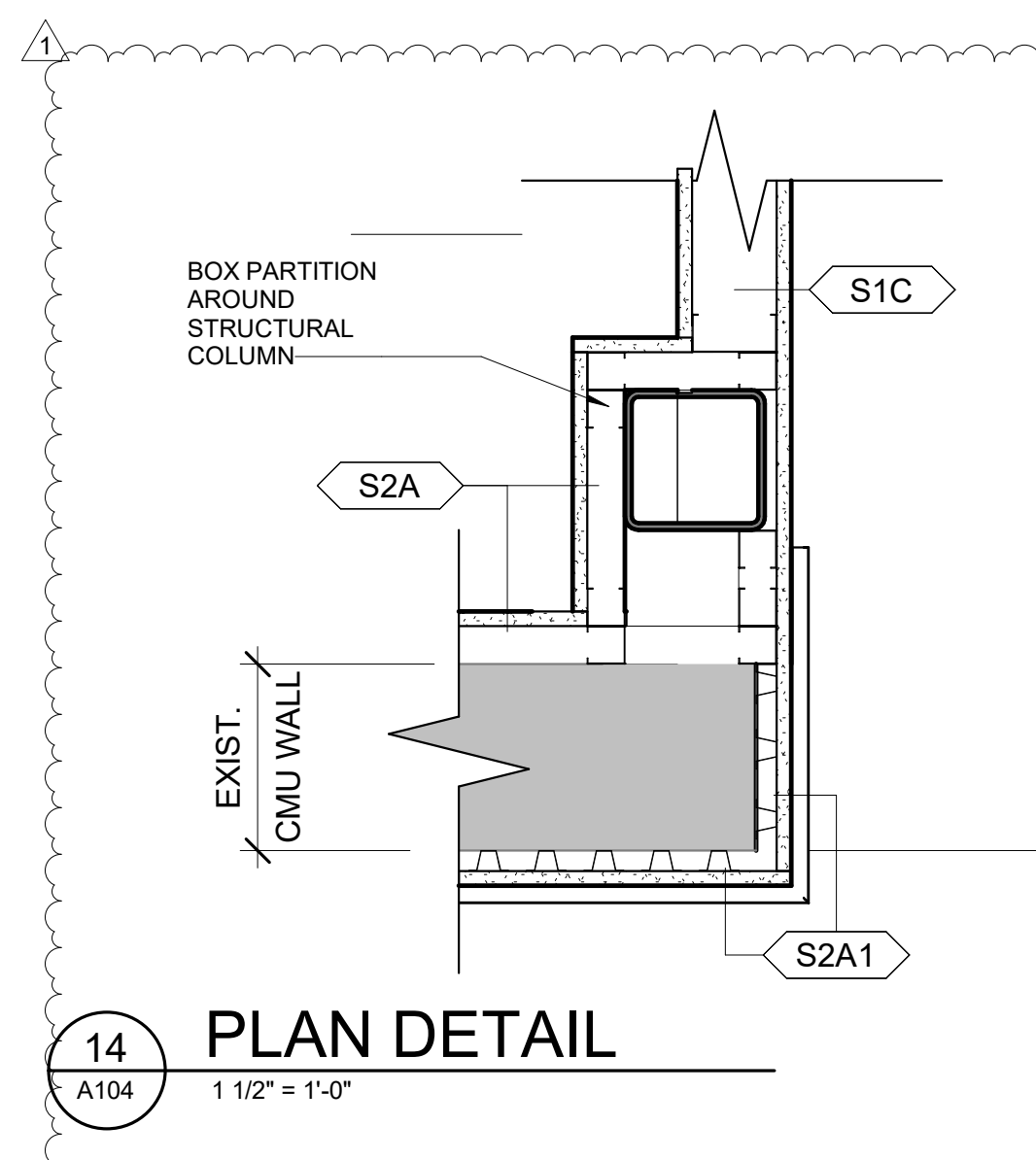
F11
A104
12\"/>

NOTE: REFERENCE RELIEF HOOD DEMOLITION ON MECHANICAL DRAWINGS. COORDINATE ANY NEW ROOF MEMBRANE PATCHING AS REQUIRED



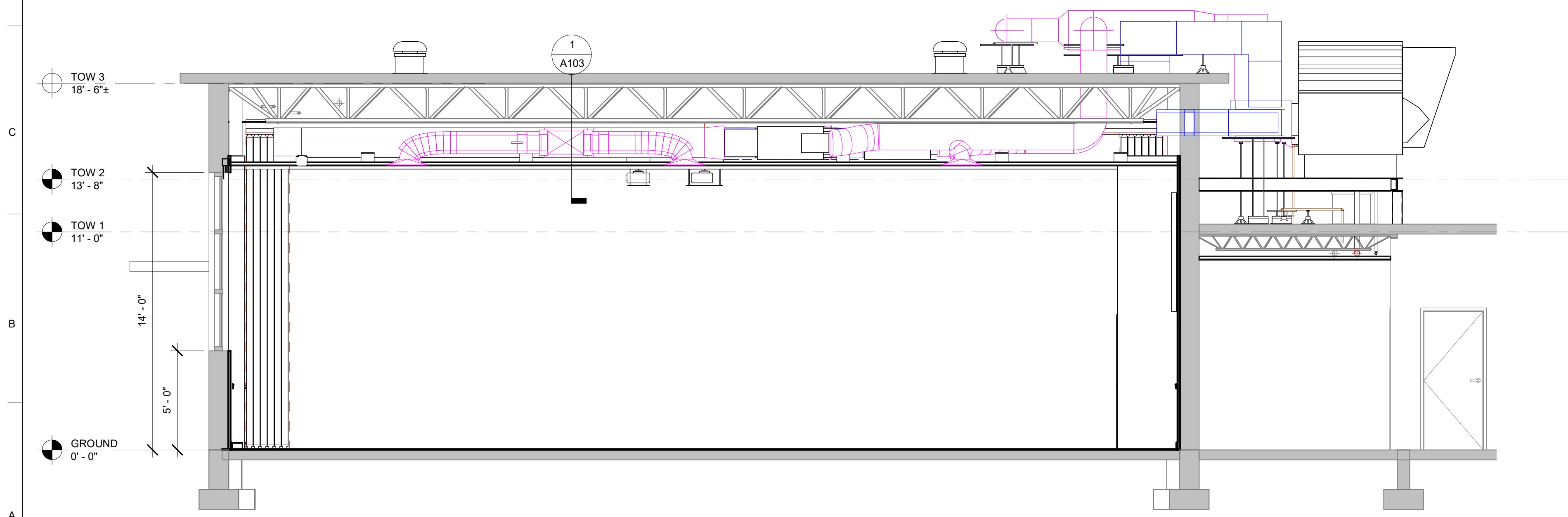
ROOF DETAIL - THRU WALL OPENING

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A104
1 1/2\"/>



PLAN DETAIL

14
A104
1 1/2\"/>



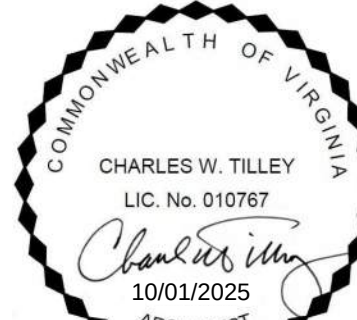
HVAC SECTION AT ROOF

9
A104
1/4\"/>

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EVANS

1840 WEST BROAD STREET
SUITE 400
RICHMOND, VA 23220
v 804.788.4774

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NEWPORT NEWS PUBLIC
SCHOOLS

746 ADAMS DRIVE, NEWPORT NEWS,
VIRGINIA 23601

1 10/31/2025 ADDENDUM 01

No. Date Description
PROJECT MANAGER: CT
DRAWN BY: MN

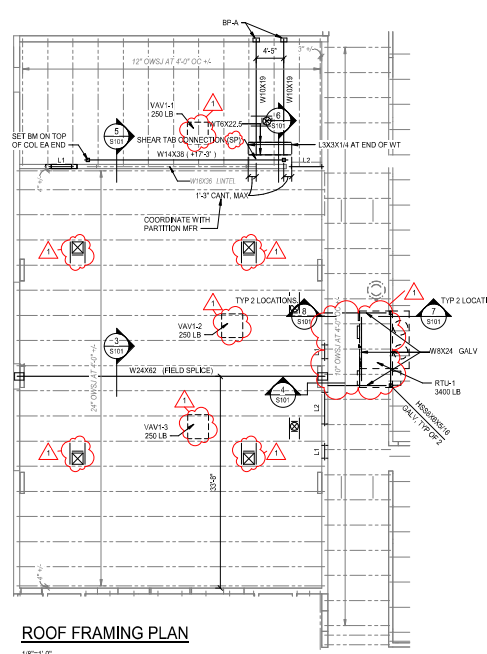
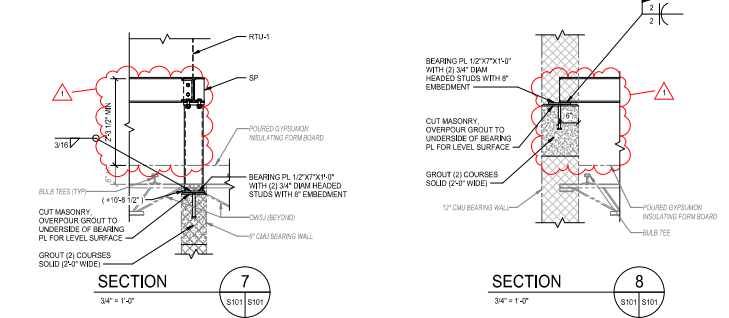
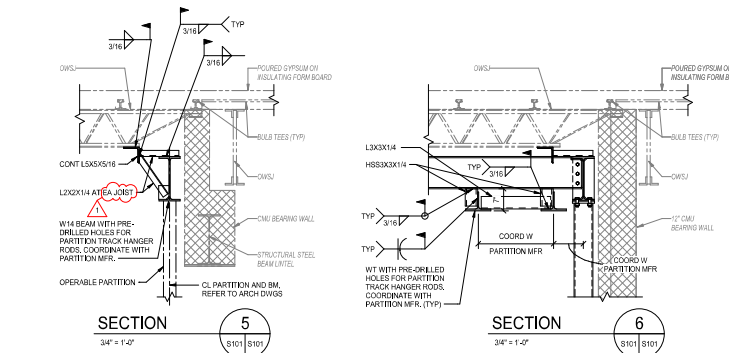
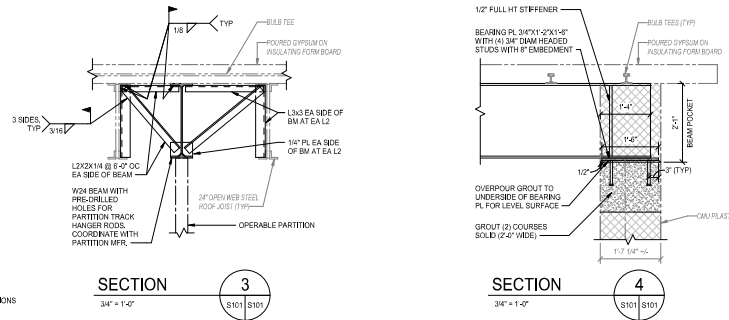
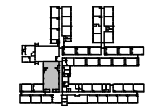
ISSUED FOR BID: IFB #011-0-2026/SB
QEA No. Project Number 52406380

