



## OFFICE OF COUNTY MAYOR GLENN JACOBS

Procurement Division, 1000 N. Central Street, Suite 100, Knoxville, TN 37917

### **Knox County Procurement Division Addendum III to Invitation for Bid 3503 Farragut High School Roof Replacement**

**Addendum Date: January 31, 2024**

**Buyer: Ben Sharbel**

**Opening Date: February 6, 2024 at 4:00 PM**

**Total Page(s): Twenty-six (26)**

#### **Notes and Clarifications:**

1. Please see Addendum III from MBI.

**End of Addendum III.**

A handwritten signature in blue ink that reads "Ben Sharbel".

Ben Sharbel, CPPO, CPPB  
Supervisor of Property Development & Asset Management  
Knox County Procurement Division

**Farragut High School Roof Replacement  
Knox County Schools  
Bid #3503  
MBI #231315**

To: Prime contractors and all others to whom drawings and specifications have been issued. This Addendum forms part of the Contract Documents. It supplements and modifies them as follows:

**A. Clarifications:**

1. New door details sheet A802, see attached drawings.
1. See revised specifications 00 42 13 Bid Envelope Cover, 07 53 23 EPDM Roofing - Fully Adhered, 08 11 13 Hollow Metal Doors and Frames, and 08 71 00 Door Hardware.

**B. Response to bidder's questions are as follows:**

<b>General Questions</b>	
<b>Bidder Question:</b>	<b>Response:</b>
<p>Question 1. The spec calls for tear off to the LWC and mechanically fasten the first layer of ISO then adhering all else to the membrane. Existing LWC is an R-8 that would leave an R value of 22 to be installed.</p> <p>The Carlisle basis of design of Vacuseal is called out as an option on Page 26 section 2.02 But below calls out a fully adhered system. With the wind ballasted system the roof insulation and coverboard are loose laid eliminating fasteners and several layers of insulation adhesive. The air ballast system is not truly fully adhered. 2.02 section A 1</p> <p>Johns Manville has an equal system but requires an air barrier to be used. Either the existing EPDM or a full vapor barrier adhered to the lightweight concrete deck. It is my understanding that LWC is not considered an air barrier. So an air Barrier like JM Vapor Barrier SAR ro Carlisle 725TR that is a peel and stick would need to be installed in the system to allow the air ballast to work. The existing EPDM can be used as a vapor barrier and leave everything in place, then add the required ISO coverboard and new Membrane and the WindSmart air ballast system like Carlise, eliminating any tear off.</p> <p>BUT Knox county always required a complete tear off. Clarification needs to be made as to the exact system for a true bid process.</p> <ul style="list-style-type: none"> <li>• Complete tear off to LWC and build the complete system from a clear deck</li> <li>• Or leave the existing system in place and use an air ballast system.</li> </ul> <p>There is a considerable difference in the cost of install of an air ballast system vs a full tear off and new roofing system. Can some clarification be given as to whether a full tear off will be required or if the existing roof system can be left in place.</p>	<p>A full tear off of the existing roof is necessary. Install a fully adhered EPDM roof system with EPDM membrane adhered to second layer of rigid insulation, mechanically fasten the first layer insulation over the vapor barrier over the existing lightweight insulating concrete on existing metal deck.</p>

<p>Question 2. See excerpt below from Spec Section 075323 "EPDM Roofing Fully Adhered" from addendum 2:</p> <p>2.02 ROOFING SYSTEM DESCRIPTION                  A. Roofing System:  <b>Carlisle SynTec VacuSeal Vent Secured Roofing System [Basis of Design]</b>                  Ethylene-propylene-diene-monomer (EPDM) single-ply membrane.                  1. Membrane Attachment: Fully adhered with applied adhesive.                  2. Comply with applicable local building code requirements.                  3. Provide assembly having Underwriters Laboratories, Inc. (UL) Class A Fire Hazard Classification.</p> <p>The VacuSeal Vent Secured Roofing System is not a fully adhered EPDM Roof. The VacuSeal system consist of loose laid EPDM over top of the existing roof system and vents are installed in a manufacturer determined pattern. As the wind blows across the roof it causes the membrane to vacuum seal itself to the roof system below. I believe the VacuSeal roof system is listed by mistake.</p> <p>Clarification is needed, do you want us to figure the VacuSeal roof system and leave the existing roof in place or tear off the existing roof system down to the light weight concrete deck and install a fully adhered EPDM roof system?</p>	<p>A full tear off of the existing roof is necessary. Install a fully adhered EPDM roof system with EPDM membrane adhered to second layer of rigid insulation, mechanically fasten the first layer insulation over the vapor barrier over the existing lightweight insulating concrete on existing metal deck.</p>
<p> </p>	<p> </p>

**Attachments**

Specifications:

2. 00 42 13 Bid Envelope Cover
3. 07 53 23 EPDM Roofing - Fully Adhered
4. 08 11 13 Hollow Metal Doors and Frames
5. 08 71 00 Door Hardware

Drawings:

1. G001 - COVER SHEET
2. A001 - DEMOLITION ROOF PLAN - MAIN BUILDING
3. A301 - ROOF PLAN - MAIN BUILDING
4. A801 - ROOF DETAILS
5. A802 - DOOR DETAILS

**End of Addendum 03**

# BID ENVELOPE COVER

**NAME OF PROJECT:** Farragut High School Roof Replacement

**Invitation for Bid:** #3503

**SEALED BIDS WILL BE RECEIVED BY:**

**Knox County Procurement Division  
1000 N. Central Street, Suite 100  
Knoxville, Tennessee 37917**

**UNTIL: 4:00 p.m. EST  
TIME**

**Tuesday, February 6, 2024  
DATE**

**COMPLETE ALL BLANKS!**

**BIDDER** \_\_\_\_\_

**STREET ADDRESS** \_\_\_\_\_

**CITY/STATE/ZIPCODE** \_\_\_\_\_

**TENNESSEE CONTRACTORS LICENSE NUMBER** \_\_\_\_\_

**LICENSE CLASSIFICATION** \_\_\_\_\_  
(If applicable to this project) Dollar Limit

**LICENSE EXPIRATION DATE** \_\_\_\_\_

**SUBCONTRACTORS TO BE USED ON THIS PROJECT**

*(If no subcontract work is required, write, "none required" in each blank.)*

**PLUMBING** \_\_\_\_\_ **LICENSE NO.** \_\_\_\_\_

**Classification** \_\_\_\_\_ **Expiration Date** \_\_\_\_\_

**HVAC** \_\_\_\_\_ **LICENSE NO.** \_\_\_\_\_

**Classification** \_\_\_\_\_ **Expiration Date** \_\_\_\_\_

**ELECTRICAL** \_\_\_\_\_ **LICENSE NO.** \_\_\_\_\_

**Classification** \_\_\_\_\_ **Expiration Date** \_\_\_\_\_

**MASONRY** \_\_\_\_\_ **LICENSE NO.** \_\_\_\_\_

**Classification** \_\_\_\_\_ **Expiration Date** \_\_\_\_\_

**BIDDERS MUST COMPLETE ALL AREAS OF THIS FORM!**

SECTION 07 53 23 - EPDM ROOFING - FULLY ADHERED

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. EPDM membrane roofing system, including all components specified.
- B. Disposal of demolition debris and construction waste is the responsibility of Contractor. Perform disposal in manner complying with all applicable federal, state, and local regulations.
- C. Comply with the published recommendations and instructions of the roofing membrane manufacturer.
- D. Commencement of work by Contractor shall constitute acknowledgement by Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by roofing membrane manufacturer. No modification of the Contract Sum will be made for failure to adequately examine the Contract Documents or the project conditions.

1.02 RELATED REQUIREMENTS

- A. Section 06 60 00 - Rough Carpentry: Wood nailers associated with roofing and roof insulation.
- B. Section 07 62 00 - Sheet Metal Flashing and Trim: Formed metal flashing and trim items associated with roofing.

1.03 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 for definition of terms related to roofing work not otherwise defined in the section.
- B. LTTR: Long Term Thermal Resistance, as defined by CAN-ULC-S770.

1.04 REFERENCE STANDARDS

- A. ANSI/SPRI/FM 4435/ES-1 - Test Standard for Edge Systems Used with Low Slope Roofing Systems; 2017.
- B. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2012.
- C. ASTM C473 - Standard Test Methods for Physical Testing of Gypsum Panel Products; 2016.
- D. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2013.
- E. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2017.
- F. ASTM D1079 - Standard Terminology Relating to Roofing and Waterproofing; 2016.
- G. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2016.
- H. ASTM D4637/D4637M - Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane; 2015.
- I. ASTM D4811/D4811M - Standard Specification for Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing; 2016.
- J. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2018.
- K. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2016a.
- L. CAN-ULC-S770 - Standard Test Method Determination of L-Term Thermal Resistance Of Closed-Cell Thermal Insulating Foams; 2015.
- M. FM 4470 - Approval Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction; 2016.
- N. PS 1 - Structural Plywood; 2009.

O. PS 20 - American Softwood Lumber Standard; 2015.

#### 1.05 SUBMITTALS

A. See Section 01 33 00 – Submittal Procedures.

B. Product Data:

1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include at least the following:
  - a. Technical data sheet for roof membrane.
  - b. Technical data sheets for splice tape and adhesives.
  - c. Technical data sheet for each insulation type.
  - d. Technical data sheet for each cover board type.
  - e. Technical data sheet for each type of metal edging.
  - f. Technical data sheet for each type of vapor barrier.
2. Where UL or FM requirements are specified, provide documentation that shows that the roofing system to be installed is UL-Classified or FM-approved, as applicable; include data itemizing the components of the classified or approved system.
3. Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.

C. Samples: Submit samples of each product to be used.

D. Shop Drawings: Provide:

1. The roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
2. For tapered insulation, provide project-specific layout and dimensions for each board, including slopes.

E. Installer Qualifications: Letter from manufacturer attesting that the roofing installer meets the specified qualifications.

F. Executed 20 year warranty.

#### 1.06 QUALITY ASSURANCE

A. Installer Qualifications: Roofing installer shall have the following:

1. Current approval, license, or authorization as applicator by the manufacturer.
2. At least five years experience in installing specified system.

#### 1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering.
- C. Keep combustible materials away from ignition sources.

#### 1.08 WARRANTY

A. See Section 01 70 00 – Execution and Closeout Requirements, for additional warranty requirements.

B. Comply with all procedures required by manufacturer to qualify for a 20-year warranty, including notifications, scheduling, and inspections.

### PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

A. Basis of Design Roofing System: Carlisle SynTec Incorporated. [www.carlisesyntec.com](http://www.carlisesyntec.com)

- B. Other Acceptable Manufacturers:
  - 1. Elevate Roofing
  - 2. GenFlex Roofing Systems.
  - 3. Johns Manville International, Inc.
  - 4. Versico Roofing Systems.
- C. Manufacturer of Insulation and Cover Boards: Same manufacturer as roof membrane.
- D. Manufacturer of Metal Roof Edging: Same manufacturer as roof membrane.
  - 1. Field- or shop-fabricated metal roof edgings are not acceptable.
- E. Substitutions: See Section 01 60 00 - Product Requirements.

## 2.02 ROOFING SYSTEM DESCRIPTION

- A. Roofing System:

Carlisle EPDM Roofing System [Basis of Design]

Ethylene-propylene-diene-monomer (EPDM) single-ply membrane.

  - 1. Membrane Attachment: Fully adhered with applied adhesive.
  - 2. Comply with applicable local building code requirements.
  - 3. Provide assembly having Underwriters Laboratories, Inc. (UL) Class A Fire Hazard Classification.
- B. Roofing System Components: Listed in order from the top of the roof down:
  - 1. Membrane: 60 mil thickness.
  - 2. Insulation:
    - a. Maximum Board Thickness: 3 inches; use as many layers as necessary; stagger joints in adjacent layers.
    - b. Tapered: Slope as indicated; provide minimum R-value at thinnest point; place tapered layer on bottom.
    - c. Total R-value: 30, minimum.
    - d. Crickets: Tapered insulation of same type as specified for top layer; slope as indicated.
    - e. Vapor Barrier

## 2.03 EPDM MEMBRANE MATERIALS

- A. Roofing and Flashing Membrane: Black, cured synthetic single-ply membrane composed of ethylene propylene diene terpolymer (EPDM) with the following properties:
  - 1. Reinforcement: None; membrane complying with ASTM D4637/D4637M Type I.
  - 2. Nominal Thickness Tolerance: Plus/minus 10 percent.
- B. Membrane Adhesive: Applied EPDM Bonding Adhesive by roof membrane manufacturer for roofing system and warranty to be provided; use only adhesive furnished by roof membrane manufacturer.
  - 1. Can be applied in cold weather (20F and rising).
  - 2. Single-Ply Low VOC Bonding Adhesive, Low VOC Content <250 g/l
- C. Flashing Membrane: Self-curing, non-reinforced membrane composed of nonvulcanized EPDM rubber, complying with ASTM D4811/D4811M Type II, and with the following properties:
  - 1. Thickness: 0.055 inch.
- D. Self-Adhesive Flashing Membrane: Semi-cured 45 mil EPDM membrane laminated to 35 mil EPDM tape adhesive.
- E. Pre-Molded Pipe Flashings: EPDM, molded for quick adaptation to different sized pipes.
- F. Self-Adhesive Lap Splice Tape: 35 mil EPDM-based, formulated for compatibility with EPDM membrane and high-solids primer.
- G. Splice Adhesive: Synthetic polymer-based, formulated for compatibility with EPDM membrane and metal surfaces.