ISSUED FOR BID
OCTOBER 1, 2025

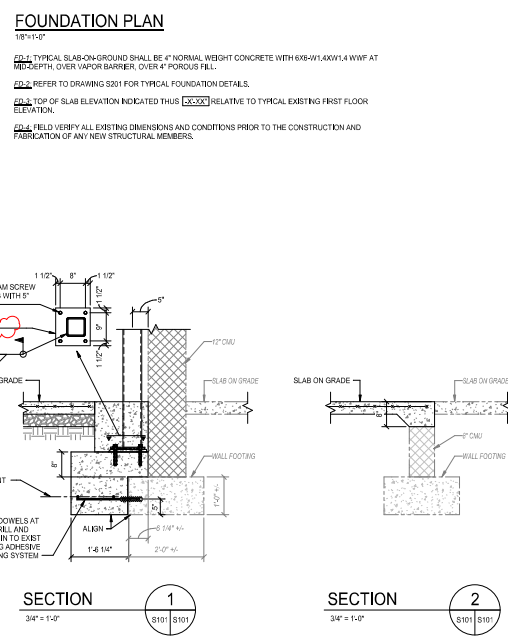
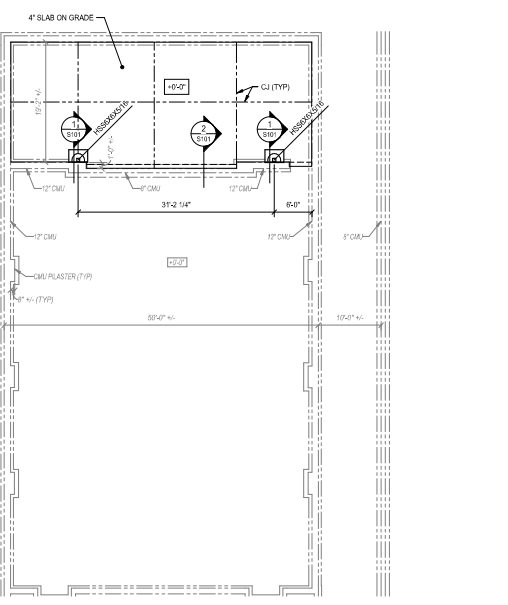
DOOR SCHEDULE
AND DETAILS/ ROOF
DETAILS

A104

KEY PLAN:



- ROOF FRAMING PLAN**
1/8"=1'-0"
- R1.1. TYPICAL SLAB-ON-GROUND SHALL BE 4" NORMAL WEIGHT CONCRETE WITH 6#X4#1.6XW1.4 WWF AT MID-DEPTH, OVER VAPOR BARRIER, OVER 4" POROUS FILL.
 - R1.2. REFER TO DRAWING S201 FOR TYPICAL FOUNDATION DETAILS.
 - R1.3. TOP OF SLAB ELEVATION INDICATED THUS 33'-00" RELATIVE TO TYPICAL EXISTING FIRST FLOOR ELEVATION.
 - R1.4. FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO THE CONSTRUCTION AND FABRICATION OF ANY NEW STRUCTURAL MEMBERS.
 - R2.1. REFERENCE DRAWING S201 FOR TYPICAL ROOF CONSTRUCTION DETAILS.
 - R2.2. REFER TO ARCHITECTURAL DRAWINGS AND MECHANICAL DRAWINGS FOR DIMENSIONS FOR MECHANICAL AND OTHER PENETRATIONS THROUGH ROOF AND/OR CEILING.
 - R2.3. PROVIDE THE FOLLOWING STEEL FRAMING CONNECTIONS.
 - USE SINGLE SHEAR TAB CONNECTION (ST) TO HSS COLUMN UNLESS NOTED OTHERWISE.
 - 12" INDICATES BEAM BEAMS ON TOP OF COLUMN PLATE.
 - 18" INDICATES 3/8" SHEAR TAB CONN WITH 3/4" DIA BOLTS.
 - R2.4. REFER TO S201 FOR Lintel SCHEDULE AND FOR CONNECTION DETAILS AT MULTIPLY STUD POSTS AND MULTIPLY TYPED LINTELS.
 - R2.5. PROVIDE STEEL ANGLE FRAMES AT ALL ROOF OPENINGS, INCLUDING THOSE FOR ROOF DRAINS AND ROOF OVERFLOW DRAINS. REFER TO ARCHITECTURAL ROOF PLAN FOR LOCATIONS. REFER TO S201 FOR TYPICAL DETAIL OF FRAME.
 - R2.6. FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO THE CONSTRUCTION AND FABRICATION OF ANY NEW STRUCTURAL MEMBERS.
 - R2.7. DO NOT CUT BULB TEES. INVESTIGATE LOCATION OF BULB TEES PRIOR TO CUTTING HOLES IN ROOF.
 - R2.8. ALL LOADS >50 LBS TO BE HUNG USING ROOF CENTERED BETWEEN CHORD ANGLES. DO NOT HANG LOADS >50 LBS FROM CLAMP ATTACHED TO ONE CHORD ANGLE.
 - R2.9. ALL STEEL MEMBERS AND CONNECTORS EXPOSED TO THE WEATHER SHALL BE HOT-DIP GALVANIZED. REPAIR DAMAGED GALVANIZING WITH ZINC-RICH PAINT.



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JSD



REINFORCING BARS IN CMU BOND BEAMS SHALL BE ASTM A615 GRADE 60.
FILL ALL BOND BEAMS WITH FC AT 28 DAY, 2000 PSI MINIMUM PORTLAND CEMENT GROUT. SHORE BOND BEAMS UNTIL GROUT HAS CURED.
BEAR ALL CMU BOND BEAMS AND STEEL LINTELS 8" ON SOLID MASONRY EACH END UNLESS NOTED OTHERWISE.
FOR LINTELS NOT INDICATED USE A SIMILAR LINTEL TYPE INDICATED ABOVE FOR THE SIMILAR WALL TYPE AND SPAN LENGTH.
LINTELS ARE REQUIRED OVER ELECTRICAL PANEL BOARDS OR ANY RECESSED CABINETS WITH PIPES OR CONDUIT RISING VERTICALLY. INSTALL THE LINTEL A MINIMUM OF 6" (1 FULL BLOCK COURSE) ABOVE THE CEILING.
REFER TO SPECIFICATION FOR LINTELS IN NON-BEARING STEEL STUD WALLS.
SHORE EXISTING WALLS AS READ WHERE NEW LINTELS ARE TO BE INSTALLED WITHIN EXISTING WALLS.
ALL TRADES CUTTING HOLES IN NEW OR EXISTING CMU WALLS SHALL COORDINATE THEIR WORK WITH THE MASON SO THAT AN APPROPRIATE LINTEL MAY BE PROVIDED AT THE OPENING. AT LOCATIONS ABOVE CEILING, PRECAST CMU OR PRECAST CONCRETE LINTELS MAY BE SUBSTITUTED FOR BOND BEAM LINTELS INDICATED SO LONG AS THE SAME UNIT SIZE AND REINFORCING STEEL IS PROVIDED.

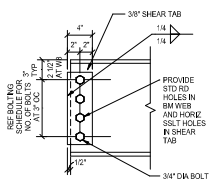
1	10/1/25	ADDENDUM 1
No.	Date	Description
PROJECT MANAGER	DESIGNER	
JSD	JEM	
QEA No.52405380		
ISSUED FOR BID		
OCTOBER 1, 2025		

TYPICAL DETAILS

S201

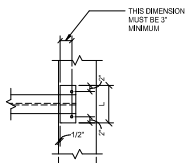
MINIMUM BOLTING SCHEDULE		
BEAM SIZE	# OF BOLTS IN SINGLE SHEAR CONN	# OF BOLTS ROWS IN DOUBLE ANGLE CONN
W8	2	2
W10	2	2
W12	3	3
W14	3	3
W16	4	4
W18	5	4
W21	6	5
W24	7	5
W27	8	6
W30	9	6
W33	10	7
W36	10	8
W40	11	9
W44	12	10

- NOTES:
- REFER TO FRAMING PLAN NOTES FOR INSTRUCTIONS REGARDING CONNECTION TYPES ARE TO BE APPLIED.
 - PROVIDE PLATE AND ANGLE CONNECTION MATERIAL MEETING ASTM A572 GRADE 50 K38 STANDARD.
 - AT HEAVY SHEAR TAB (HST) CONNECTION AND SKEWED BENT PLATE (BPL) CONN, PROVIDE 1" DIA ASTM F1552 GRADE F2280 (TENSION-CONTROL) BOLTS.
 - PROVIDE 3/4" DIA ASTM F1552 GRADE F1552 (TENSION-CONTROL) BOLTS AT ALL OTHER CONNECTION TYPES UNO.
 - PROVIDE ASTM F436 WASHERS AT ALL BOLTS.
 - REFER TO INDIVIDUAL CONNECTION DETAILS FOR CORRECT LOCATIONS OF STANDARD ROUND HOLES VERSUS SHORT HORIZONTAL SLOTTED HOLES.
 - WHERE SLIP-CRITICAL CONNECTIONS ARE INDICATED ELSEWHERE IN PROJECT-SPECIFIC SECTIONS AND DETAILS, PROVIDE CLASS A TYPING SURFACES.
 - AT PLANS OF JCT (PJ) BEAM CONNECTION TO GIRDER, PROVIDE DOUBLE ANGLE (DA) CONNECTION IN LIEU OF SHEAR TAB (ST) CONNECTION. PROVIDE MAXIMUM NUMBER OF BOLT ROWS AT 2" OC SPACING THAT WILL FIT WITHIN THE REMAINING BEAM WEB.

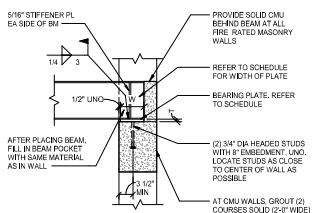


TYPICAL SHEAR TAB CONNECTION (ST)
1 1/2" x 1'-0"

- DETAIL APPLIES AT WIDE FLANGE BEAM CONNECTIONS TO HSS COLUMNS AND OTHER WIDE FLANGE BEAMS OR GIRDERS.
- REFER TO MINIMUM BOLTING SCHEDULE FOR REQUIRED NUMBER OF BOLTS.



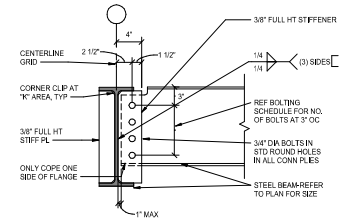
TYPICAL PLAN DETAIL AT BEARING PLATE
3/4" x 1'-0"



TYPICAL SECTION AT BEARING PLATE WITH HEADED STUDS
3/4" x 1'-0"

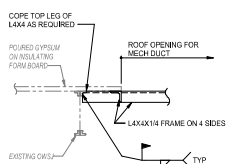
NOTE:
DO NOT WELD BEAM UNTIL FINAL STRUCTURAL FRAME ALIGNMENT IS COMPLETE IN THE AFFECTED AREA.

STEEL BEAM BEARING PLATE SCHEDULE		
MARK	SIZE (TAX/CL)	COMMENTS
BP-A	PL3/4X7X1'-2"	



TYPICAL FULL HT STIFFENER PLATE CONNECTION (SP)
1 1/2" x 1'-0"

- USE WHERE SP CONNECTION TYPE INDICATED ON PLAN.
- REFER TO MINIMUM BOLTING SCHEDULE FOR REQUIRED NUMBER OF BOLTS.



TYPICAL FRAMING AT NEW ROOF OPENING FOR MECH DUCT
NO SCALE

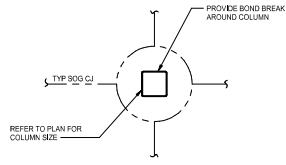
LINTEL SCHEDULE

MARK	DESCRIPTION	CONSTRUCTION	LOCATION
L1	12" WIDE X 8" DEEP CMU BOND BEAM WITH (2) #4 BOTTOM	12" CMU	WHERE INDICATED
L2	12" WIDE X 16" DEEP CMU BOND BEAM WITH (2) #4 TOP AND BOTTOM	12" CMU	WHERE INDICATED.

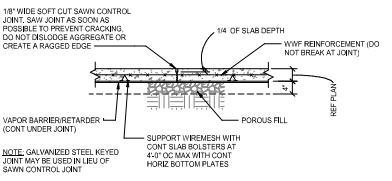
LINTEL SCHEDULE

- REINFORCING BARS IN CMU BOND BEAMS SHALL BE ASTM A615 GRADE 60.
- FILL ALL BOND BEAMS WITH FC AT 28 DAY, 2000 PSI MINIMUM PORTLAND CEMENT GROUT. SHORE BOND BEAMS UNTIL GROUT HAS CURED.
- BEAR ALL CMU BOND BEAMS AND STEEL LINTELS 8" ON SOLID MASONRY EACH END UNLESS NOTED OTHERWISE.
- FOR LINTELS NOT INDICATED USE A SIMILAR LINTEL TYPE INDICATED ABOVE FOR THE SIMILAR WALL TYPE AND SPAN LENGTH.
- LINTELS ARE REQUIRED OVER ELECTRICAL PANEL BOARDS OR ANY RECESSED CABINETS WITH PIPES OR CONDUIT RISING VERTICALLY. INSTALL THE LINTEL A MINIMUM OF 6" (1 FULL BLOCK COURSE) ABOVE THE CEILING.
- REFER TO SPECIFICATION FOR LINTELS IN NON-BEARING STEEL STUD WALLS.
- SHORE EXISTING WALLS AS READ WHERE NEW LINTELS ARE TO BE INSTALLED WITHIN EXISTING WALLS.
- ALL TRADES CUTTING HOLES IN NEW OR EXISTING CMU WALLS SHALL COORDINATE THEIR WORK WITH THE MASON SO THAT AN APPROPRIATE LINTEL MAY BE PROVIDED AT THE OPENING. AT LOCATIONS ABOVE CEILING, PRECAST CMU OR PRECAST CONCRETE LINTELS MAY BE SUBSTITUTED FOR BOND BEAM LINTELS INDICATED SO LONG AS THE SAME UNIT SIZE AND REINFORCING STEEL IS PROVIDED.

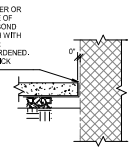
TYPICAL DIAMOND SLAB JOINT AT COLUMNS
NO SCALE



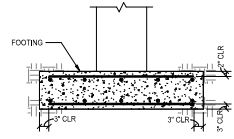
NOTE:
AT CONTRACTOR'S OPTION, 1.5 POUNDS PER CUBIC YARD POLYPROPYLENE MICRO FIBER REINF MAY BE SUBSTITUTED FOR 60S-WT LKX7.4 W/F IN 4" SLAB ON GRADE ONLY.



TYPICAL SLAB-ON-GROUND AND CONTROL JOINT DETAIL
3/4" x 1'-0"



TYPICAL BOND BREAK AT SLAB-ON-GROUND
3/4" x 1'-0"



TYPICAL CONCRETE COVER/CLEAR AT FOOTINGS
3/4" x 1'-0"

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Author: JSD
Date: 10/1/25
Title: TYPICAL DETAILS

1 2 3 4 5 6 7 8 9 10 11 12

M

L

K

J

H

G

F

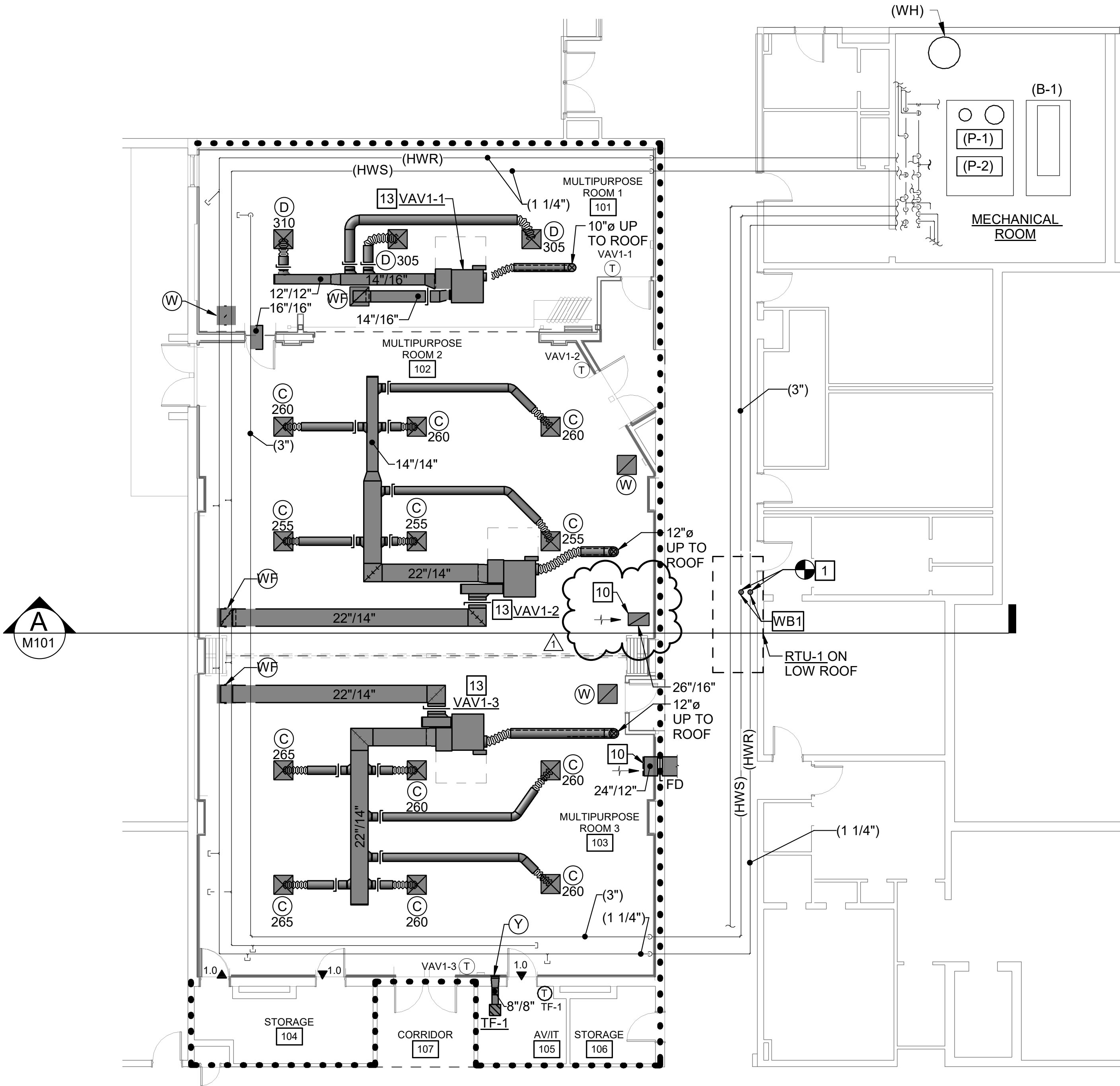
E

D

C

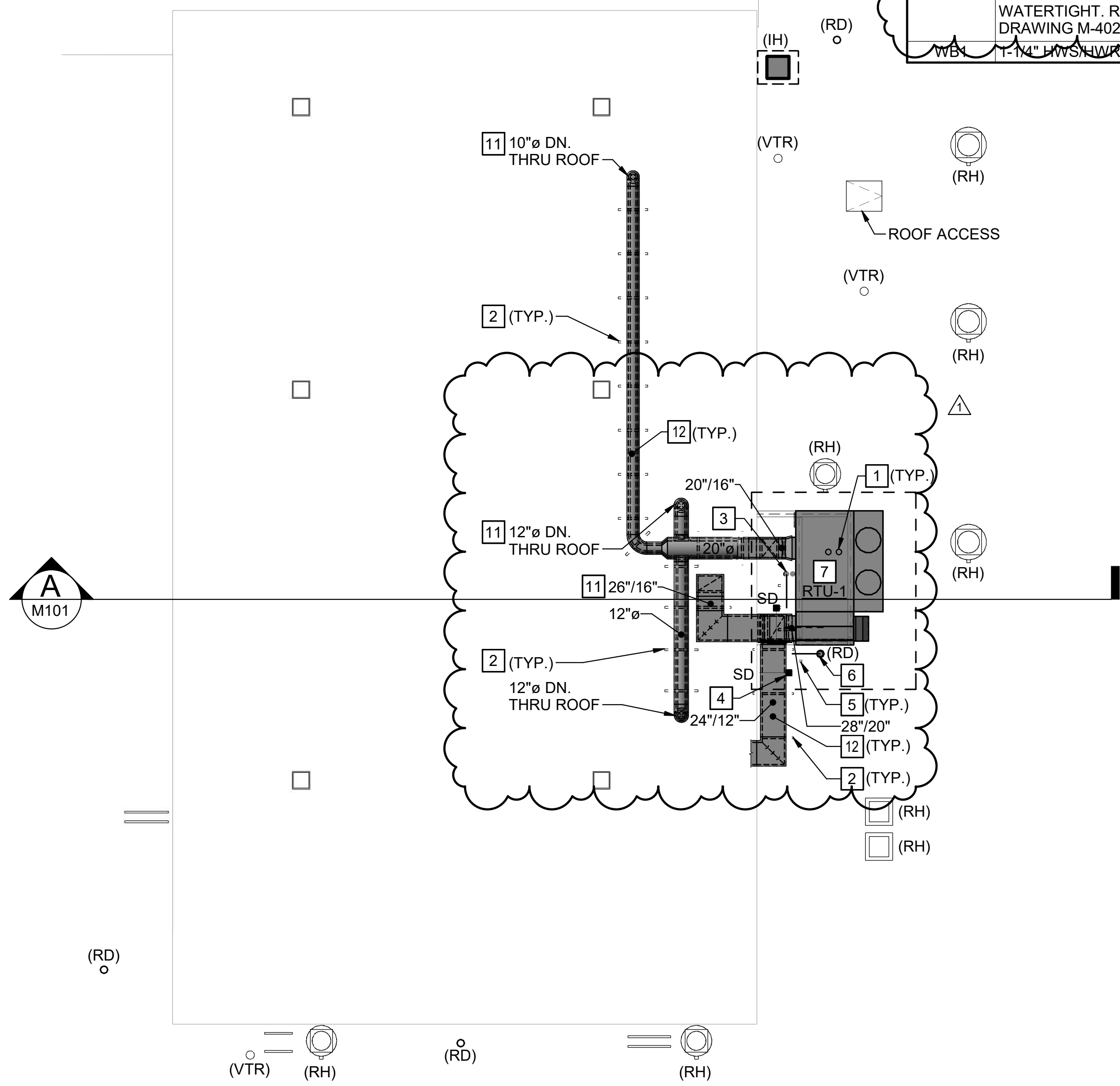
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A



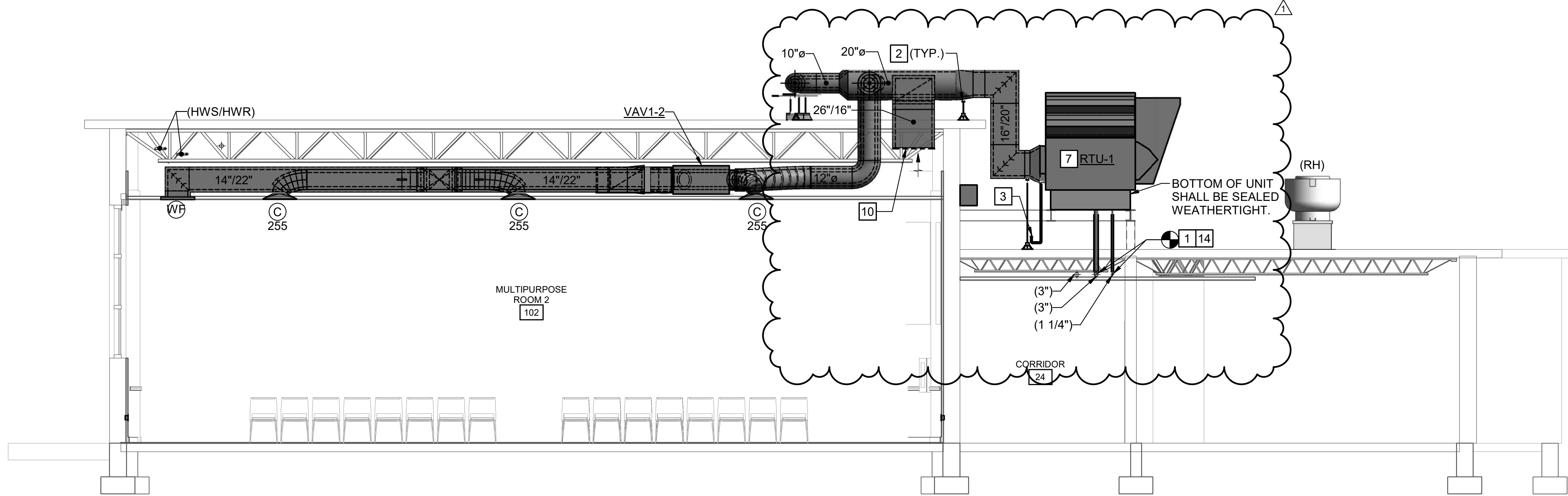
FLOOR PLAN - NEW WORK - MECHANICAL

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



ROOF PLAN - NEW WORK - MECHANICAL

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



SECTION A

SCALE: 1/4" = 1'-0"

NEW WORK NOTES	
NO.	DESCRIPTION
1	PROVIDE NEW HOT WATER PIPING TO POINT INDICATED INCLUDING INSULATION, HANGERS AND SUPPORTS COMPLETE.
2	REFER TO "ROOF MOUNTED DUCT SUPPORT DETAIL" ON DRAWING M402.
3	REFER TO "CONDENSATE DRAIN TRAP DETAIL" ON DRAWING M402.
4	PROVIDE DUCT MOUNTED SMOKE DETECTOR FURNISHED BY DIVISION 28, INSTALLED BY DIVISION 23. INTERLOCK SMOKE DETECTOR(S) WITH THE FIRE ALARM SYSTEM IN ACCORDANCE WITH SECTION 606.4.1 OF THE VIRGINIA MECHANICAL CODE. REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	REFER TO "ROOF MOUNTED PIPE SUPPORT DETAIL" ON DRAWING M402.
6	DISCHARGE CONDENSATE DRAIN INTO ROOF DRAIN.