- H. Adhesive Primer: Synthetic rubber based primer formulated for compatibility with EPDM membrane and tape adhesive, with VOC content less than 2.1 lb/gal.
- I. Seam Edge Treatment: EPDM rubber-based sealant, formulated for sealing exposed edges of membrane at seams.
- J. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing.
- K. Water Block Seal: Butyl rubber sealant for use between two surfaces, not exposed.
- L. Metal Plates and Strips Used for Fastening Membrane and Insulation: Steel with Galvalume coating; corrosion-resistance meeting FM 4470 criteria.
- M. Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches wide by 0.10 inch thick.
- N. Roof Walkway Pads: EPDM, 0.30 inch thick by 30 by 30 inches with EPDM tape adhesive strips laminated to the bottom.

#### 2.04 ROOF INSULATION AND COVER BOARDS

- A. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminated to faces, complying with ASTM C1289 Type II Class 1, with the following additional characteristics:
  - 1. Thickness: As indicated elsewhere.
  - 2. Size: 48 inches by 96 inches, nominal.
    - a. Exception: Insulation to be attached using adhesive or asphalt may be no larger than 48 inches by 48 inches, nominal.
  - 3. R-value (LTTR):
    - a. 1.0 inch Thickness: 6.0, minimum.
    - b. 1.25 inch Thickness: 7.5, minimum.
    - c. 1.5 inch Thickness: 9.0, minimum.
    - d. 1.75 inch Thickness: 10.5, minimum.
    - e. 2.0 inch Thickness: 12.1, minimum.
    - f. 2.5 inch Thickness: 15.3, minimum.
    - g. 3.0 inch Thickness: 18.5, minimum.
    - h. 4.0 inch Thickness: 25.0, minimum.
  - 4. Compressive Strength: 20 psi when tested in accordance with ASTM C1289.
  - 5. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.
- B. Adhesive for Insulation Attachment: Type as required by roof membrane manufacturer for roofing system and warranty to be provided; use only adhesives furnished by roof membrane manufacturer.
- C. Lightweight Insulating Concrete Gypsum-Concrete Patch:  
Acceptable Product: Gypsum-Concrete Patch

#### 2.05 METAL ACCESSORIES

- A. Parapet Copings: Formed metal coping with galvanized steel anchor/support cleats for capping any parapet wall; watertight, maintenance free, without exposed fasteners; butt type joints with concealed splice plates; mechanically fastened as indicated.
  - 1. Wind Performance:
    - a. At least minimum required when tested in accordance with ANSI/SPRI/FM 4435/ES-1 using test method RE-3.
  - 2. Description: Coping sections allowed to expand and contract freely while locked in place on anchor cleats by mechanical pressure from hardened stainless steel springs factory attached to anchor cleats; 8 inch wide splice plates with factory applied dual non-curing sealant strips capable of providing watertight seal.
  - 3. Material and Finish: 24 gauge, 0.024 inch thick galvanized steel with Kynar 500 finish in manufacturer's standard color; matching concealed joint splice plates; factory-installed protective plastic film.
  - 4. Dimensions:
    - a. Wall Width: As indicated on the drawings.
    - b. Piece Length: Minimum 144 inches.



- c. Curved Application: Factory fabricated in true radius.
- 5. Anchor/Support Cleats: 20 gauge, 0.036 inch thick prepunched galvanized cleat with 12 inch wide stainless steel spring mechanically locked to cleat at 72 inches on center.
- 6. Special Shaped Components: Provide factory-fabricated pieces necessary for complete installation, including miters, corners, intersections, curves, pier caps, and end caps; minimum 14 inch long legs on corner, intersection, and end pieces.
- 7. Fasteners: Factory-furnished; electrolytically compatible; minimum pull out resistance of 240 pounds for actual substrate used; no exposed fasteners.

## 2.06 ACCESSORY MATERIALS

- A. Wood Nailers: PS 20 dimension lumber, Structural Grade No. 2 or better Southern Pine, Douglas Fir; or PS 1, APA Exterior Grade plywood; pressure preservative treated.
  - 1. Width: 3-1/2 inches, nominal minimum, or as wide as the nailing flange of the roof accessory to be attached to it.
  - 2. Thickness: Same as thickness of roof insulation.
- B. Cant Strips and Tapered Edge Strips: 45 degree face slope and minimum 5 inch face dimension; provide at all angle changes between vertical and horizontal planes that exceed 45 degrees.
  - 1. Type: Wood fiber, complying with ASTM C208.
  - 2. Install using hot asphalt (Type IV), roofing mastic, or mechanically fastened using fasteners and plates approved by roofing manufacturer.

## PART 3 INSTALLATION

### 3.01 GENERAL

- A. Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.
- B. Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- C. Do not start work until Pre-Installation Notice has been submitted to manufacturer as notification that this project requires a manufacturer's warranty.
- D. Perform work using competent and properly equipped personnel.
- E. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- F. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F.
- G. Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.
  - 1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
  - 2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
  - 3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.
- H. Until ready for use, keep materials in their original containers as labeled by the manufacturer.
- I. Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

### 3.02 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

### 3.03 PREPARATION

- A. Remove all of the existing roof system down to the roof deck including all existing composition base flashings. Dispose of all materials properly. Perform asbestos removal in accordance with federal, state and local regulations and dispose of waste in legal manner.
  - 1. At penetrations, remove all existing flashings, including lead, asphalt, mastic, etc.
  - 2. At walls, curbs, and other vertical and sloped surfaces, remove loose and unsecured flashings; remove mineral surfaced and coated flashings; remove excessive asphalt to provide a smooth, sound surface for new flashings.
- B. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- C. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- D. Fill all surface voids in the immediate substrate that are greater than 1/4 inch wide with fill material acceptable insulation to membrane manufacturer.
- E. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.
- F. Install blocking at the base of roof projections, penetrations and non-roof edge perimeters as detailed.
- G. Wood Nailers: Provide wood nailers at all perimeters and other locations where indicated on the drawings, of total height matching the total thickness of insulation being used.
  - 1. Install with 1/8 inch gap between each length and at each change of direction.
  - 2. Mechanically fasten to deck to resist force of 200 lbf per linear foot.
  - 3. Taper nailer where applicable to be flush at point of contact with membrane in either the vertical or horizontal applications.

### 3.04 INSULATION AND COVER BOARD INSTALLATION

- A. Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.
- B. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- C. Lay roof insulation in courses parallel to roof edges.
- D. Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch. Fill gaps greater than 1/4 inch with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch.
- E. Loose Laid Installation: Install insulation by laying loose over substrate without mechanical securement of any kind.

### 3.05 SINGLE-PLY MEMBRANE

- A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.
- B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.

- C. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.
- D. Install membrane adhered to the substrate, with edge securement as specified.
- E. Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.
- F. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
  - 1. Exceptions: Round pipe penetrations less than 18 inches in diameter and square penetrations less than 4 inches square.
  - 2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

### 3.06 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
- B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
  - 1. Follow roofing manufacturer's instructions.
  - 2. Remove protective plastic surface film immediately before installation.
  - 3. Install water block sealant under the membrane anchorage leg.
  - 4. Flash with manufacturer's recommended flashing sheet unless otherwise indicated.
  - 5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
  - 6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
  - 7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.
- C. Roofing Expansion Joints: Install as shown on drawings and as recommended by roofing manufacturer.
- D. Flashing at Walls, Curbs, and Other Vertical and Sloped Surfaces: Install weathertight flashing at all walls, curbs, parapets, curbs, skylights, and other vertical and sloped surfaces that the roofing membrane abuts to; extend flashing at least 8 inches high above membrane surface.
  - 1. Use the longest practical flashing pieces.
  - 2. Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacturer's recommendations.
  - 3. Complete the splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
  - 4. Provide termination directly to the vertical substrate as shown on roof drawings.
- E. Roof Drains:
  - 1. Existing Drains: Remove all existing flashings, drain leads, roofing materials and cement from the drain; remove clamping ring.
  - 2. Taper insulation around drain to provide smooth transition from roof surface to drain. Use specified pre-manufactured tapered insulation with facer or suitable bonding surface to achieve slope; slope not to exceed manufacturer's recommendations.
  - 3. Position membrane, then cut a hole for roof drain to allow 1/2 to 3/4 inch of membrane to extend inside clamping ring past drain bolts.
  - 4. Make round holes in membrane to align with clamping bolts; do not cut membrane back to bolt holes.
  - 5. Apply sealant on top of drain bowl where clamping ring seats below the membrane
  - 6. Install roof drain clamping ring and clamping bolts; tighten clamping bolts to achieve constant compression.

- F. Flashing at Penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.
1. Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
  2. Pipe Clusters and Unusual Shaped Penetrations: Provide penetration pocket at least 2 inches deep, with at least 1 inch clearance from penetration, sloped to shed water.
  3. Structural Steel Tubing: If corner radii are greater than 1/4 inch and longest side of tube does not exceed 12 inches, flash as for pipes; otherwise, provide a standard curb with flashing.
  4. Flexible and Moving Penetrations: Provide weathertight gooseneck set in sealant and secured to deck, flashed as recommended by manufacturer.
  5. High Temperature Surfaces: Where the in-service temperature is, or is expected to be, in excess of 180 degrees F, protect the elastomeric components from direct contact with the hot surfaces using an intermediate insulated sleeve as flashing substrate as recommended by membrane manufacturer.

### 3.07 FINISHING AND WALKWAY INSTALLATION

- A. Install walkways at access points to the roof, around rooftop equipment that may require maintenance, and where indicated on the drawings.
- B. Walkway Pads: Adhere to the roofing membrane, spacing each pad at minimum of 1.0 inch and maximum of 3.0 inches from each other to allow for drainage.
1. If installation of walkway pads over field fabricated splices or within 6 inches of a splice edge cannot be avoided, adhere another layer of flashing over the splice and extending beyond the walkway pad a minimum of 6 inches on either side.
  2. Prime the membrane, remove the release paper on the pad, press in place, and walk on pad to ensure proper adhesion.

### 3.08 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- C. Perform all corrections necessary for issuance of warranty.

### 3.09 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

3.10 PROTECTION

- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

3.11 INSULATION SCHEDULE

- A. Install thickness of board insulation to reach minimum R30CI.
- B. Replace damaged insulation with 5 inches total thickness of board insulation. Refer to Section 01 21 00 for Allowances.
- C. Verify measurements and extents in field before ordering material.

END OF SECTION 07 53 23 - EPDM ROOFING - FULLY ADHERED

08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART I GENERAL

1.01 WORK INCLUDED:

- A Furnish and install all exterior and interior hollow metal doors, steel doorframes and frames for fixed glass windows, and all necessary incidental work in connection therewith.

1.02 RELATED DOCUMENTS:

- A Applicable provisions of the General Conditions, Supplementary Conditions and Division 1, General Requirements, apply to the work under this section.

- Section 07 92 00 – Joint Sealants
  - Section 08 71 00 - Door Hardware
  - Section 09 91 00 – Painting

1.03 SUBMITTALS:

- A Submit schedules and shop drawings of hollow metal doors and frames to the Architect for approval before any work is fabricated.

PART II PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

- A Doors and frames shall be products as specified, manufactured by Steelcraft Manufacturing Company, Cincinnati, Ohio; or equal products of the following manufacturers:

- Mesker Brothers, St. Louis, Mo.
  - Metal Products, Inc., Corbin, Kentucky
  - Curries Corporation, Mason City, Iowa

2.02 MATERIALS:

- A Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.
- C Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z (12G) coating designation; mill phosphatized.
  - 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- D Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

2.03 DOORS:

- A Doors shall be full flush construction 1-3/4" thick, made of cold, 16 gauge, cold rolled steel. Doors shall be Type B-16. Doors shall be reinforced, stiffened, sound deadened and insulated with impregnated kraft honeycomb core completely filling the inside of the doors and laminated to both inside faces of the panels.
  - 1. All doors shall have mechanical edge seam or be fully welded and ground smooth if joint is in center of door edge.

2. Hinge and lock edge shall have 1/8" in 2" bevel.
3. Top and bottom #14 gauge cold, rolled steel reinforcing channels shall be spot welded within the door.
4. Top edges of exterior doors shall be finished with flush metal closure.
5. Hinge reinforcing shall be 8-gauge steel.
6. Lock reinforcing shall be #16 gauge.
7. Closer reinforcing shall be #12 gauge.
8. Adequate reinforcing shall be provided for other hardware as required.
9. Mortise, drill and tap for hardware, except that doors be drilled and tapped for surface-mounted hardware in the field.

B Glass light openings shall be provided with removable metal moldings secured in place with oval head countersunk screws.

C Glass in fire rated doors shall be 1/4" wire glass. Glass in non-label doors shall be 1/4" thick tempered clear.

#### 2.04 FRAMES:

A Frames shall be flush frames with 2" wide faces, formed of #16 gauge steel. Interior frames shall be fabricated from cold rolled steel. Exterior frames shall be fabricated from metallic coated steel sheet. Frames shall be set up and welded and doorframes shall be provided with temporary spreaders at bottom. Mitered corners shall have reinforcements with integral tabs for secure and easy interlocking of jambs to head. Strike jambs shall be supplied with three factory installed rubber bumpers. Mullions at pairs of doors shall be removable type.

1. Frames shall have 8 gauge steel hinge reinforcing and be mortised for hinges specified.
2. Strike reinforcing shall be #16 gauge.
3. Provide metal plaster guards for all mortise cutouts. Reinforcings for surface closers shall be #12 gauge.
4. Adequate reinforcing shall be provided for other hardware as required.
5. Mortise, drill and tap for hardware, except that frames shall be drilled and tapped for surface-mounted hardware in the field.

B Frames shall be furnished with a minimum of six wall anchors and two adjustable base anchors of manufacturer's standard design at masonry walls and a minimum of six wall anchors (2 base) at stud walls. Anchors for labeled frames shall be UL approved type.

C Steelcraft unitized weatherstripping will be acceptable in lieu of weatherstripping specified for exterior doors in Finish Hardware Section herein.

#### 2.05 SOUND SEALS:

A Openings noted on the schedule to have sound seals shall be fitted with the following:

1. Jamb and Head: Zero 328
2. Door Bottom: Zero 364, 365 or 366 (coordinate with jamb seals).
3. Astragal seals: Zero 155/55
4. Provide a flat, solid threshold similar to Pemco 14\_1 in order for the door bottom seal to operate properly.

B Seals shall be the product of Zero International, 415 Concord Avenue, Bronx, NY 10455, Ph.: (718) 585-3230, Fax.: (718) 292-2243 or equal product by Pemco or Reese.

#### 2.06 LOCATION OF HARDWARE:

A Finishing hardware is specified to be furnished in "Finish Hardware" section under Division 8. Doors and frames shall be prepared for hardware from templates of the hardware to be furnished.

B Unless otherwise specifically indicated, hardware shall be located as follows:

1. Knob locks, handle sets, and exit bolt locks; 36" from finish floor to centerline of strike.

2. Deadlocks: 42" from finish floor to centerline of strike.
3. Door Pulls and Single Push Bars: 42" from finish floor to centerline of grip or to centerline of push bar.
4. Push Plates: 42" from finish floor to centerline of strike.
5. Hinges: Top hinge 9-3/4" from head of frame to centerline of hinge; bottom hinge 10-3/8" from finished floor to centerline of hinge; intermediate hinges equally spaced from top and bottom hinges. Locate top and bottom hinges at toilet stall doors 6" from top and bottom of door.

2.07 DOOR CLEARANCE:

- A Doors shall have 1/8" clearance at top, 3/32" clearance at sides, and 5/8" clearance above finished floor at the bottom, unless noted on the drawings to be undercut.

2.08 FINISH:

- A Doors and frames shall be cleaned, bonderized, and finished with one coat of baked-on prime paint.

PART III EXECUTION

3.01 EXAMINATION:

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of standard steel doors and frames.
1. Examine roughing-in for embedded and built-in anchors to verify actual locations of standard steel frame connections before frame installation.2.
  2. Delete first subparagraph below if not required.
  3. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
  4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION:

- A Remove welded-in shipping spreaders installed at factory.
- B Prior to installation and with installation spreaders in place, adjust and securely brace standard steel door frames for squareness, alignment, twist, and plumb to the following tolerances:
1. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
  2. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
  3. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
  4. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.

- C Drill and tap doors and frames to receive nontemplated mortised and surface-mounted door hardware.

3.03 INSTALLATION:



- A General: Provide doors and frames of sizes, thicknesses, and designs indicated. Install standard steel doors and frames plumb, rigid, properly aligned, and securely fastened in place with all clearances accurately maintained; comply with Drawings and manufacturer's written instructions.
- B Standard Steel Frames: Install standard steel frames for doors and other openings, of size and profile indicated. Comply with SDI 105.
1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
    - a. At fire-protection-rated openings, install frames according to NFPA 80.
    - b. Where frames are fabricated in sections due to shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    - c. Install frames with removable glazing stops located on secure side of opening.
    - d. Install door silencers in frames before grouting.
    - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    - f. Check plumb, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    - g. Apply bituminous coating to backs of frames that are filled with mortar, grout, and plaster containing antifreezing agents.
  2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor and secure with postinstalled expansion anchors.
    - a. Floor anchors may be set with powder-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
  3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
  4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with mortar as specified in Division 4 Section "Unit Masonry Assemblies."
  5. Concrete Walls: Solidly fill space between frames and concrete with grout. Install grout in lifts and take precautions, including bracing frames, to ensure that frames are not deformed or damaged by grout forces.
  6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
  7. In-Place Gypsum Board Partitions: Secure frames in place with postinstalled expansion anchors through floor anchors at each jamb. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
  8. Ceiling Struts: Extend struts vertically from top of frame at each jamb to supporting construction above, unless frame is anchored to masonry or to other structural support at each jamb. Bend top of struts to provide flush contact for securing to supporting construction above. Provide adjustable wedged or bolted anchorage to frame jamb members.
  9. Installation Tolerances: Adjust standard steel door frames for squareness, alignment, twist, and plumb to the following tolerances:

- a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
  - b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
  - c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
  - d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- C Standard Steel Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Standard Steel Doors:
    - a. Jambs and Head: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
    - b. Between Edges of Pairs of Doors: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
    - c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch (9.5 mm).
    - d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch (19 mm).
  2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
- D Smoke-Control Doors: Install doors according to NFPA 105.
- E Where labeled fire doors are called for on the drawings, the doors and frames shall meet the requirements of the Underwriters' Laboratories and the National Fire Protection Association and shall bear UL label.
- 3.04 ADJUSTING AND CLEANING:
- A Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including standard steel doors or frames that are warped, bowed, or otherwise unacceptable.
  - B Clean grout and other bonding material off standard steel doors and frames immediately after installation.
  - C Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.
  - D Galvanized Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

08 71 00 DOOR HARDWARE

PART 1 GENERAL

1.01 SCOPE

- A Furnish all labor, materials, tools, equipment, and supervision as required to properly and completely equip all doors as shown on the drawings and specified herein.

1.02 QUALITY ASSURANCE

- A Obtain each type of Hardware (i.e. locks) from a single manufacturer.
- B "Supplier" refers to a recognized architectural hardware supplier, with warehouse facilities, furnishing hardware for not less than 2 years in the project's vicinity. Supplier must be or employ a full time experienced Architectural Hardware Consultant (AHC – Certified by the Door and Hardware Institute) who, at reasonable times during the course of the work, is available for consultation with the Owner, Architect and Contractor about the project's requirements.

1.03 SUBMITTALS

- A Submit hardware schedule in manner indicated below. Coordinate hardware with doors, frames, and related work to insure proper size, thickness, hand, function and finish of hardware.
- B Final Hardware Schedule: Based on finish hardware, organize a schedule into "hardware sets" containing all items required for each door or opening. Include the following information:
  1. Type, style, function, size, finish and manufacturer of each hardware item.
  2. Explanation of abbreviations, symbols, codes, etc. contained in schedule.
  3. Fastening and other pertinent information.
  4. Location of hardware set cross-referenced to drawings.
  5. Mounting locations for hardware.
  6. Door frame size and material.
  7. Keying information.
- C Submit schedule at earliest possible date since acceptance of hardware schedule must precede fabrication of other work (i.e. hollow metal frames) critical to construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to a coordinated review of hardware schedule.
- D Submit separate keying schedule indication implementation of the Owner's final keying instructions.
- E Furnish templates to fabricators of doors, frames, and other work to be factory-prepared for the installation of hardware. Upon request, check shop drawings of each other's work, to confirm that adequate provisions are made for proper location and installation of hardware.
- F No hardware shall be ordered until hardware schedule has been approved by the Architect.

1.04 PACKING AND MARKING

- A All hardware shall have the required screws, bolts, and other fasteners necessary for its' installation packed in the same package as the hardware. Each package shall be legibly and adequately labeled to indicate the part of the work for which it is intended.
- B Hardware shall include such adjusting tools and instructions as furnished by the manufacturer as standard practice. Upon completion of the work, the Contractor shall turn over to the Owner or his representative all such tools, instructions and emergency keys.

PART 2 PRODUCTS

2.01 GENERAL

- A Coordinate finish hardware work with work of other trades as required.
- B Cooperate with Finish Hardware supplier in scheduling dates for submittals and delivery of templates and finish hardware.

2.02 MATERIALS

- A Catalog numbers used in the schedule are as follows:

Hinges	- Hager Hinge Co. or Pemko
Locksets	- Yale Security
Closers	- Yale Security or Norton
Push, Pull, Kick Plates, Stops, Misc.	- Hager Hinge Co.
Thresholds, Weatherstrip, Drip Caps	- National Guard Products or Pemko
Magnetic Holders	- Rixson/Firemark
Overhead Stop & Holders	- Glynn Johnson

- B Labeled Doors: Hardware for labeled fire doors shall be UL listed and shall be labeled where required by NFPA standards.
- C Maintenance Requirements: Furnish a complete set of specialized tools and instructions for maintenance, adjustment, removal and replacement.

2.03 FINISH

- A Finish to be Satin Chrome, US26D for all items unless otherwise scheduled. Closers to be sprayed Aluminum to match remainder of hardware.
- B Push, pull and kick plates and overhead holders shall be Satin Stainless Steel, US32D.
- C Thresholds and drip caps to have clear anodized finish.

2.04 KEYING

- A All locks shall be master keyed into a new master key system. Furnish two (2) construction master keys for use during building construction. Remove construction keying at completion of project. The final lock cylinder needs to accept standard lock core supplied/installed by the Owner.

2.05 HINGES

- A Hinges, unless scheduled otherwise, shall be BB1279, 4.5" x 4.5" for doors not more than 36" wide and 5" x 4.5" for doors over 36" wide.
- B Provide two (2) pair hinges for doors over 7'-2" high.
- C Provide non-removable pins for all out swinging exterior doors.

2.06 DOORSTOPS

- A Except where overhead door holders are scheduled, provide 236W Series stop for each door leaf. Substitute type 241F Series of the proper height where wall stop cannot be installed.

2.07 DOOR MUTES

A Mutes for hollow metal doorframes shall be GJ-64. Three mutes required for single swinging doors and two for pairs of doors. Omit for exterior openings.

#### 2.08 CLOSERS

A Where closers are scheduled, provide types as specified for exterior and interior openings. Size shall be as recommended by the manufacturer.

B Provide brackets for closers on exterior out swinging doors and for other doors as required.

C Provide hold-open arms for all exterior doors and where scheduled for other doors.

#### 2.09 LOCKSETS

A Provide types as specified with design as specified at all locations. Cylindrical locksets shall be lever handle with free wheeling levers when lockset is in locked mode.

#### 2.10 KICKPLATES

A Provide kick plates 8" high, unless noted otherwise, 2" less than nominal door width for single doors and 1" less than nominal door width for pairs of doors. Kick plates shall be 0.050" thick and beveled on all edges.

#### 2.11 SCHEDULE OF DOOR HARDWARE

A See door hardware schedule on drawings.

### PART 3 EXECUTION

#### 3.01 INSTALLATION

A Locations of hardware shall be in accordance with the recommendations of the National Builders Hardware Association for detailed locations.

B Install hardware in accurate conformity with the manufacturer's templates.

C Push and Pulls: Pull plates shall be through-bolted with bolt heads concealed behind push plated.

D Lock trim shall be as listed in schedule, or equivalent of other approved manufacturers. Dummy trim levers and roses shall be identical to those supplies with locksets. All locksets shall be beveled 1/8" in 2".

#### 3.02 ADJUSTMENT AND CLEANING

A Check and adjust each operating item to ensure proper functioning of each unit. Replace units which cannot be adjusted to operate properly.

B Clean adjacent surfaces soiled by hardware installation.

C Whenever hardware installation is completed more than one month prior to acceptance or occupancy of building or space, during the week prior to acceptance or occupancy, make final check and adjustment of all items. Clean operating items and restore proper function and finish of hardware and doors. Adjust door control devices to compensate for permanent heating and ventilating conditions.

D During final adjustment of hardware, instruct Owner's personnel in proper adjustment and maintenance procedures for hardware operations and finished.