NEW WORK NOTES	
NO.	DESCRIPTION
7	PROVIDE FULL PERIMETER RAIL WITH SPRING ISOLATORS. REFER TO "ROOFTOP UNIT SUPPORT AND VIBRATION ISOLATION DETAIL" ON DRAWING M402.
10	PROVIDE 1x12 WIRE MESH AND FRAME OVER OPEN END OF DUCTWORK.
11	PROVIDE ROOF CURB FOR DUCTWORK PENETRATING THE ROOF. REFER TO "DUCT THRU ROOF CURB DETAIL" ON DRAWING M401.
12	PROVIDE DOUBLE WALL DUCTWORK WITH 3" FIBERGLASS INSULATION ENCAPSULATED BETWEEN SOLID INNER WALL FOR ALL DUCTWORK INSTALLED OUTDOORS. REFER TO SPECIFICATION 230500 FOR DUCTWORK REQUIREMENTS. REFER TO SPECIFICATION 230700 FOR WEATHERPROOF COATING DETAILS.
13	REFER TO "TYPICAL SERIES FAN POWERED VAV BOX (WITH ELECTRIC REHEAT COIL) INSTALLATION DETAIL" ON DRAWING M402.
14	CONTRACTOR SHALL CUT HOLE THROUGH ROOF FOR HOT WATER PIPING. INSULATE AND PROVIDE HEAT TRACE. FLASH AND SEAL ALL PENETRATIONS WATERTIGHT. REFER TO HEAT TRACE DETAILS ON DRAWING M402.

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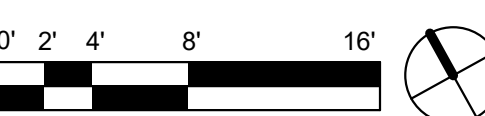
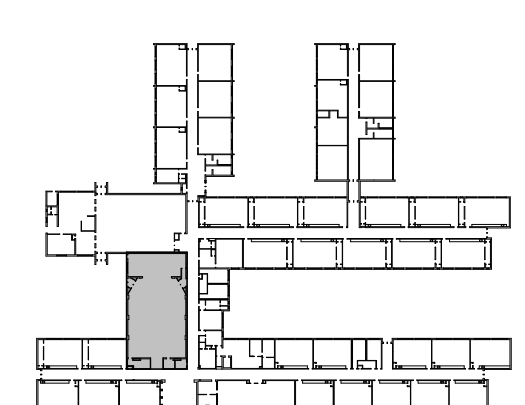
THOMPSON
Consulting Engineers
22 ENTERPRISE PARKWAY
400 COTY BLVD
2864 LINDSEY ROAD
TELEPHONE: (757) 394-4451
HAMPTON, VA 23666
GLENN ALLEN, VA 22060
VA BEACH, VA 23462
PROJECT #24-049

COMMONWEALTH OF VIRGINIA
KEVIN D. ALLEN
Lic. No. 023349
10.01.2025
PROFESSIONAL ENGINEER

CAMPUS FOR STUDENT
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MULTIPURPOSE ROOM
NEWPORT NEWS PUBLIC
SCHOOLS

746 ADAMS DRIVE, NEWPORT NEWS,
VIRGINIA 23601

KEY PLAN:

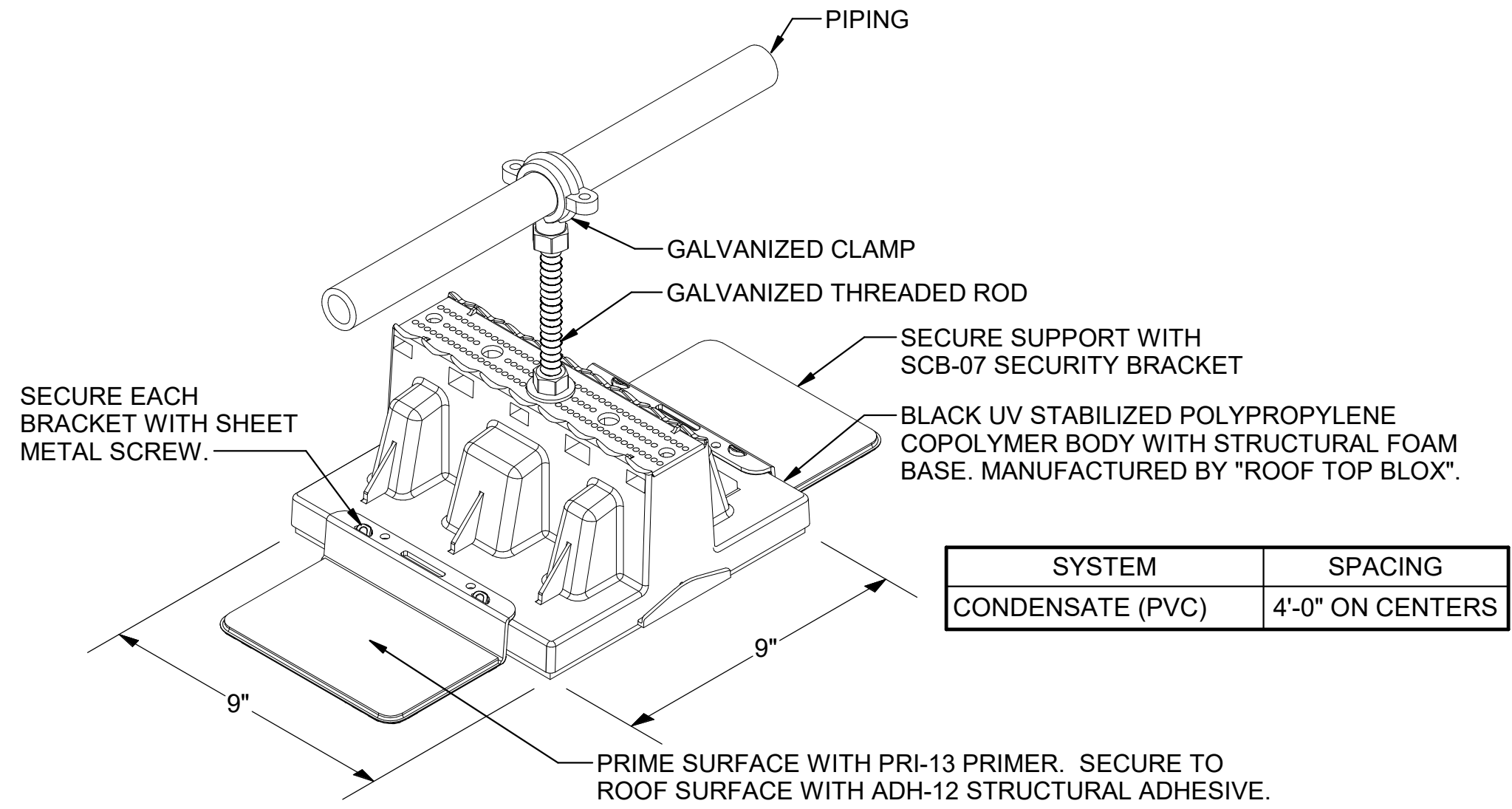


1	10/31/25	Addendum 2
No.	Date	Description
PROJECT MANAGER:	KDA	DRAWN BY: JAR
ISSUED FOR BID: IFB #011-0-2026/SB		
QEA No. Project Number 52406380		
ISSUED FOR BID		
OCTOBER 1, 2025		

FLOOR PLANS - NEW
WORK - MECHANICAL

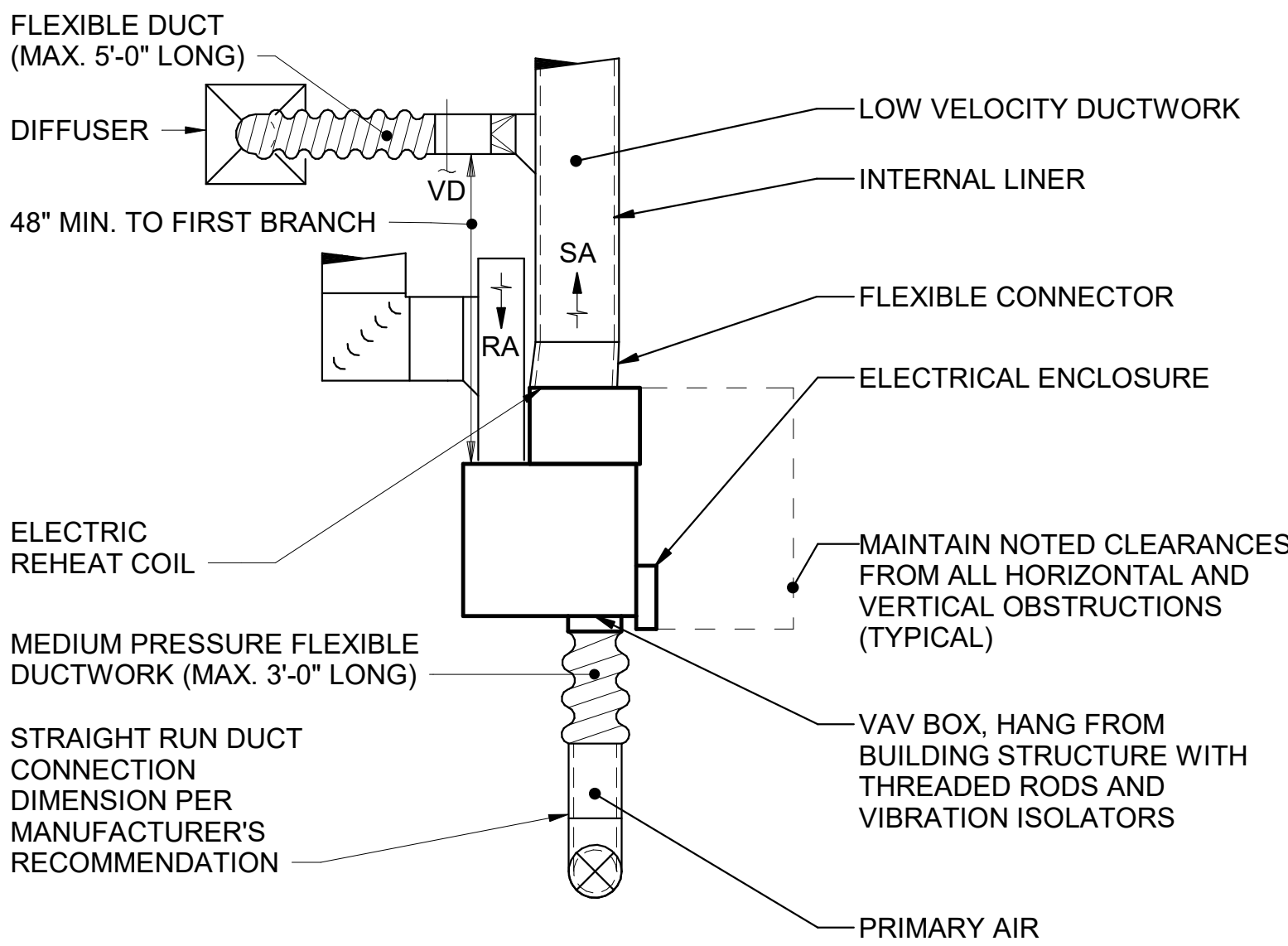
M101

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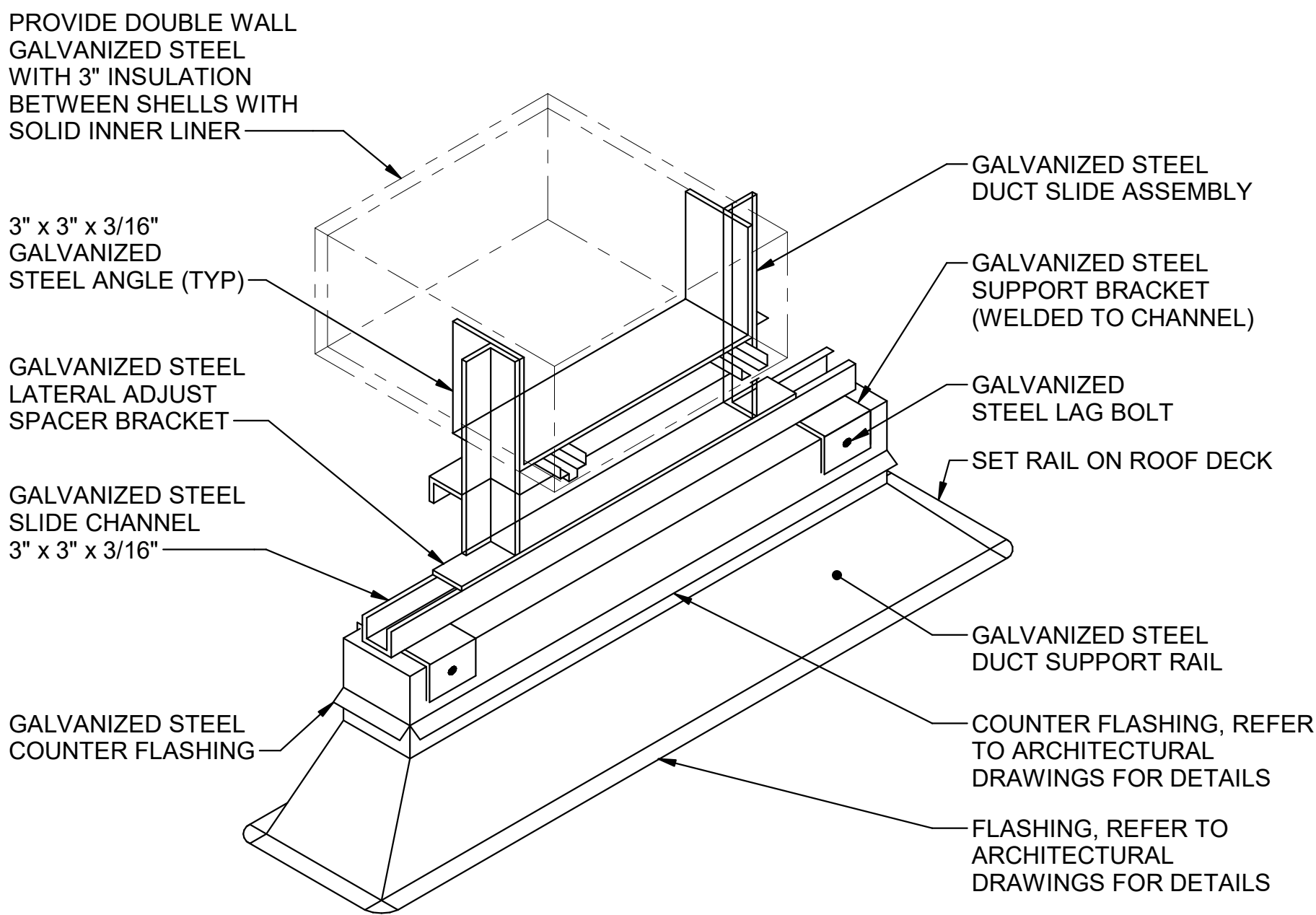
ROOF MOUNTED PIPE SUPPORT DETAIL

NOT TO SCALE



TYPICAL SERIES FAN POWERED VAV BOX (WITH ELECTRIC REHEAT COIL) INSTALLATION DETAIL

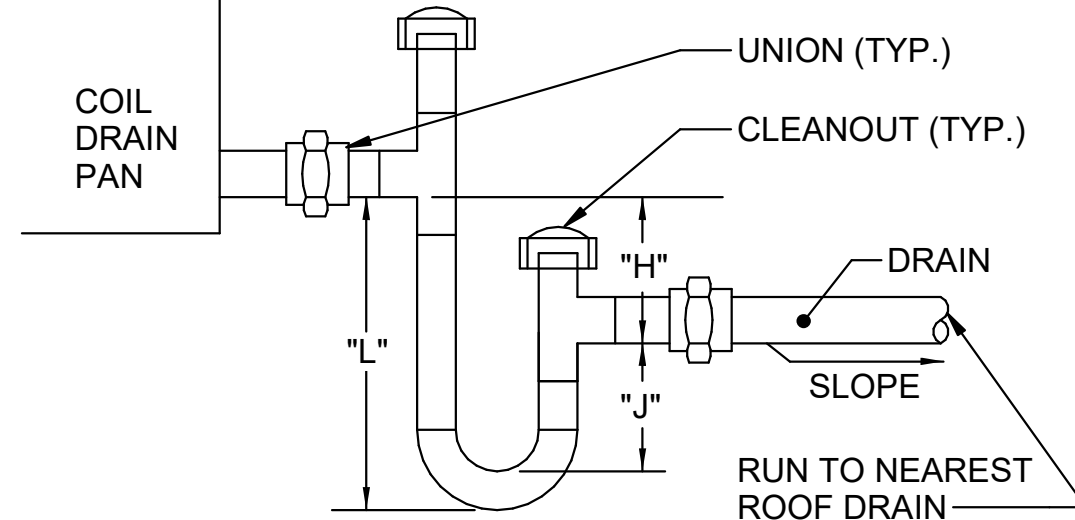
NOT TO SCALE



NOTE: DUCT SUPPORTS SHALL BE SPACED A MAXIMUM OF 4'-0" APART.

ROOF MOUNTED DUCT SUPPORT DETAIL

NOT TO SCALE

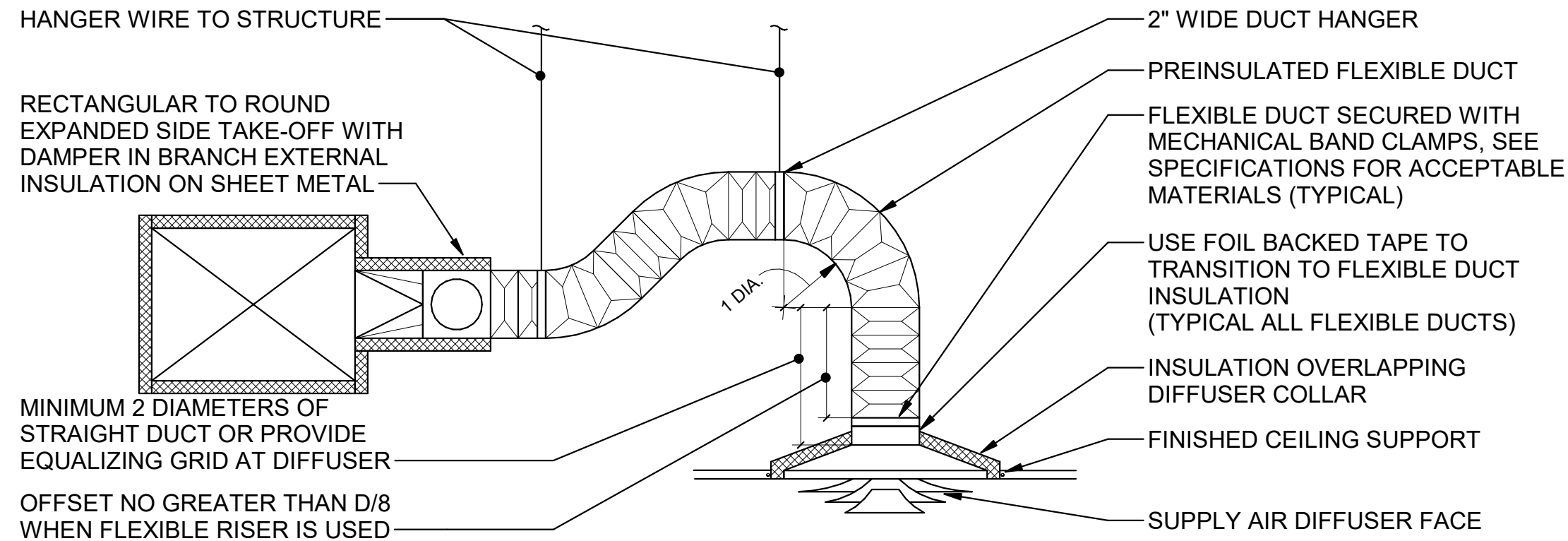


- NOTES:
1. "H" = (1" FOR EACH 1" OF MAXIMUM NEGATIVE STATIC PRESSURE) + 1".
 2. "J" = HALF OF H.
 3. "L" = H + J + PIPE DIAMETER + INSULATION.
 4. SIZE TRAP IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

COIL CONDENSATE TRAP DETAIL

NOT TO SCALE

(NEGATIVE PRESSURE)



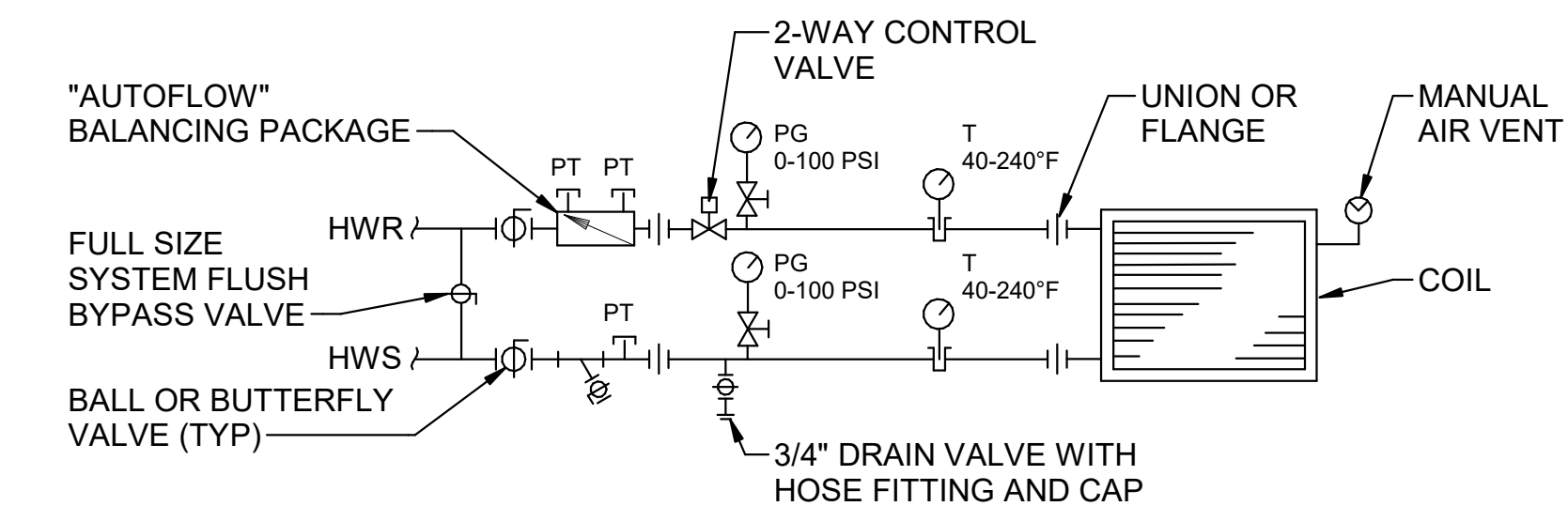
TYPICAL CEILING DIFFUSER INSTALLATION DETAIL