END OF SECTION 08 71 00 DOOR HARDWARE

# FARRAGUT HIGH SCHOOL ROOF REPLACEMENT

11237 KINGSTON PIKE,  
KNOXVILLE, TN 37934  
KNOX COUNTY

## ABBREVIATIONS:

AFF	- ABOVE FINISH FLOOR	MTL	- METAL
ALT	- ALTERNATE	MG	- MANUFACTURING
ALUM	- ALUMINUM	MFR	- MANUFACTURER
ARCH	- ARCHITECTURAL	MIN	- MINIMUM
ACT	- ACOUSTICAL TILE CEILING	MISC	- MISCELLANEOUS
ASPH	- ASPHALT	NIC	- NOT IN CONTRACT
BF	- BOTTOM FACE	NTS	- NOT TO SCALE
BSMT	- BASEMENT	NO. #	- NUMBER
BM	- BENCH MARK	OC	- ON CENTER
BLDG	- BUILDING	OD	- OUTSIDE DIAMETER
BLK	- BLOCK	P	- PLATE
BRG	- BEARING	PLAS	- PLASTIC
CB	- CATCH BASIN	P LAM	- PLASTIC LAMINATE
CJ	- CONTROL JOINT	PLYWD	- PLYWOOD
CHB	- CHALK BOARD	PTD	- PAINTED
CLG	- CEILING	RAD.R	- RADIUS
CLOS. CL	- CLOSET	RD	- ROOF DRAIN
CLR	- CLEAR	REINF	- REINFORCING
COL	- COLUMN	REQD	- REQUIRED
COMP	- COMPOSITION	RS	- RISER
CONC	- CONCRETE	RM	- ROOM
CONST	- CONSTRUCTION	RO	- ROUGH OPENING
CMU	- CONCRETE MASONRY UNIT	SCHED	- SCHEDULE
CT	- CERAMIC TILE	SCWD	- SOLID CORE WOOD
DTL	- DETAIL	SECT	- SECTION
D, DIA	- DIAMETER	SHET	- SHEET
DN	- DOWN	SHM	- SIMILAR
DWG	- DRAWING	SPECS	- SPECIFICATIONS
DF	- DRINK FOUNTAIN	SOFT / SF	- SQUARE FEET
DS	- DOWNSPOUT	STD	- STANDARD
EA	- EACH	STL	- STEEL
EF	- EACH FACE	STOR	- STORAGE
ELEC	- ELECTRIC	SD	- STORM DRAIN
EWC	- ELECTRIC WATER COOLER	SUSP	- SUSPENDED
ELEV	- ELEVATION	SQ	- SQUARE
EXIST	- EXISTING	TB	- TACK BOARD
EXT	- EXTERIOR	THOLD	- THRESHOLD
EJ	- EXPANSION JOINT	TLT	- TOILET
FE	- FIRE EXTINGUISHER	TD, TDS	- THREAD (S)
FL	- FLOOR	TF	- TOP FACE
FD	- FLOOR DRAIN	TYP	- TYPICAL
FT	- FOOT	U	- URINAL
FTNG	- FOOTING	VIF	- VERIFY IN FIELD
GALV	- GALVANIZED IRON	VS	- VENT STACK
GA	- GALVNE	VOLUME	- VOLUME
GYP	- GYPSUM	VT	- VINYL TILE
HB	- HOSE BIB	VERT	- VERTICAL
HCWD	- HOLLOW CORE WOOD	WSCOT	- WAINSCOT
HDW	- HARDWARE	WC	- WATER CLOSET
HGT	- HEIGHT	WH	- WATER HEATER
HM	- HOLLOW METAL	WPF	- WATERPROOFING
ID	- INSIDE DIAMETER	WF	- WIDE FLANGE
IN	- INCH	WINDW	- WINDOW
INV	- INVERT	WD	- WOOD
JAN	- JANITOR	W	- WITH
JST	- JOIST	WJF	- WELDED WIRE FABRIC
LAV	- LAVATORY	WWM	- WELDED WIRE MESH
l	- POLIND	L	- ANGLE
MH	- MANHOLE	@	- AT
MAX	- MAXIMUM	C	- CHANNEL
MECH	- MECHANICAL	Ø	- DIAMETER

## VICINITY MAP:



## MATERIALS LEGEND:

	CONCRETE BLOCK		CONCRETE IN SECTION		RIGID INSULATION, EIFS AS NOTED
	BRICK		SOIL IN SECTION		PLYWOOD
	METAL IN SECTION		CRUSHED STONE		FINISH WOOD
	GYP. BOARD, PLASTER, OR CONCRETE IN PLAN AS NOTED		BATT INSULATION		WOOD FRAMING

## PROJECT INFORMATION:

**PROJECT DESCRIPTION**  
A ROOF REPLACEMENT FOR FARRAGUT HIGH SCHOOL AT EXISTING MAIN BUILDING ROOF, EXISTING AUDITORIUM ROOF, AND EXISTING VOCATIONAL ROOF.

KNOX COUNTY SCHOOLS  
BID #3503

**JURISDICTION**  
KNOX COUNTY CODES ADMINISTRATION  
CITY COUNTY BUILDING  
SUITE 547  
400 MAIN STREET  
KNOXVILLE, TN, 37902  
PHONE NUMBER: (865) 215-2325

**KNOX COUNTY ADOPTED CODES:**  
2018 INTERNATIONAL BUILDING CODE  
2018 NATIONAL ELECTRICAL CODE  
2018 INTERNATIONAL FIRE CODE  
2018 INTERNATIONAL MECHANICAL CODE  
2018 INTERNATIONAL FUEL GAS CODE  
2018 INTERNATIONAL PLUMBING CODE  
2018 INTERNATIONAL ENERGY CONSERVATION CODE  
2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES CODE (ICC A117.12009)  
2018 NFPA - 101 LIFE SAFETY (LSC)

**STATE OF TENNESSEE ADOPTED CODES:**  
2012 EDITION INTERNATIONAL BUILDING CODE, (EXCLUDING CHAPTER 11 AND SECTION 3411)  
2012 EDITION INTERNATIONAL FUEL GAS CODE  
2012 EDITION INTERNATIONAL MECHANICAL CODE  
2017 EDITION NATIONAL ELECTRIC CODE, NFPA 70  
2012 EDITION INTERNATIONAL ENERGY CONSERVATION CODE OR  
2006 EDITION INTERNATIONAL ENERGY CONSERVATION CODE (GROUP F-1, F-2, S-1, & S-2 ONLY)  
2012 EDITION INTERNATIONAL FIRE CODE  
2012 INTERNATIONAL EXISTING BUILDING CODE (SCOPE OF WORK RELATED TO EXISTING DRAWINGS)  
2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (FOR BUILDINGS REQUIRED TO COMPLY WITH TENNESSEE PUBLIC BUILDING ACCESSIBILITY ACT)  
2012 EDITION NFPA 101 LIFE SAFETY CODE (STATE BUILDINGS, EDUCATIONAL OCCUPANCIES AND ANY OCCUPANCY REQUIRING AN INSPECTION BY THE TSPMO FOR INITIAL LICENSURE)

\*FOR SPECIFIC APPLICATIONS, THE MOST STRINGENT CODE SHALL BE APPLIED.

**FIRE DEPARTMENT JURISDICTION:**  
FIRE CHIEF- STAN SHARP  
PUBLIC SAFETY COMPLEX  
1630 HURON ST., BLDG. C  
KNOXVILLE, TN 37917  
ssharp@knoxvilletn.gov  
(865) 595-4480

## PROJECT DIRECTORY:

**OWNER:**  
KNOX COUNTY SCHOOLS  
DOUGLAS SHOVER  
505 SUMMER PLACE  
UITT 2ND FLOOR, ROOM 281H  
KNOXVILLE, TN 37902  
865-594-1825

**ARCHITECT:**  
MBI COMPANIES INC.  
HOWARD WALTZ  
299 N. WEISGARBER ROAD  
KNOXVILLE, TN 37919  
865-584-0999



**MBI**

MBI COMPANIES INC.  
299 N. WEISGARBER ROAD  
KNOXVILLE, TN 37919  
PHONE: (865) 584-0999  
FAX: (865) 584-5213  
WEB: mbicompanies.com

CONSULTANT

SEAL



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## PROJECT INFORMATION

PROJECT:

FARRAGUT HIGH SCHOOL ROOF REPLACEMENT

PROJECT ADDRESS:

11237 KINGSTON PIKE,  
KNOXVILLE, TN 37934  
KNOX COUNTY

PROJECT NO.: 231315

## ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
- FOR PERMITTING ONLY
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- CONSTRUCTION BIDDING
- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

## REVISION INFORMATION

NO.	DATE	DESCRIPTION
1	01/12/2024	ADDENDUM 02
2	01/29/2024	ADDENDUM 03

## KEY PLAN

## SHEET INFORMATION

SHEET ISSUED: 01/29/2024  
DESIGNED BY: HW  
DRAWN BY: LS  
REVIEWED BY: HW  
SHEET TITLE:

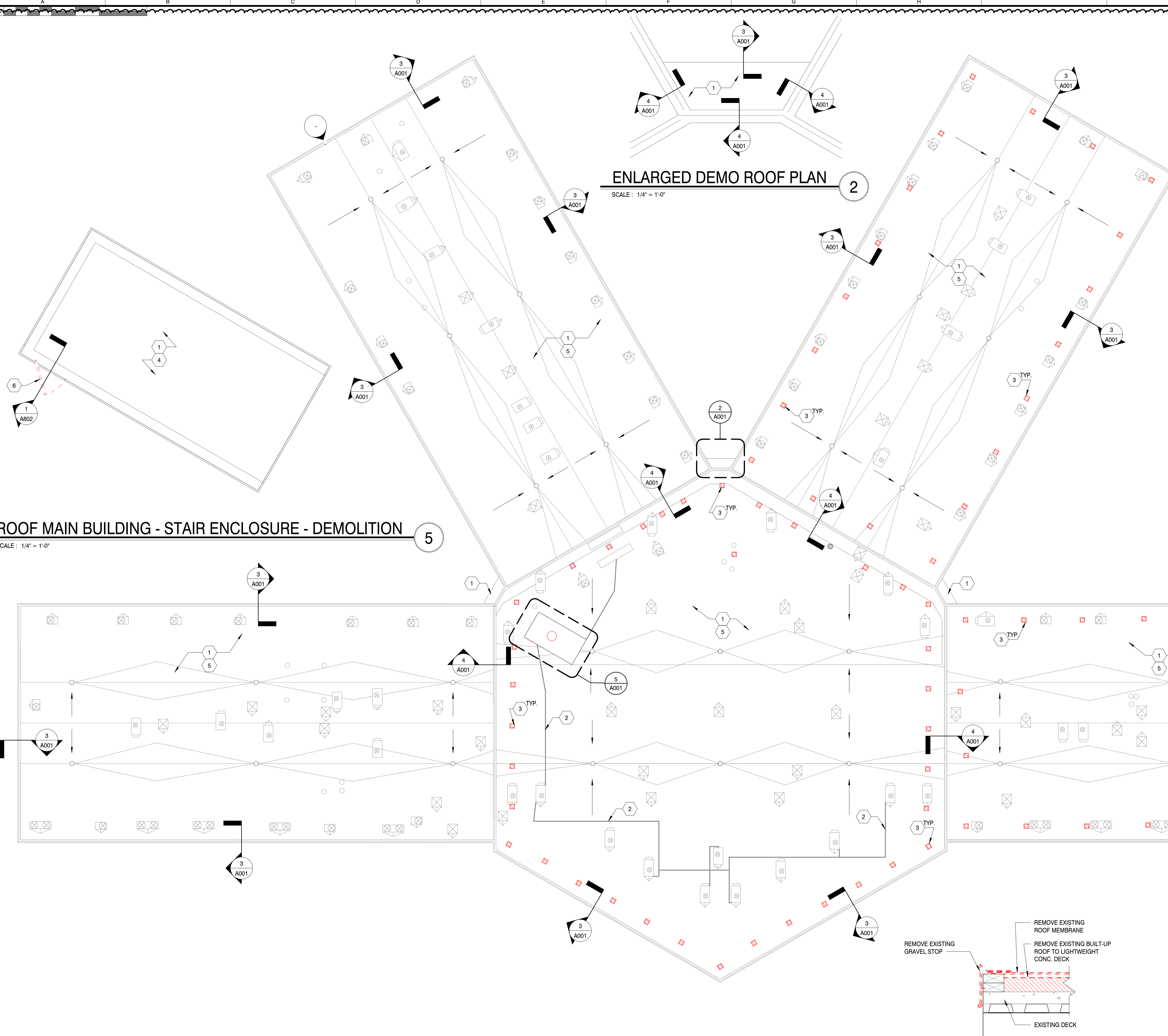
COVER SHEET

SHEET NO.:

G000

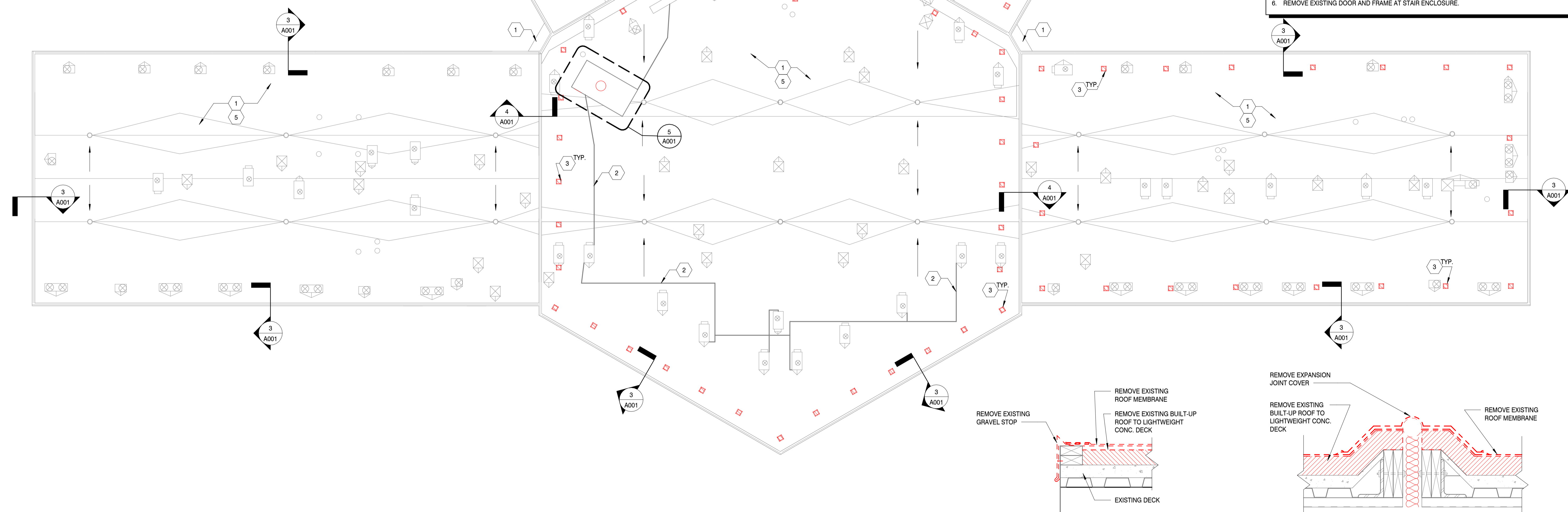
## ENLARGED DEMO ROOF PLAN

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



## ROOF MAIN BUILDING - STAIR ENCLOSURE - DEMOLITION

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



## DEMOLITION NOTES

- DO ALL DEMOLITION WORK REQUIRED TO REMOVE EXISTING ROOFING MEMBRANE, COPING, AND FLASHING, ETC. INDICATED AND AS SHOWN ON THE DRAWINGS AND ANY OTHER NECESSARY ITEMS TO INSTALL THE NEW WORK.
- CONTRACTORS SUBMITTING PROPOSALS SHALL DETERMINE THE QUANTITIES OF DEMOLITION WORK REQUIRED BY PERSONAL OBSERVATION AT THE BUILDING AND ON THE SITE PRIOR TO BIDDING. THE CONTRACTOR SHALL INCLUDE ALL DEMOLITION REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION.
- HISTORIC ARTIFACTS, INCLUDING CORNERSTONES, THEIR CONTENTS, COMMEMORATIVE PLAQUES AND TABLETS, ANTIQUES, AND OTHER ARTICLES OF HISTORIC SIGNIFICANCE SHALL REMAIN THE PROPERTY OF THE OWNER. NOTIFY OWNERS REPRESENTATIVES IF SUCH ARTICLES ARE ENCOUNTERED. OBTAIN APPROVAL REGARDING METHOD OF REMOVAL. SALVAGE SUCH ARTICLES AND TURN OVER TO OWNER.
- COORDINATE WITH OWNERS REPRESENTATIVE ON THE REMOVAL, REPLACEMENT AND/ OR REUSE OF ANY EXISTING EQUIPMENT AND FIXTURES, BEFORE START OF DEMOLITION.
- WHERE EXISTING ROOFING MATERIALS ARE TO BE REMOVED, THE CONTRACTOR SHALL REPAIR, LEVEL AND SMOOTH THE SURFACES REMAINING TO RECEIVE NEW FINISHES.
- CONTRACTOR TO REMOVE ANY AND ALL ITEMS NOT NOTED TO BE DEMOLISHED/ REMOVED. PRIOR TO NEW CONSTRUCTION TO ALLOW FOR INSTALLATION OF NEW CONSTRUCTION. VERIFY W/ OWNER AND ARCHITECT PRIOR TO BIDDING AND PRIOR TO REMOVAL FOR ALL ITEMS TO BE REMOVED.
- PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTOR SHALL VISIT THE JOB SITE TO REVIEW SCOPE OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE ALL EQUIPMENT AND APPURTENANCES AND ALL LABOR NECESSARY TO AFFECT ALL INSTALLATIONS INDICATED ON THE DRAWINGS. THE WORK SHALL ALSO INCLUDE ALL MATERIALS, DETAIL AND LABOR NECESSARY FOR THE SUCCESSFUL INSTALLATION OF THE WORK DESCRIBED HEREIN.
- ALL GRADES, LINES, LEVELS AND DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION. ANY ERROR OR INCONSISTENCY SHALL BE REPORTED TO THE ARCHITECT FOR INSTRUCTIONS PRIOR TO START OF CONSTRUCTION.
- COOPERATE WITH THE APPLICABLE CITY OR OTHER GOVERNMENT OFFICIALS AND INSPECTORS AT ALL TIMES. IF SUCH OFFICIAL OR INSPECTOR DEEMS SPECIAL INSPECTIONS NECESSARY, PROVIDE ALL ASSISTANCE AND FACILITIES THAT WILL EXPEDITE THE INSPECTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TAPS, EXTENSIONS, VALVES, OR OTHER DEVICES NECESSARY TO RUN POWER TOOLS AND EQUIPMENT. SUCH MODIFICATIONS TO EXISTING UTILITIES MUST BE REMOVED AT COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL LIMIT THE INGRESS AND EGRESS OF WORKERS AND EQUIPMENT TO THE CONSTRUCTION SITE TO AUTHORIZED PERSONS ONLY. DAMAGE TO EXISTING INTERIOR OR EXTERIOR CONSTRUCTION SHALL BE REPAIRED TO "LIKE NEW" CONDITIONS UNDER THIS CONTRACT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

## ROOF PLAN DEMOLITION KEYNOTES

- REMOVE EXISTING LAYERS OF ROOF MEMBRANE, PROTECTION BOARD, AND BOARD INSULATION TO LIGHTWEIGHT CONC. ROOF DECK.
- REMOVE EXISTING PIPE SUPPORTS FOR REPLACEMENT.
- REMOVE EXISTING METAL FLAT ROOF BREATHER VENT. ALLOW FOR NEW VENT TO BE INSTALLED.
- REMOVE EXISTING ROOF MEMBRANE, COPING, FLASHING ON STRUCTURE. REMOVE EXISTING SATELLITE. EXISTING GUTTER TO BE SALVAGED & REUSED.
- REMOVE EXISTING WALKPADS.
- REMOVE EXISTING DOOR AND FRAME AT STAIR ENCLOSURE.

## DEMOLITION ROOF PLAN - MAIN BUILDING

SCALE: 1" = 20'-0"

## GRAVEL STOP DETAIL

SCALE: 1 1/2" = 1'-0"

## EXPANSION JOINT DETAIL

SCALE: 1 1/2" = 1'-0"



MBI COMPANIES INC.  
299 N. WEISGARBER ROAD  
KNOXVILLE, TN 37919  
PHONE: (865) 584-0999  
FAX: (865) 584-5213  
WEB: mbicompanies.com

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### PROJECT INFORMATION

PROJECT:

**FARRAGUT HIGH SCHOOL ROOF REPLACEMENT**

PROJECT ADDRESS:  
11237 KINGSTON PIKE,  
KNOXVILLE, TN 37934  
KNOX COUNTY

PROJECT NO.: 231315

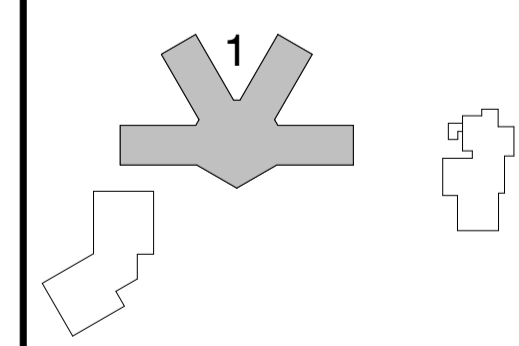
### ACTIVE DESIGN PHASE

- FOR REVIEW ONLY
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- SCHEMATIC DESIGN
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- CONSTRUCTION DOCUMENTS
- AS-BUILT RECORD SET

### REVISION INFORMATION

NO.	DATE	DESCRIPTION
1	01/12/2024	ADDENDUM 02
2	01/29/2024	ADDENDUM 03

### KEY PLAN



**SHEET INFORMATION**  
SHEET ISSUED: 01/29/2024  
DESIGNED BY: HW  
DRAWN BY: LS  
REVIEWED BY: HW  
SHEET TITLE:

**DEMOLITION ROOF PLAN - MAIN BUILDING**  
SHEET NO.:

**A001**

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**TWO WAY**

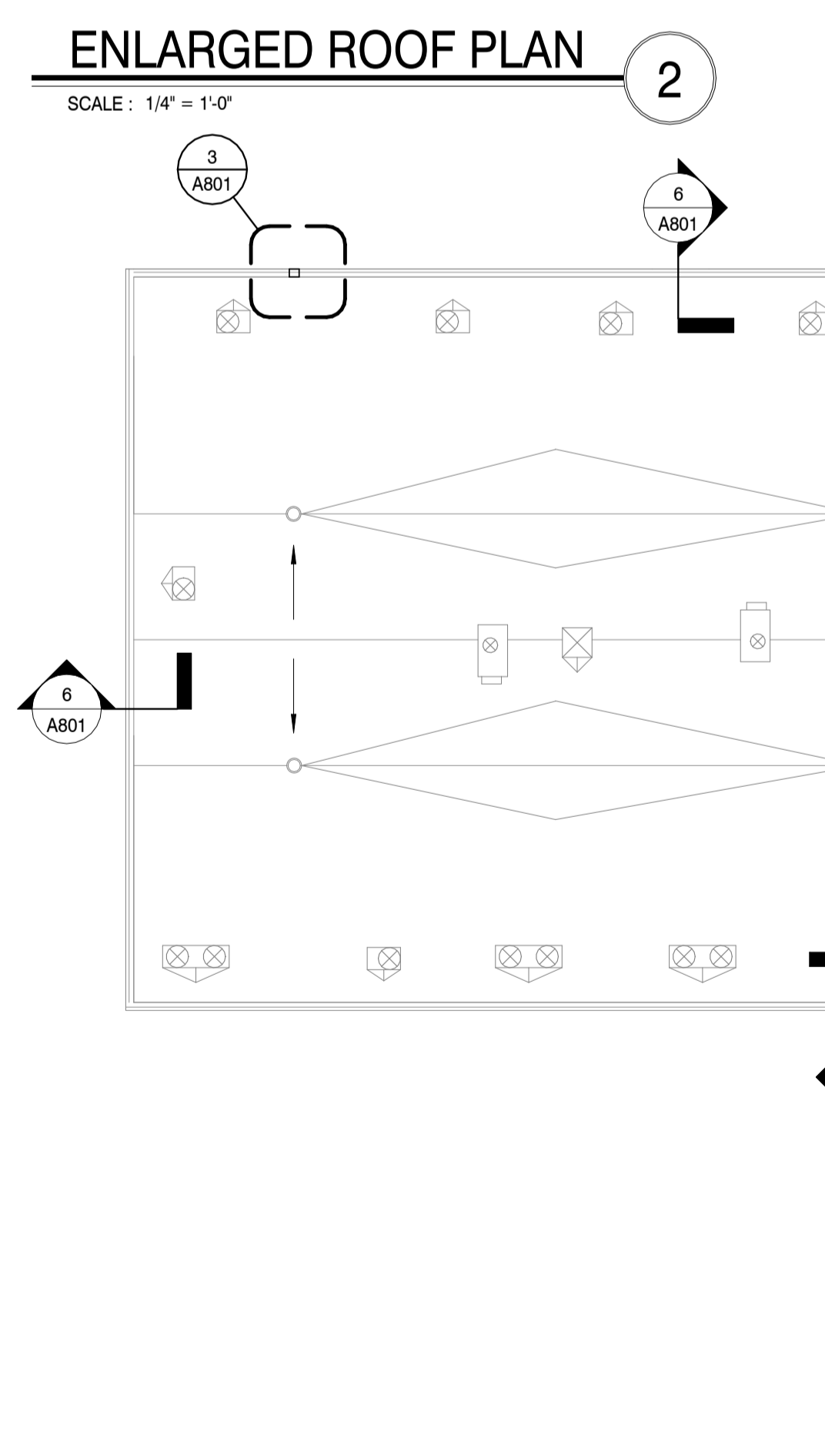
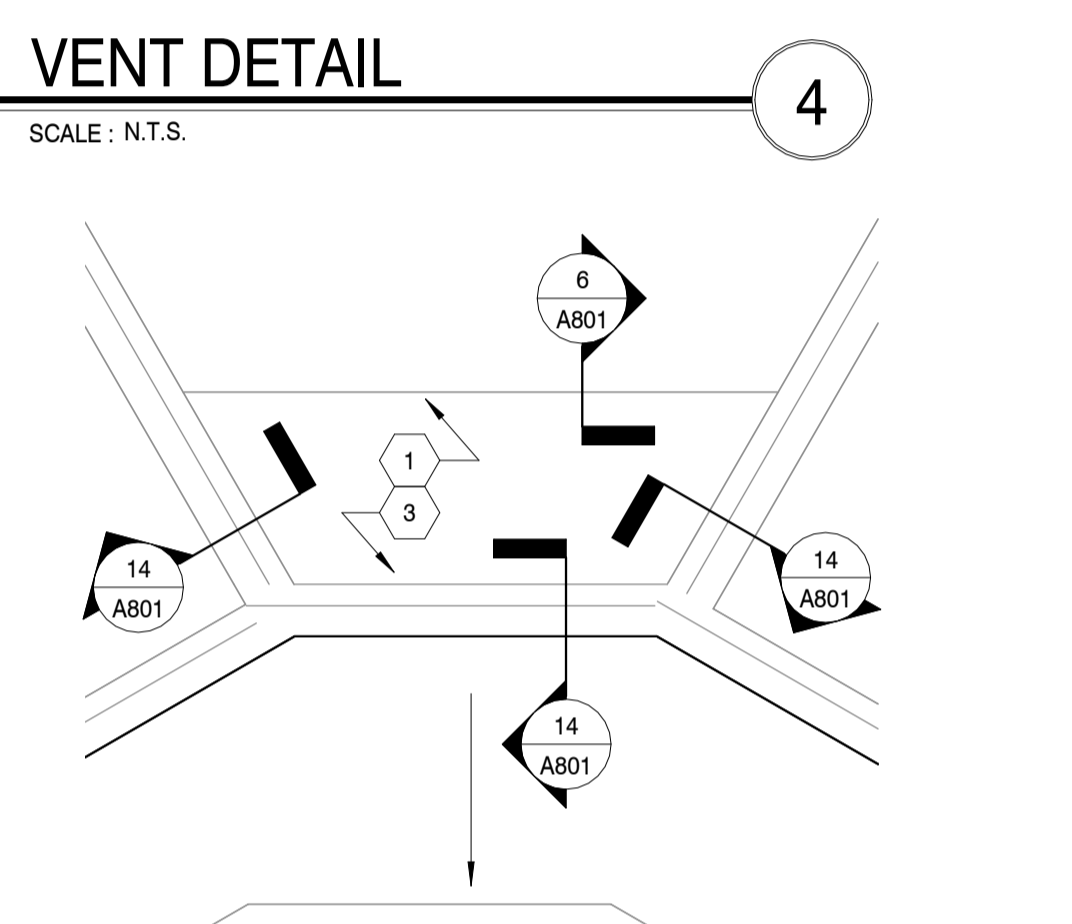
**ONE WAY**

**BALLOONS**

1	ROOF DECK
2	INSULATION
3	VAPOR BARRIER
4	LIGHTWEIGHT CONCRETE
5	ROOF PLY FLASHING
6	ROOF JOINT
7	OPTIONAL INSULATION
8	FLASHING
9	ALUMINUM FLANGE

APPLICATIONS: ALL ROOF SYSTEMS  
 SIZES: ONE-WAY VENT / TWO-WAY BREATHER  
 NOTES: REFER TO ROOF MEMBRANE MANUFACTURER FOR THEIR APPROVED INSTALLATION DETAIL.  
 2-DIVENT TWO-WAY DOES NOT INCLUDE ONE-WAY VALVE.