NOT TO SCALE

- NOTES:
1. THIS TYPICAL DETAIL REQUIRES COORDINATION BY THE MECHANICAL CONTRACTOR TO SUIT THE REQUIREMENTS OF THE UNIT PROVIDED. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFICATIONS OF THESE DETAILS AS REQUIRED TO SUIT THE EQUIPMENT PROVIDED AT NO ADDITIONAL COST.
 2. STEEL FRAMING SHALL HAVE A GALVANIZED COATING ON ALL COMPONENTS INCLUDING HARDWARE.
 3. ISOLATION MANUFACTURER TO SEAL AND STAMP SELECTIONS.
 4. PRIOR TO SUBMISSION OF STRUCTURAL STEEL SHOP DRAWINGS, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE REQUIREMENTS OF THE STEEL FRAMES WITH THE STEEL CONTRACTOR. THE MECHANICAL CONTRACTOR COORDINATION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
 - A. COORDINATE THE DIMENSIONS OF THE STEEL FRAMES WITH EACH SPECIFIC PIECE OF EQUIPMENT AND THE APPROVED EQUIPMENT SUBMITTALS.
 - B. COORDINATE THE LOCATION AND QUANTITY OF STEEL FRAME CROSS MEMBERS WITH THE APPROVED HVAC EQUIPMENT AND INSULATION SUBMITTALS.
 - C. COORDINATE THE LOCATION, TYPE, QUANTITY AND ATTACHMENT REQUIREMENTS FOR ISOLATORS WITH THE ISOLATOR MANUFACTURER AND APPROVED SPRING ISOLATOR SUBMITTALS.

ROOFTOP UNIT SUPPORT AND VIBRATION ISOLATION DETAIL

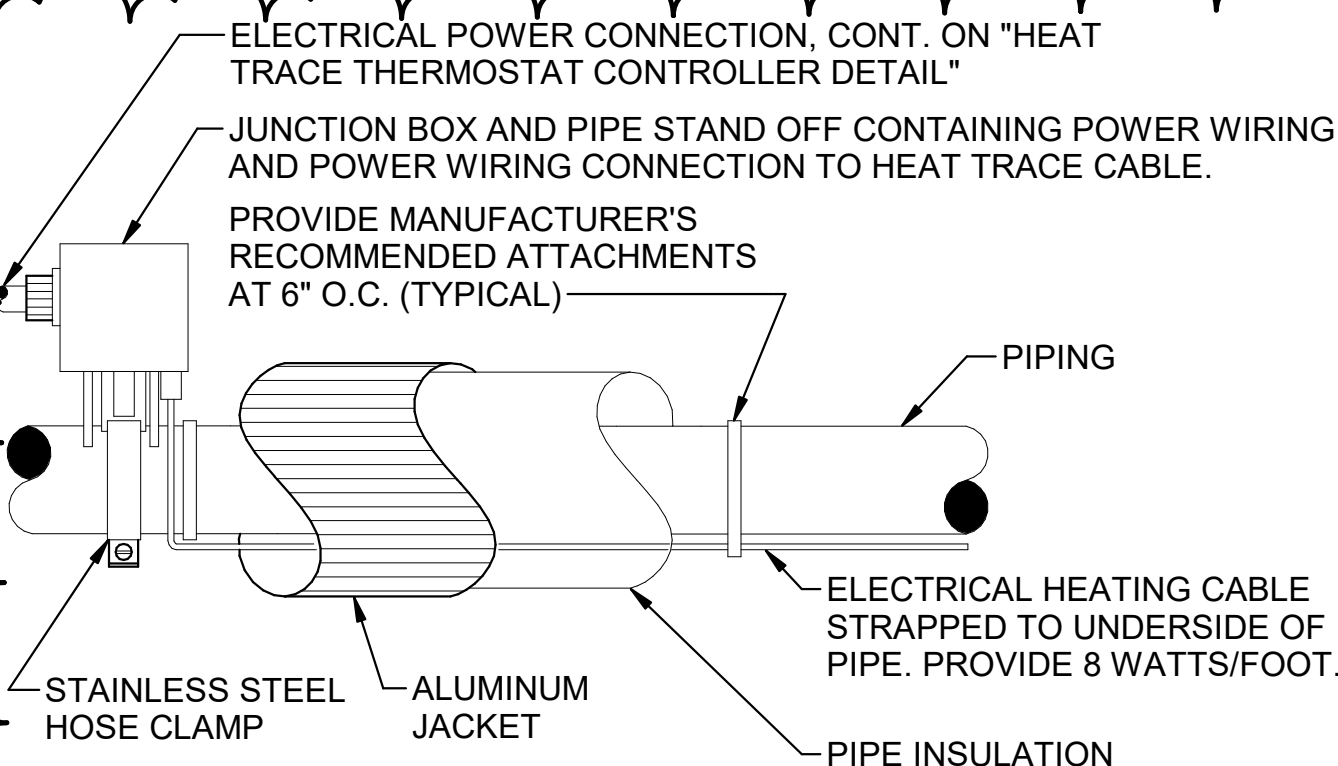
NOT TO SCALE



- NOTES:
1. PROVIDE FOR RTU-1.
 2. ARRANGE PIPING TO PERMIT REMOVAL OF COIL IN RTU-1.

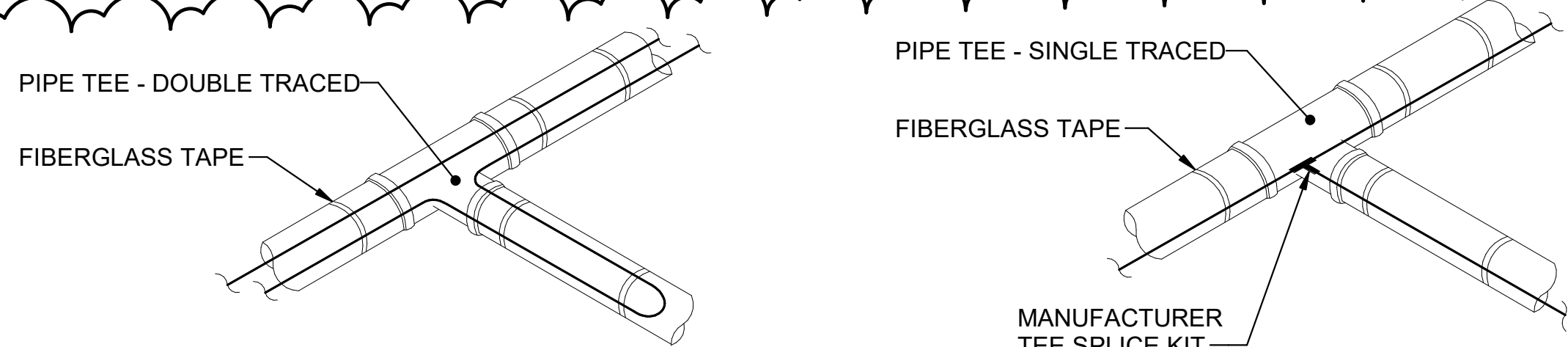
HOT WATER COIL PIPING DIAGRAM - 2 WAY VALVE

NOT TO SCALE



HEAT TRACE CABLE STAND OFF DETAIL

NOT TO SCALE

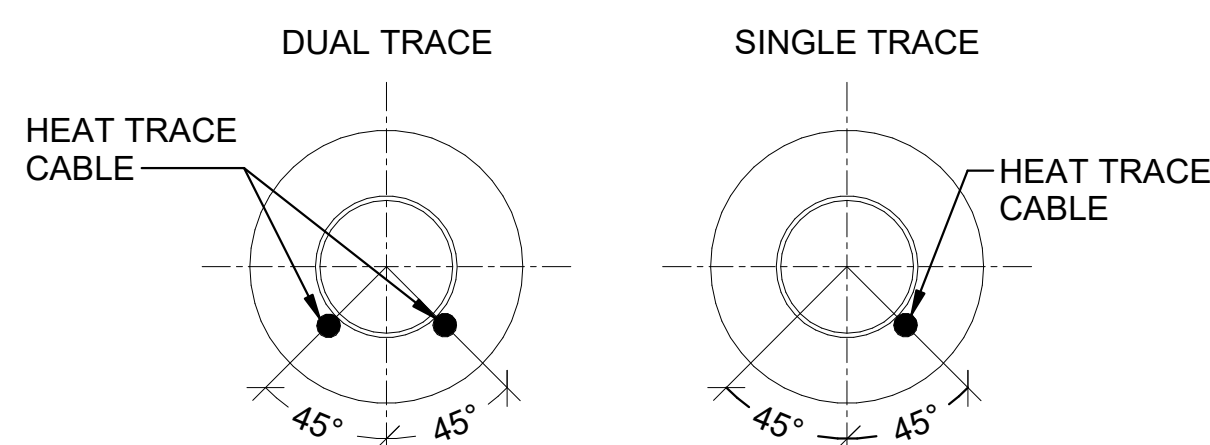


REMARK:

THE BASIS OF DESIGN HEAT TRACE CABLE IS THE HEAT TRACE PRODUCTS, LLC MODEL 2700. THE ABOVE ARE MANUFACTURER RECOMMENDED TRACINGS FOR THE BASIS OF DESIGN HEAT TRACE CABLE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND FOLLOWING THE SUBMITTED HEAT TRACE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

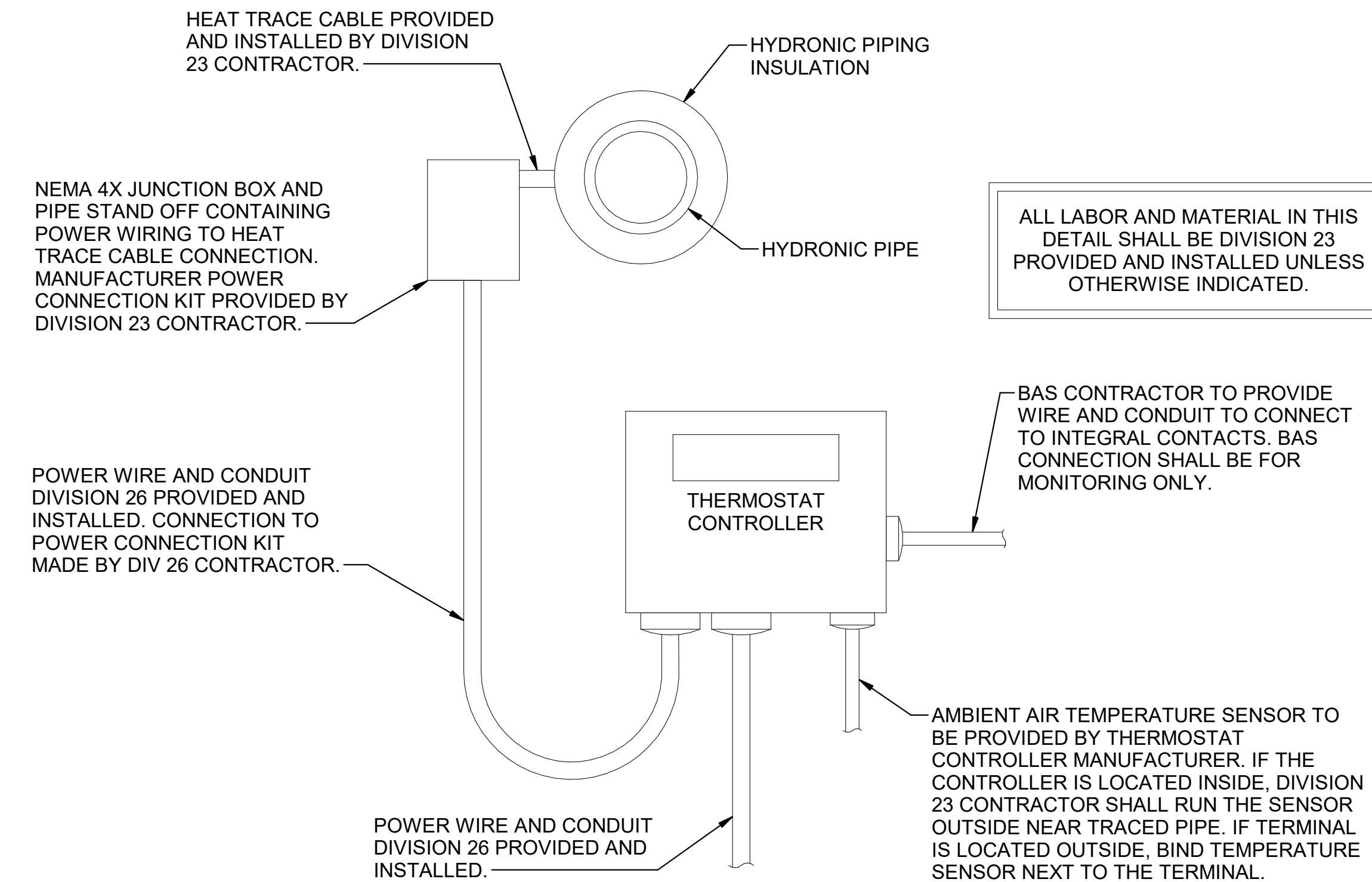
TYPICAL HEAT TRACE CABLE - TEE FITTINGS DETAIL