**OMG OlyVent**  
 800-433-3800  
 info@olyvent.com  
 www.olyvent.com

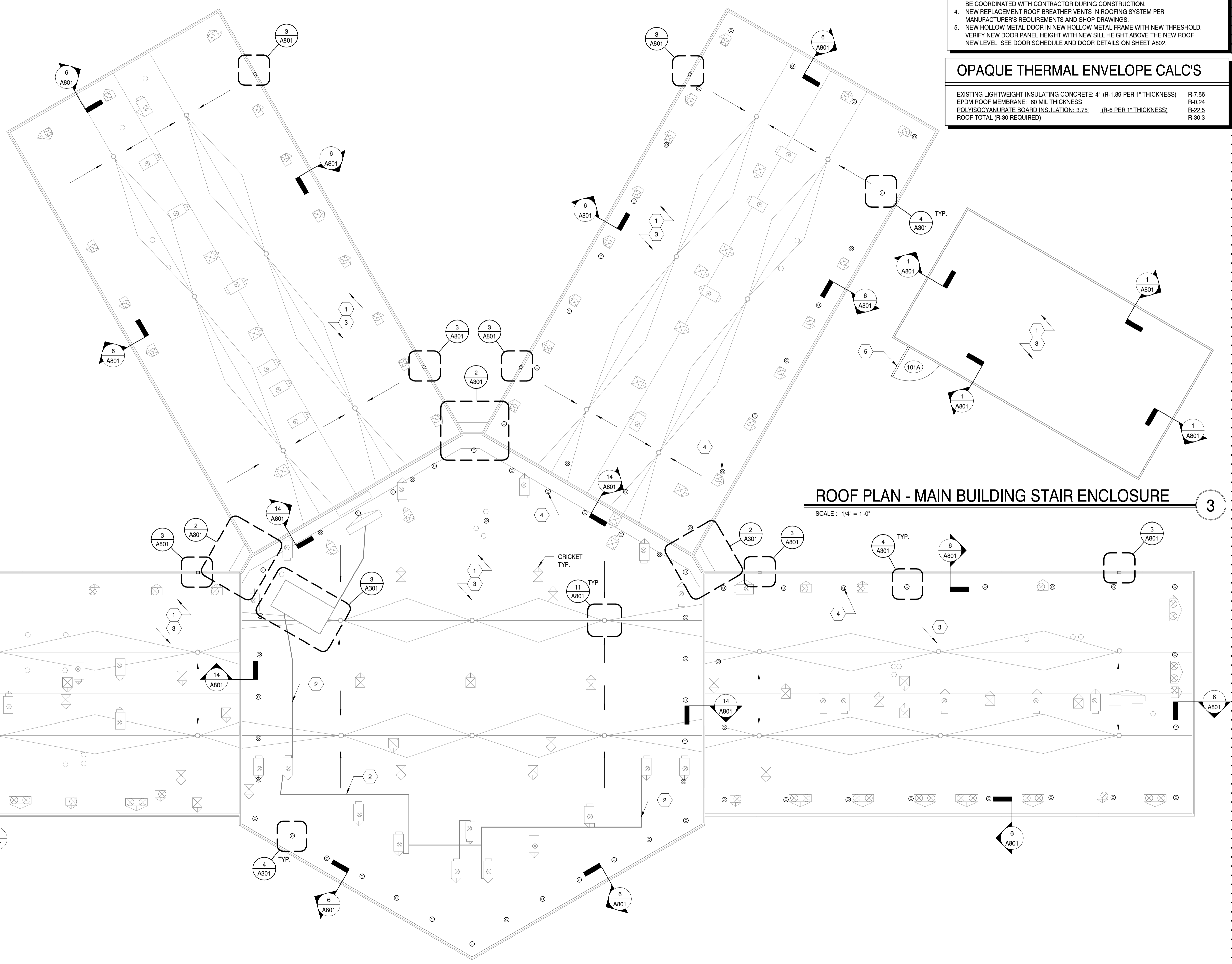


**ROOF PLAN KEYNOTES**

- NEW EPDM ROOF MEMBRANE ON BOARD INSULATION, WITH THICKNESS TO PROVIDE MINIMUM OF R-30 CI (WHICH INCLUDES EXISTING LIGHTWEIGHT INSULATING CONCRETE - CONSTRUCT IN ACCORDANCE WITH UL P908 ) PER SECTION 07 53 23.
- PROVIDE NEW PIPE SUPPORTS PER SPECIFICATION SECTION 07 72 00.
- INSTALL THREE NEW WALKPADS IN FRONT OF RTU ACCESS PANELS. PLACEMENT TO BE COORDINATED WITH CONTRACTOR DURING CONSTRUCTION.
- NEW REPLACEMENT ROOF BREATHER VENTS IN ROOFING SYSTEM PER MANUFACTURER'S REQUIREMENTS AND SHOP DRAWINGS.
- NEW HOLLOW METAL DOOR IN NEW HOLLOW METAL FRAME WITH NEW THRESHOLD. VERIFY NEW DOOR PANEL HEIGHT WITH NEW SILL HEIGHT ABOVE THE NEW ROOF NEW LEVEL. SEE DOOR SCHEDULE AND DOOR DETAILS ON SHEET A802.

**OPAQUE THERMAL ENVELOPE CALC'S**

EXISTING LIGHTWEIGHT INSULATING CONCRETE: 4" (R-1.89 PER 1" THICKNESS)	R-7.56
EPDM ROOF MEMBRANE: 60 MIL THICKNESS	R-0.24
POLYISOCYANURATE BOARD INSULATION: 3.75" (R-6 PER 1" THICKNESS)	R-22.5
<b>ROOF TOTAL (R-30 REQUIRED)</b>	<b>R-30.3</b>



**ROOF PLAN - MAIN BUILDING STAIR ENCLOSURE**  
 SCALE: 1/4" = 1'-0"

**ROOF PLAN - MAIN BUILDING**  
 SCALE: 1" = 20'-0"

**MBI**

MBI COMPANIES INC.  
 299 N. WEISGARBER ROAD  
 KNOXVILLE, TN 37919

PHONE: (865) 584-0999  
 FAX: (865) 584-5213  
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PROJECT ADDRESS:  
 11237 KINGSTON PIKE,  
 KNOXVILLE, TN 37934  
 KNOX COUNTY

PROJECT NO.: **231315**

**ACTIVE DESIGN PHASE**

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<input type="checkbox"/>	FOR PERMITTING ONLY
<input type="checkbox"/>	SCHEMATIC DESIGN
<input type="checkbox"/>	DESIGN DEVELOPMENT
<input type="checkbox"/>	CONSTRUCTION BIDDING
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<input type="checkbox"/>	AS-BUILT RECORD SET

**REVISION INFORMATION**

NO.	DATE	DESCRIPTION
1	01/12/2024	ADDENDUM 02
2	01/29/2024	ADDENDUM 03

---

**KEY PLAN**

**SHEET INFORMATION**

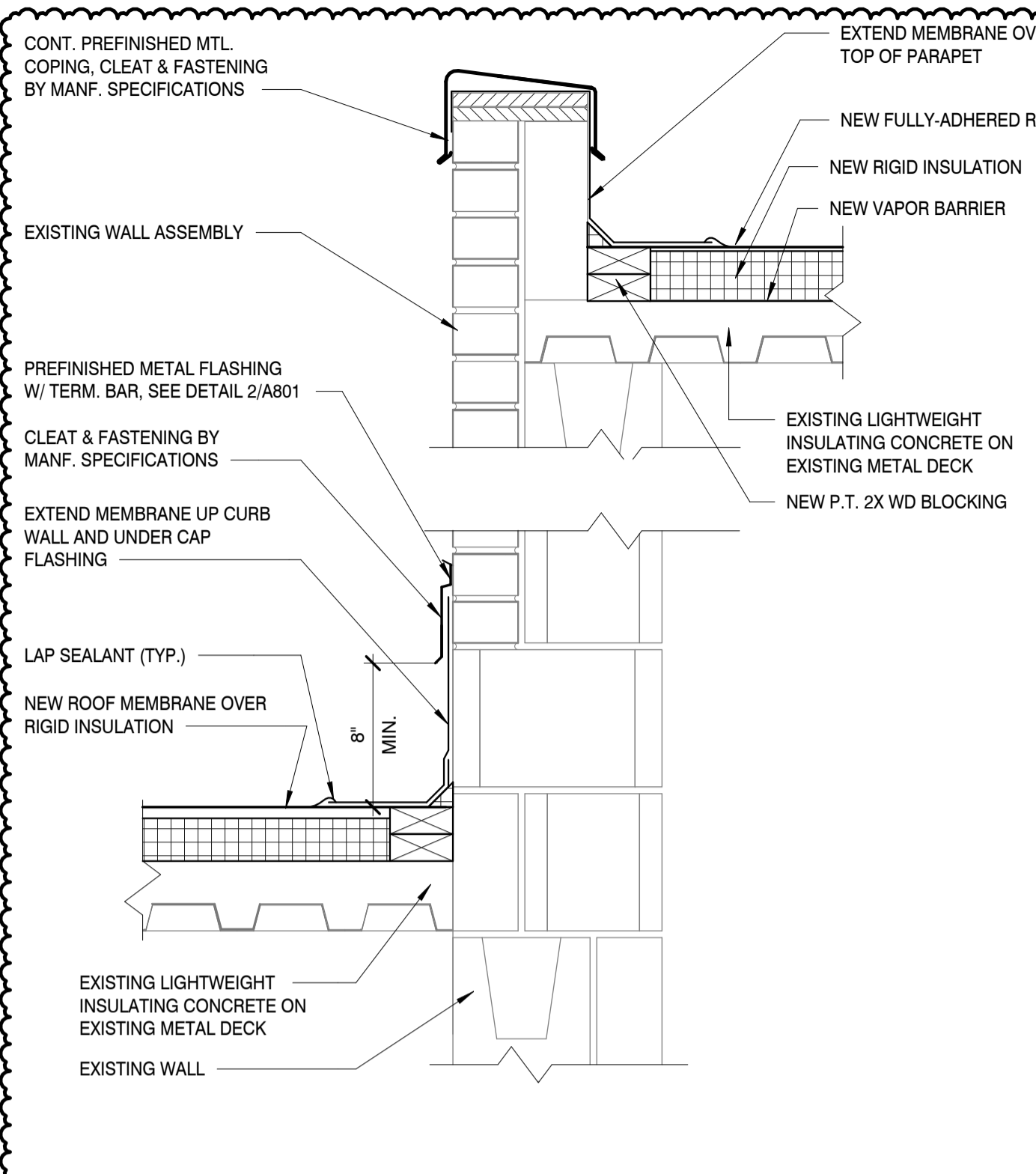
SHEET ISSUED: 01/29/2024  
 DESIGNED BY: HW  
 DRAWN BY: LS  
 REVIEWED BY: HW  
 SHEET TITLE:

**ROOF PLAN - MAIN BUILDING**

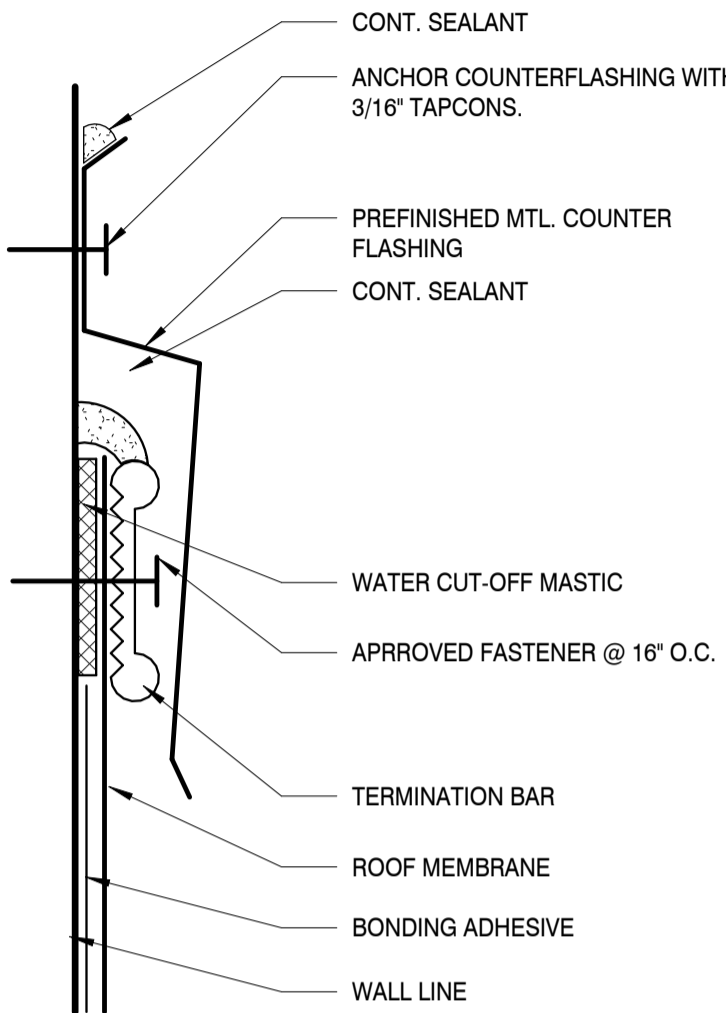
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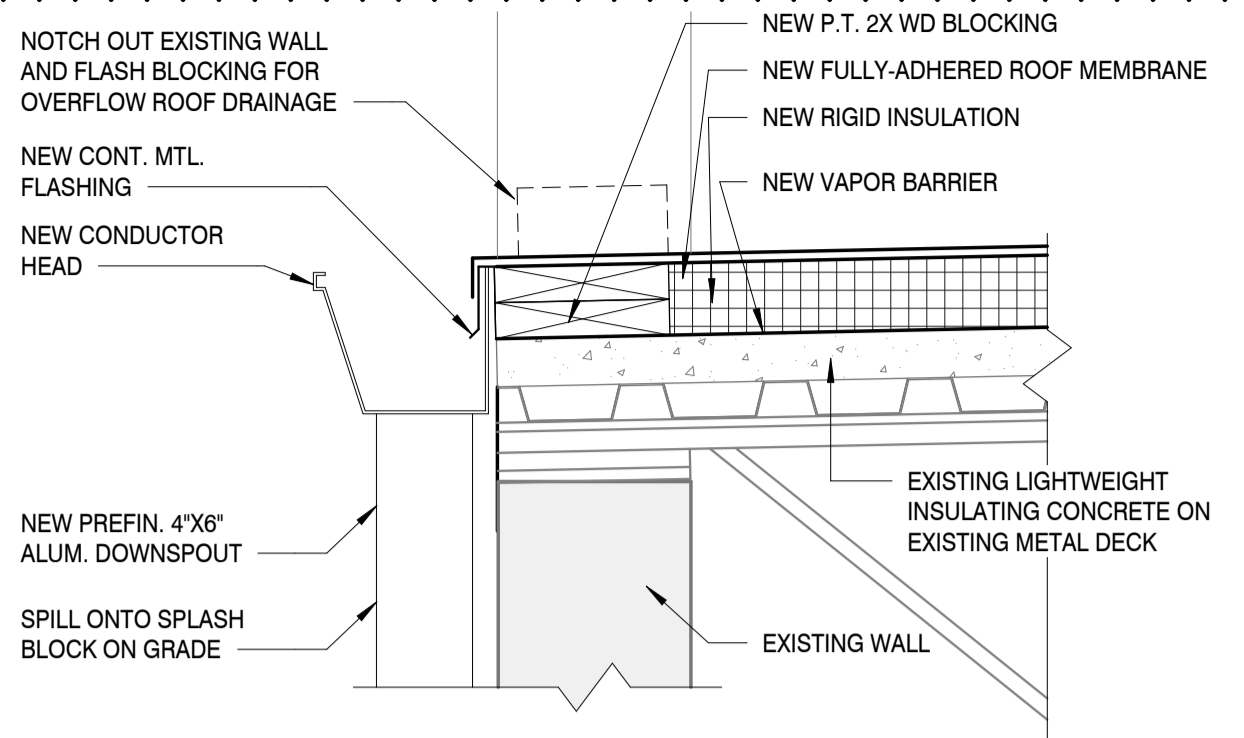




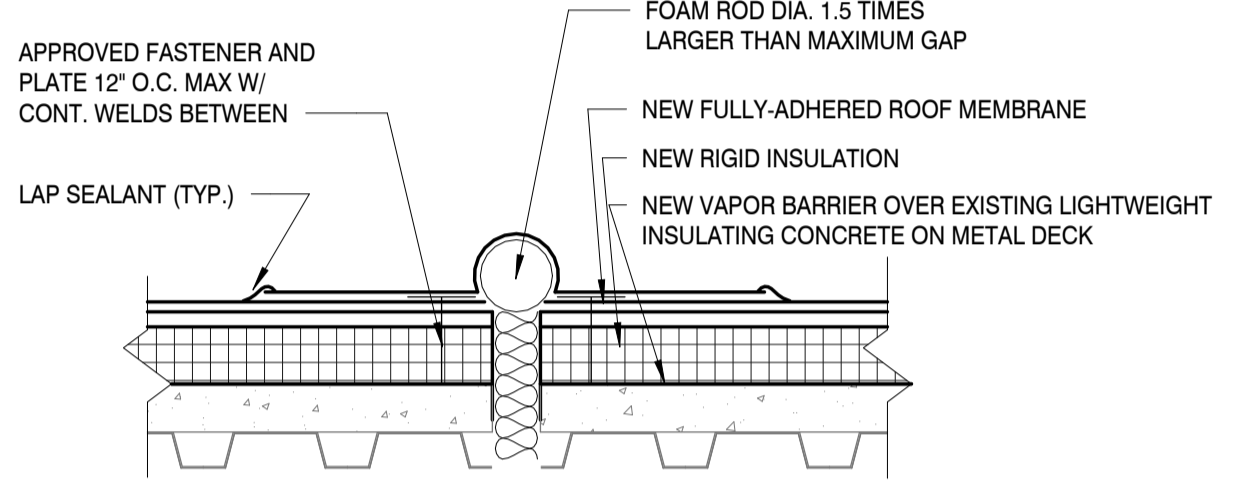
**STAIR ENCLOSURE DETAIL** 1  
SCALE: 1 1/2" = 1'-0"



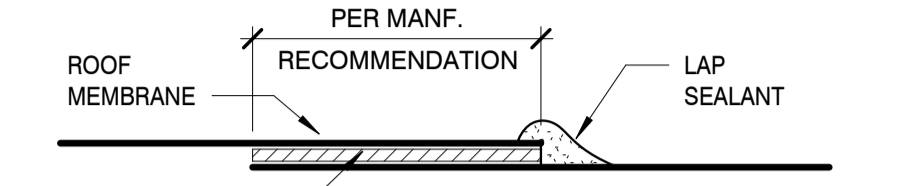
**TERMINATION BAR** 2  
SCALE: 3" = 1'-0"



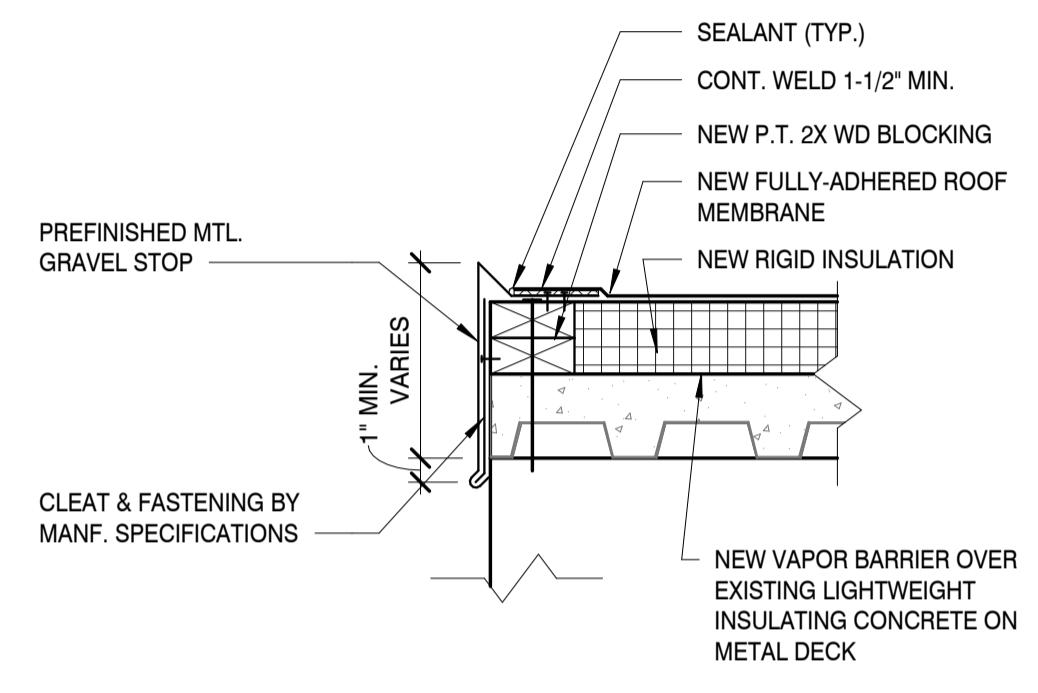
**ROOF EDGE/ SCUPPER DETAIL** 3  
SCALE: 1 1/2" = 1'-0"



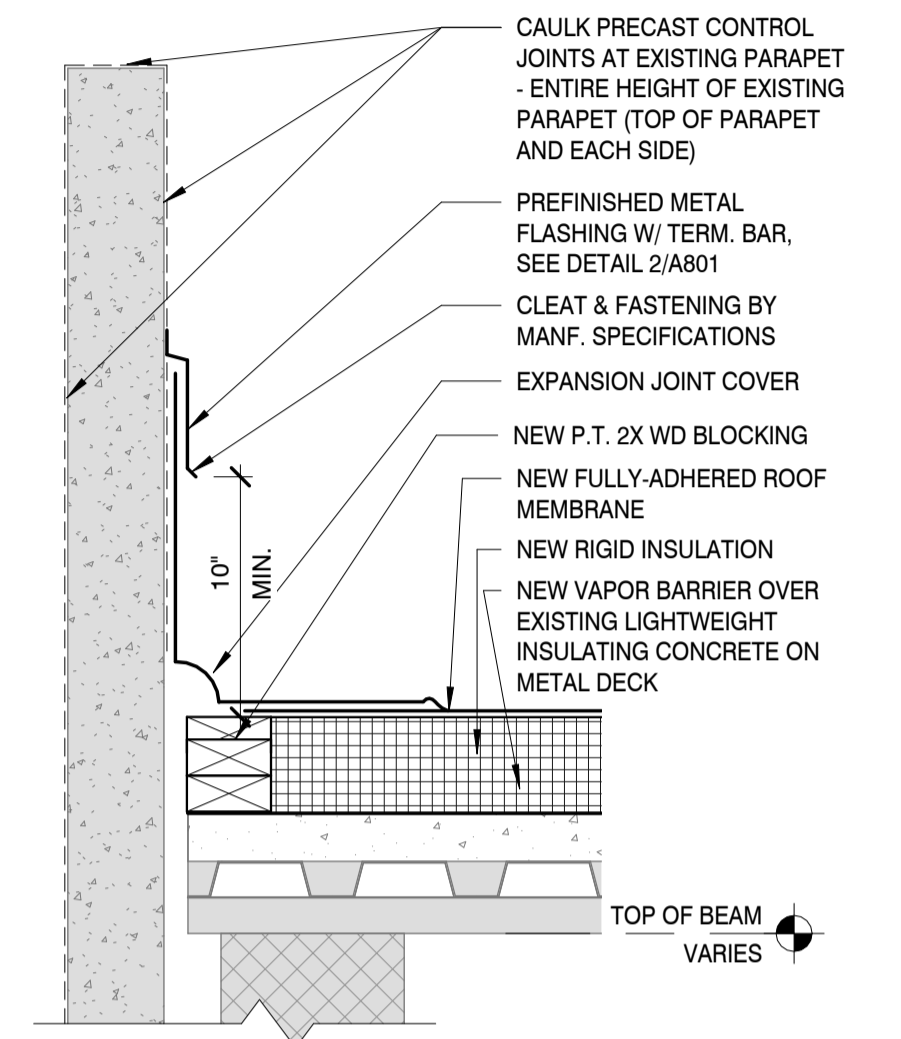
**EXPANSION JOINT DETAIL** 5  
SCALE: 1 1/2" = 1'-0"