NOT TO SCALE



HEAT TRACE ORIENTATION DETAIL

NOT TO SCALE



HEAT TRACE THERMOSTAT CONTROLLER DETAIL

NOT TO SCALE

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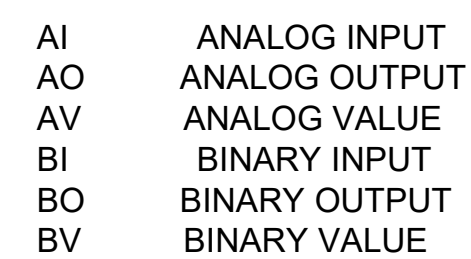
1 10/31/25 Addendum 2

No.	Date	Description
PROJECT MANAGER:	KDA	JAR
ISSUED FOR BID: IFB #011-0-2026/SB		
QEA No. Project Number 52406380		

ISSUED FOR BID
OCTOBER 1, 2025

MECHANICAL
DETAILS

M402



PACKAGED ROOFTOP VAV AIR CONDITIONING UNIT (RTU-1) POINTS LIST

PACKAGED ROOFTOP VAV AIR CONDITIONING UNIT (RTU-1) SEQUENCE OF OPERATION

THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP / PRE-COOL, AND HEAT / COOL MODES. IF COMMUNICATION IS LOST WITH THE BAS, THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS. THE BAS SHALL ALSO SEND THE CONTROLLER A DUCT STATIC PRESSURE SETPOINT, DISCHARGE AIR TEMPERATURE SETPOINT, AND VENTILATION AIRFLOW SETPOINT, EACH CALCULATED BY OPTIMIZATION ROUTINES IN THE BAS.

THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO CURRENT AIRFLOW SETPOINT. THE UNIT CONTROLLER SHALL CONTROL THE SUPPLY FAN SPEED TO MAINTAIN THE CURRENT DUCT STATIC PRESSURE SETPOINT (ADJ.). THE DX COOLING SHALL STAGE OR THE HW COOLING VALVE SHALL MODULATE TO MAINTAIN THE CURRENT DISCHARGE AIR TEMPERATURE SETPOINT (55°F. ADJ.). IF ECONOMIZING IS ENABLED, THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE CURRENT DISCHARGE AIR TEMPERATURE SETPOINT.

THE UNIT SHALL UTILIZE THE DISCHARGE AIR TEMPERATURE SENSOR AND DISCHARGE AIR TEMPERATURE SETPOINT TO DETERMINE WHEN TO INITIATE REQUESTS FOR COOLING AND HEATING. WHEN THE DISCHARGE AIR TEMPERATURE FALLS BELOW THE DISCHARGE AIR TEMPERATURE SETPOINT (55°F. ADJ.) AND THE OUTSIDE AIR DAMPER IS AT ITS MINIMUM POSITION, THE UNIT SHALL MODULATE THE HOT WATER CONTROL VALVE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. WHEN THE DISCHARGE AIR TEMPERATURE RISES ABOVE THE DISCHARGE AIR TEMPERATURE SETPOINT, AND THE OUTSIDE AIR DAMPER IS AT ITS MINIMUM POSITION, THE UNIT SHALL MODULATE THE DX COOLING TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT.

WHEN 100% OF THE VAV TERMINAL UNITS ARE IN THE HEATING MODE, AND HOT WATER HEAT HAS BEEN ENABLED AT THE UNIT, THE UNIT SHALL RESET THE DISCHARGE AIR TEMPERATURE UP IN 2°F INCREMENTS UNTIL AT LEAST TWO OF THE VAV TERMINAL UNITS ARE NO LONGER CALLING FOR HEAT.

THE SUPPLY AIR SENSOR SHALL MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER SHALL BE MODULATED BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. THE ECONOMIZER DAMPER SHALL MODULATE TOWARD MINIMUM POSITION IN THE EVENT THE DISCHARGE AIR TEMPERATURE FALLS BELOW THE DISCHARGE LOW LIMIT TEMPERATURE SETPOINT. COMPRESSORS SHALL BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100%.

FREEZE PROTECTION: SHOULD THE AIR TEMPERATURE INSIDE THE UNIT CABINET DROP TO 40°F OR BELOW, THE LWO LIMIT THERMOSTAT SHALL DISABLE THE SUPPLY FAN, THE OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL CLOSE, THE RETURN DAMPER SHALL OPEN, AND AN ALARM GENERATED. THE HOT WATER CONTROL VALVES SHALL MODULATE OPEN TO MAINTAIN MINIMUM CABINET TEMPERATURE.

OUTSIDE AIR TEMPERATURE SHALL COMPARED WITH A REFERENCE DRY BULB SETPOINT. THE ECONOMIZER SHALL ENABLE WHEN THE OUTDOOR AIR TEMPERATURE IS LESS THAN OR EQUAL TO REFERENCE DRY BULB SETPOINT. THE ECONOMIZER SHALL BE DISABLED WHEN OUTDOOR AIR TEMPERATURE IS GREATER THAN REFERENCE DRY BULB SETPOINT + 5.0 DEG. F.

THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE CURRENT VENTILATION AIRFLOW SETPOINT, AS MEASURED BY THE OUTSIDE AIRFLOW MONITORING STATION.

THE DUCT STATIC PRESSURE SETPOINT SHALL BE RESET TO THE OPTIMAL SETPOINT COMMUNICATED BY THE BAS. THE BAS SHALL RESET THE DUCT STATIC PRESSURE SETPOINT BASED ON THE POSITION OF THE FURTHEST OPEN VAV DAMPER.

IF FOR ANY REASON THE SUPPLY AIR PRESSURE EXCEEDS THE SUPPLY AIR PRESSURE HIGH LIMIT, THE SUPPLY FAN SHALL SHUT DOWN. THE UNIT SHALL BE ALLOWED TO RESTART THREE TIMES AFTER A 15 MINUTE OFF PERIOD. IF THE OVERPRESSURIZATION CONDITION OCCURS ON THE FOURTH RESTART, THE UNIT SHALL SHUT DOWN AND A MANUAL RESET DIAGNOSTIC IS DISPLAYED AT THE REMOTE PANEL AND/OR THE BAS SYSTEM.

A DIFFERENTIAL PRESSURE TRANSDUCER SHALL ACTIVELY MONITOR THE DIFFERENCE IN PRESSURE BETWEEN THE BUILDING (INDOORS) AND OUTDOORS. IF THE BUILDING PRESSURE INCREASES ABOVE THE DIFFERENTIAL PRESSURE SETPOINT, THE UNIT CONTROLLER SHALL TURN ON THE EXHAUST FAN AND MODULATE THE EXHAUST FAN DAMPER TO CONTROL BUILDING PRESSURE TO THE DIFFERENTIAL PRESSURE SETPOINT. IF THE BUILDING PRESSURE DECREASES BELOW THE DIFFERENTIAL PRESSURE SETPOINT, THE CONTROLLER SHALL DEACTIVATE THE EXHAUST FAN.

THE UNIT SHALL SHUT DOWN IN RESPONSE TO A SIGNAL FROM EITHER SMOKE DETECTOR INDICATING THE PRESENCE OF SMOKE. THE SMOKE DETECTORS SHALL BE INTERLOCKED TO THE UNIT THROUGH THE DRY CONTACTS OF THE SMOKE DETECTORS. A MANUAL RESET OF THE SMOKE DETECTORS SHALL BE REQUIRED TO RESTART THE UNIT.

A HARDWIRED, CONDENSATE OVERFLOW CONTACT SHALL BE ELECTRICALLY INTERLOCKED WITH THE SUPPLY FAN. THE DDC CONTROLLER SHALL CLOSE THE OUTSIDE AIR DAMPER AND AN ALARM SHALL BE ANNUNCIATED AT THE BAS.

NOT TO SCALE

PATH & FILENAME:	Autodesk Docs://Campus for Student Success/Campus for Student Success - Mechanical - R24.rvt
PLOTTING DATE & TIME:	10/31/2025 7:12:01 AM



M501

PATYA FILENAME: Autochek-Docs/Campus for Student Success/Campus for Student Success - Electrical - R24.rvt
PLOTING DATE & TIME: 10/29/2025 3:43:08 AM

DEMOLITION NOTES 	
NO.	DESCRIPTION
D1	EXISTING TO REMAIN.
D12	REMOVE ELECTRICAL CONNECTION TO MECHANICAL UNITS. REMOVE DISCONNECT SWITCH. REMOVE CONDUIT AND CONDUCTORS BACK TO PANEL INDICATED. MARK IN PANEL INDEX "SPARE".
D14	SEE ED201 FOR EXACT LOCATION OF PANEL "LA".

NEW WORK NOTES 	
NO.	DESCRIPTION
8	EXISTING WALL MOUNTED RECEPTACLE.
9	PROVIDE 2 #12 AND 1 #12 GND., IN 1/2" CONDUIT FROM EXISTING RECEPTACLE AND TERMINATE AT NEW WALL MOUNTED RECEPTACLE
10	WALL MOUNT EXTERIOR RECEPTACLE AT SAME HEIGHT AS EXISTING RECEPTACLE.
11	COORDINATE EXACT LOCATION OF ELECTRICAL CONNECTION WITH SUPPLIER OF MECHANICAL EQUIPMENT.
12	RUN CONDUIT AND CONDUCTORS BELOW ROOF. COORDINATE WITH MECHANICAL AS TO PATHWAY TO ELECTRICAL CONNECTION WITHIN UNIT.
13	WALL MOUNTED DISCONNECT SWITCH ON EXTERIOR WALL.
21	SEE E201 FOR EXACT LOCATION OF NEW PANEL "HMP".
36	COORDINATE EXACT LOCATION OF DUCT SMOKE DETECTOR WITH MECHANICAL DRAWINGS AND DETAILS FOR DUCTWORK SHOWN ON THE ROOF. SEE "GENERAL FIRE ALARM NOTES" FOR ADDITIONAL INFORMATION.
37	PROVIDE ELECTRICAL CONNECTION TO HEAT TRACE VIA THERMOSTAT FURNISHED BY MECHANICAL CONTRACTOR. COORDINATE EXACT LOCATION OF HEAT TRACE CONNECTION WITH MECHANICAL CONTRACTOR PRIOR TO RUNNING CONDUIT AND CONDUCTORS. COORDINATE ALL ADDITIONAL REQUIREMENTS WITH SUPPLIER OF EQUIPMENT.
38	SEE E201 FOR EXACT LOCATION OF PANELS "HMP" AND "LMP".

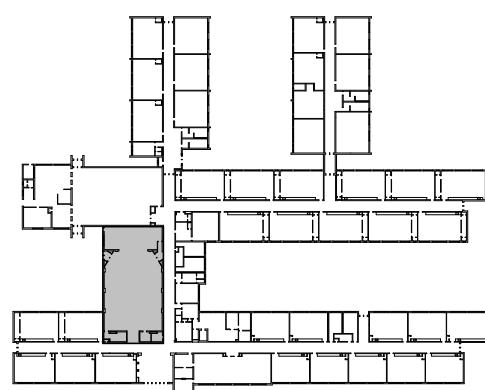
ROOF PLAN - DEMOLITION - HVAC POWER 

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

ROOF PLAN - NEW WORK - HVAC POWER 

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

KEY PLAN:



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1 10-31-2025 Addendum 2

No. Date Description

PROJECT MANAGER: DRAWN BY:

ISSUED FOR BID: IFB #011-0-2026/SB
QEA No. Project Number 52406380

ISSUED FOR BID
OCTOBER 1, 2025

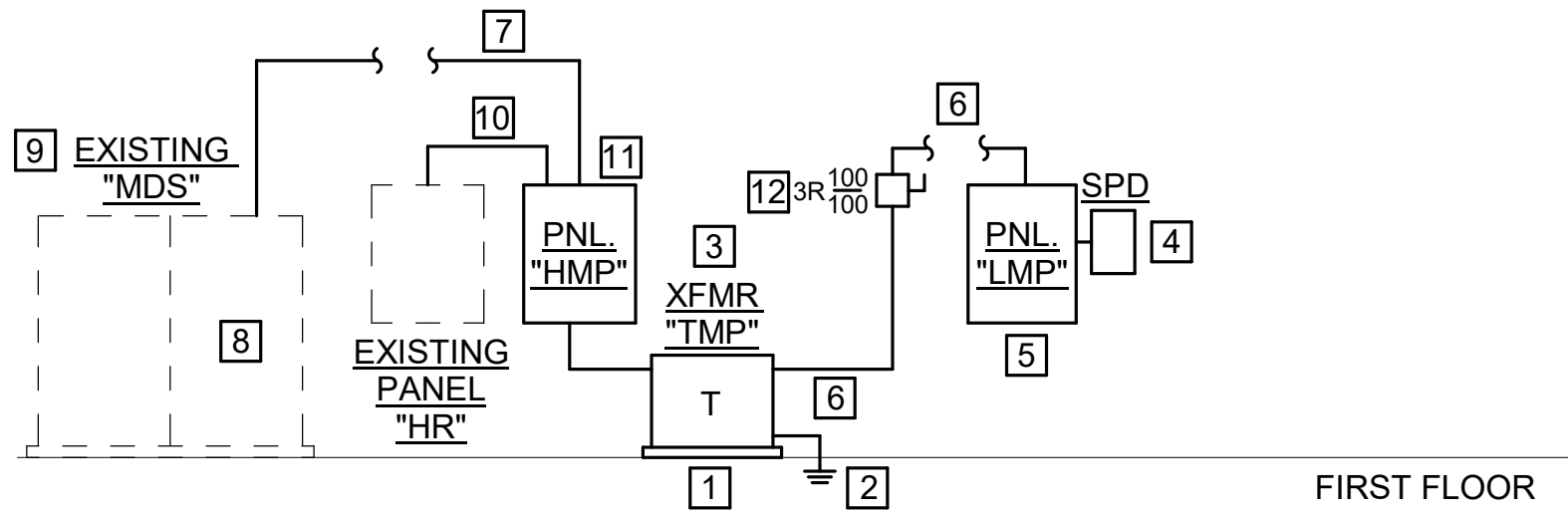
**ROOF PLANS -
DEMOLITION AND
NEW WORK - HVAC
POWER**

E301

PANEL: HMP													
LOCATION: MOUNTING: Surface NEMA: Type 1					VOLTS: 480/277 Wye PHASES: 3 WIRES: 4					KAIC RATING: 18 MAINS TYPE: M.L.O. MAINS RATING: 400 A			
CKT NO	LOAD SERVED	P	C/B TRIP	WIRE SIZE	A	B	C	WIRE SIZE	C/B TRIP	P	LOAD SERVED	CKT NO	
1	LIGHTS	1	20	12	2.6	39.2						2	
3	LIGHTS	1	20	12		3.4	39.2					4	
5	LIGHTS	1	20	12			3.4	39.2				6	
7					25.3	16.8						8	
9	VAV 1-2	3	35	8		25.3	16.8					10	
11							25.3	16.8				12	
13					25.3	36.0						14	
15	VAV 1-3	3	35	8		25.3	36.0					16	
17							25.3	36.0				18	
19	SPARE	1	20	--	0.0	160.0						20	
21	SPARE	1	20	--		0.0	160.0					22	
23	SPARE	1	20	--			0.0	160.0				24	
25	SPARE	1	20	--	0.0	--			--	--	1	SPACE	26
27	SPARE	1	20	--		0.0	--		--	--	1	SPACE	28
29	SPARE	1	20	--			0.0	--	--	--	1	SPACE	30
31	SPACE	1	--	--	--	--			--	--	1	SPACE	32
33	SPACE	1	--	--		--	--		--	--	1	SPACE	34
35	SPACE	1	--	--				--	--	--	1	SPACE	36
37	SPACE	1	--	--	--	--			--	--	1	SPACE	38
39	SPACE	1	--	--		--	--		--	--	1	SPACE	40
41	SPACE	1	--	--			--	--	--	--	1	SPACE	42
CONNECTED LOAD (AMPS):					305 A	306 A	306 A						
CONNECTED LOAD (KVA):					85 KVA	85 KVA	85 KVA						
TOTAL CONNECTED LOAD (KVA): 254 KVA													
TOTAL ESTIMATED DEMAND LOAD (KVA): 254 KVA													
NOTES:													
STORAGE ROOM													

PANEL: LMP																											
LOCATION: AV/IT 105 MOUNTING: Surface NEMA: Type 1					VOLTS: 120/208 Wye PHASES: 3 WIRES: 4					VOLTS RATING: 10 MAINS TYPE: M.L.O. MAINS RATING: 100 A																	
CKT NO	LOAD SERVED	P	C/B TRIP	WIRE SIZE	A	B	C	WIRE SIZE	C/B TRIP	P	LOAD SERVED	CKT NO															
1	RECEPTACLES	1	20	12	10.5	1.0						2															
3	RECEPTACLE	1	20	10		10.0	1.0			10	SPD	4															
5	RECEPTACLE	1	20	10			10.0	1.0				6															
7	RECEPTACLES	1	20	12	10.5	9.0			12	20	1	RECEPTACLES	8														
9	PROJECTOR & SCREEN	1	20	12		5.7	5.7		12	20	1	PROJECTOR & SCREEN	10														
11	PROJECTOR & SCREEN	1	20	12			5.7	5.7	12	20	1	PROJECTOR & SCREEN	12														
13	RECEPTACLES	1	20	12	12.0	0.0			--	20	1	SPARE	14														
15	RECEPTACLES	1	20	12		12.0	0.0		--	20	1	SPARE	16														
17	HEAT TRACE *	1	20	10			10.0	0.0	--	20	1	SPARE	18														
19					4.2	--			--	--	1	SPACE	20														
21	FOLDING PANEL PARTITION	3	15	10		4.2	--		--	--	1	SPACE	22														
23							4.2	--	--	--	1	SPACE	24														
CONNECTED LOAD (AMPS):					47 A	39 A	37 A																				
CONNECTED LOAD (KVA):					6 KVA	5 KVA	4 KVA																				
TOTAL CONNECTED LOAD (KVA): 14 KVA														TOTAL ESTIMATED DEMAND LOAD (KVA): 14 KVA													
NOTES:																											
* PROVIDE "GEP" TYPE CIRCUIT BREAKER. SEE "GENERAL NEW WORK NOTES" FOR ADDITIONAL REQUIREMENTS.																											

TRANSFORMER SCHEDULE							
TRANSF. NO.	KVA	PRIMARY	SECONDARY	ROOM LOCATION	APPROXIMATE WT.	MOUNTING	REMARKS
XFMR "TMP"	30	480V	208Y/120	STORAGE ROOM	380 LBS.	FLOOR	K4 RATED



PARTIAL POWER RISER DIAGRAM - NEW WORK

NOT TO SCALE

POWER RISER DIAGRAM NOTES - NEW WORK:

- 1 PROVIDE CONCRETE HOUSEKEEPING PAD IN ACCORDANCE WITH SPECIFICATION SECTION 262200.
- 2 PROVIDE 1 #8 COPPER GROUNDING ELECTRODE CONDUCTOR AND CONNECT IN ACCORDANCE WITH N.E.C. ARTICLE 250.
- 3 PROVIDE K4 RATED, 480 VOLT DELTA PRIMARY, 208Y/120 VOLT WYE SECONDARY TRANSFORMER IN ACCORDANCE WITH TRANSFORMER SCHEDULE ON THIS DRAWING AND SPECIFICATION SECTION 262200.
- 4 PROVIDE SURGE PROTECTIVE DEVICE "SPD" IN ACCORDANCE WITH SPECIFICATION SECTION 264313. PROVIDE 4 #10 AND 1 #10 GND. IN 3/4" CONDUIT. CONNECT DEVICE TO CIRCUIT BREAKER INDICATED IN PANELBOARD SCHEDULES.
- 5 PROVIDE NEW PANEL IN ACCORDANCE WITH PANEL SCHEDULE ON THIS DRAWING AND SPECIFICATION SECTION 262416. PROVIDE THIS PANEL WITH DOUBLE NEUTRAL BUSSES.
- 6 PROVIDE 3 #3, 2 #3 NEUTRALS AND 1 #8 GROUND, IN 1-1/2" CONDUIT.
- 7 PROVIDE 3-600 KCML, 1-600 KCML NEUTRAL AND 1 #3 GND. IN 4" CONDUIT.
- 8 PROVIDE 400A-3P CIRCUIT BREAKER IN SPACE 6 IN THE EXISTING "MDS". PROVIDE PRL4 BLANK COVER AND BREAKER CONNECTOR KIT, BREAKER FRAME "PDG3" AND KIT "KPRL4X334S". COORDINATE ALL WORK WITH SUPPLIER OF EQUIPMENT AND PROVIDE A COMPLETE TURNKEY ASSEMBLY FOR CIRCUIT BREAKER IN EXISTING "MDS".
- 9 EXISTING "MDS" IS MANUFACTURED BY WESTINGHOUSE TYPE "POW-R-LINE C", 1200 AMP, MLO, 480Y/277V, 3 PHASE, 4 WIRE WITH KAIC RATING OF 50K.
- 10 PROVIDE 4 #3/0 AND 1#6 GROUND IN 2-1/2" CONDUIT.
- 11 PROVIDE NEW PANEL IN ACCORDANCE WITH PANEL SCHEDULE ON THIS DRAWING AND SPECIFICATION SECTION 262416.
- 12 PROVIDE NEW FUSED DISCONNECT SWITCH.



PARTIAL POWER RISER DIAGRAM - DEMOLITION

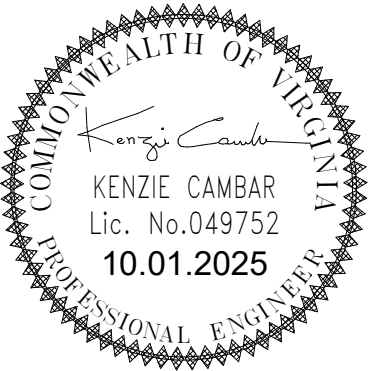
NOT TO SCALE

POWER RISER DIAGRAM NOTES - DEMOLITION:

- 1 EXISTING TO REMAIN.
- 2 REMOVE FEEDER CONDUIT AND CONDUCTORS BACK TO INDICATED CIRCUIT BREAKER IN MDS. ABANDON ALL CONCEALED CONDUIT IN PLACE.
- 3 REMOVE 200A-3P CIRCUIT BREAKER FEEDING PANEL "HR". TURN CIRCUIT BREAKER OVER TO OWNER.

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1 10-31-2025 Addendum 2

No. Date Description

PROJECT MANAGER: DRAWN BY:

ISSUED FOR BID: IFB #011-0-2026/SB
QEA No. Project Number 52406380

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OCTOBER 1, 2025

PANEL SCHEDULES
AND RISER DIAGRAM

E401