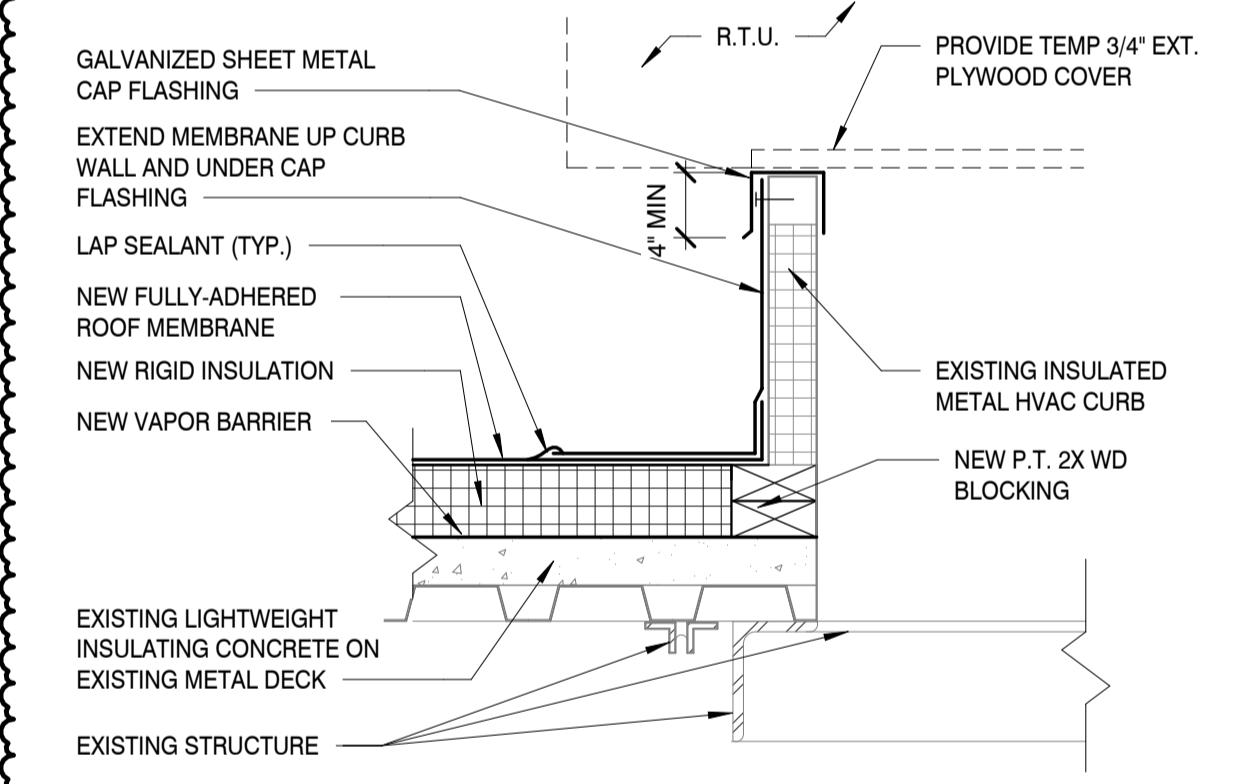
**LAP SPLICE DETAIL** 4  
SCALE: 6" = 1'-0"



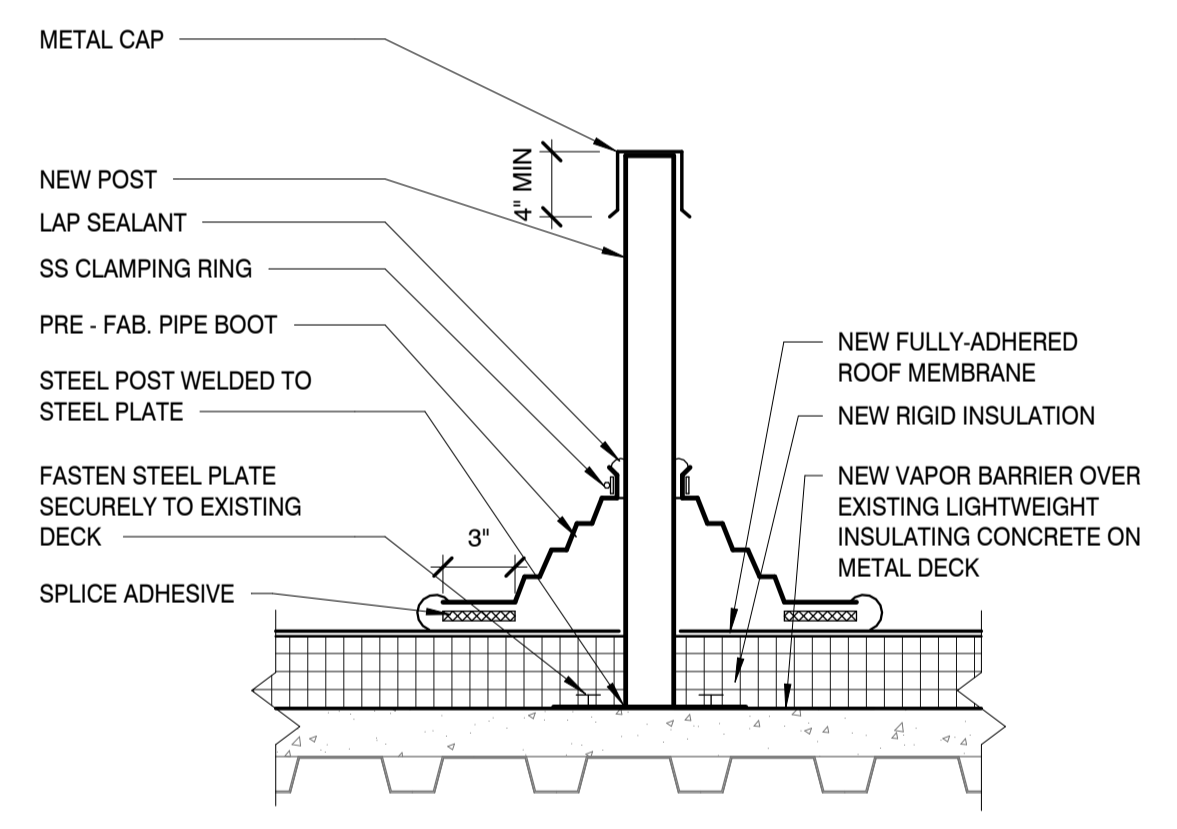
**GRAVEL STOP** 6  
SCALE: 1 1/2" = 1'-0"



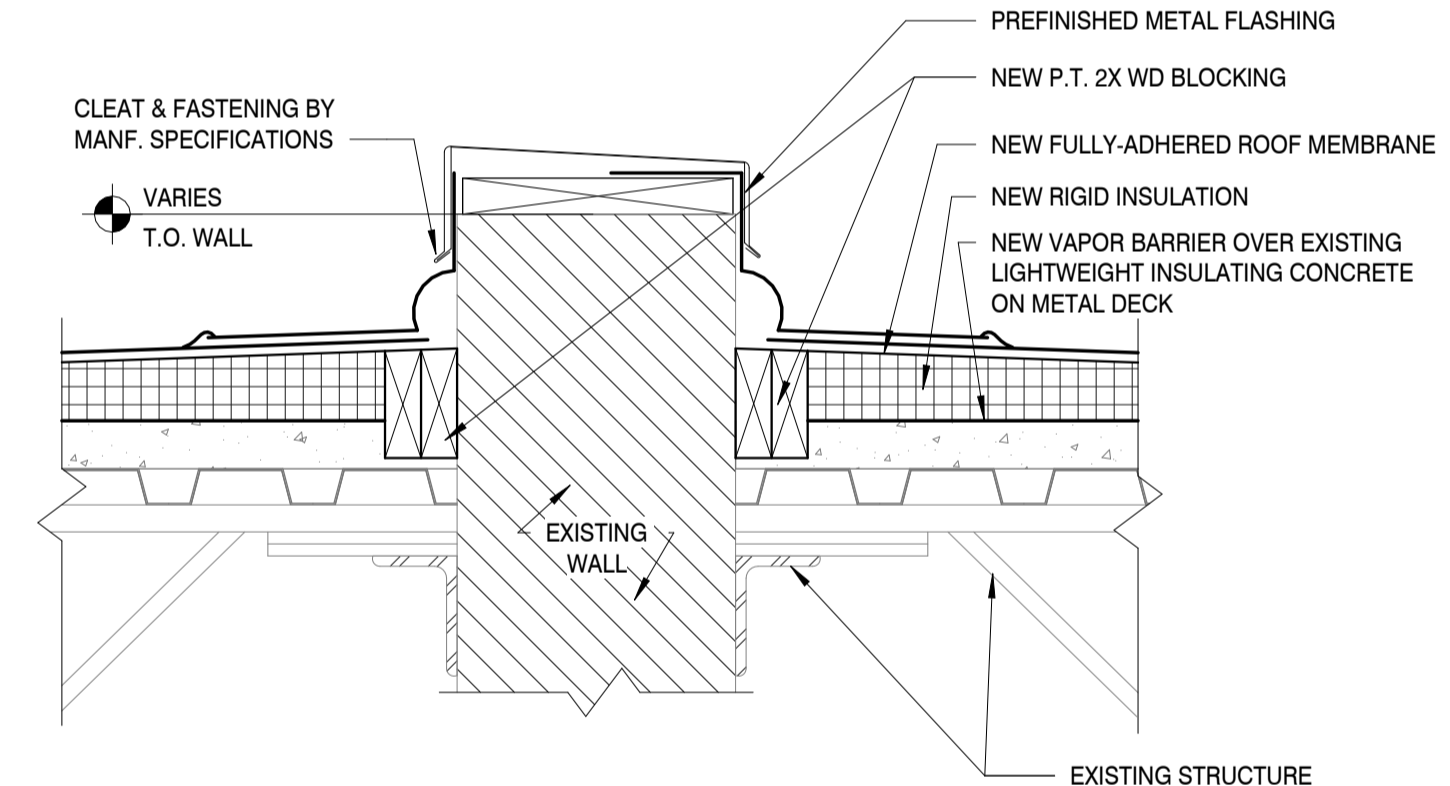
**ROOF PARAPET DETAIL** 7  
SCALE: 1 1/2" = 1'-0"



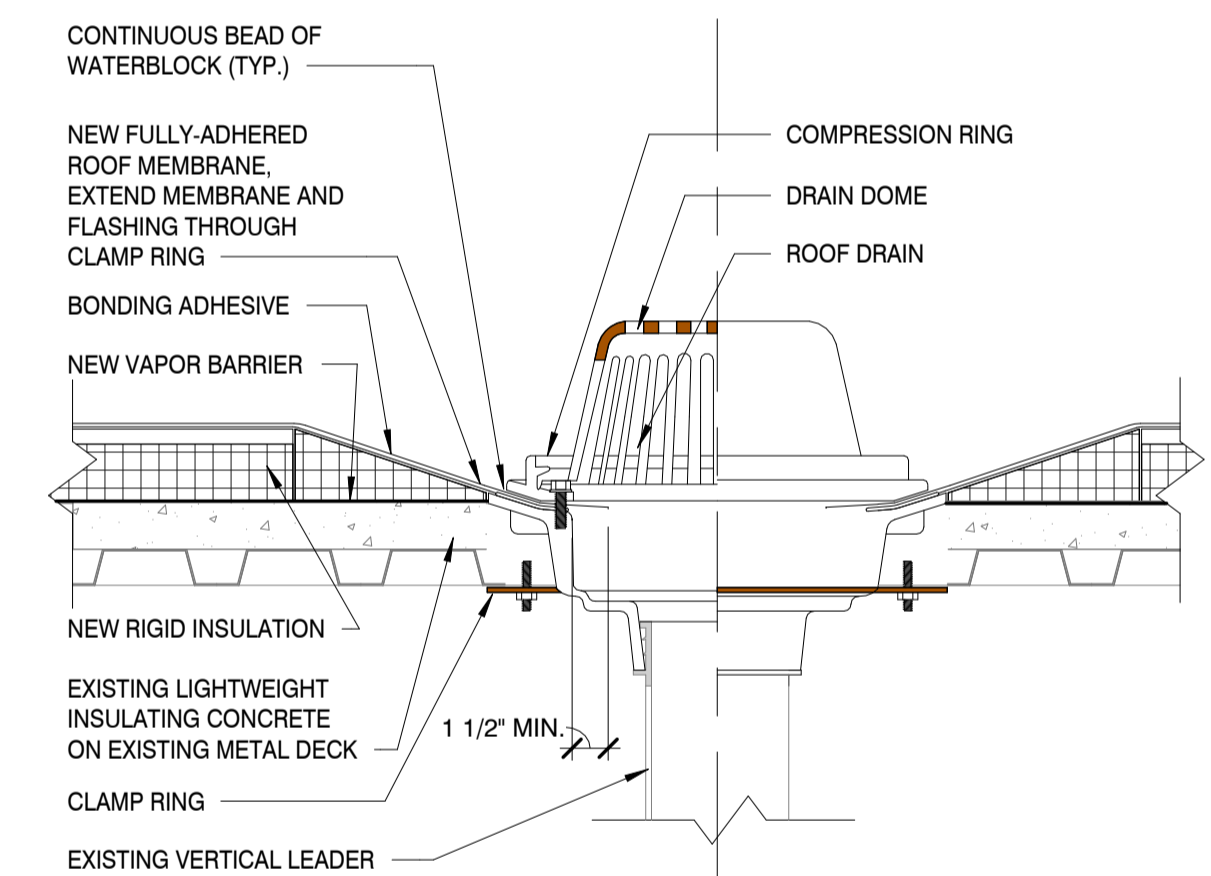
**ROOF CURB** 8  
SCALE: 1 1/2" = 1'-0"



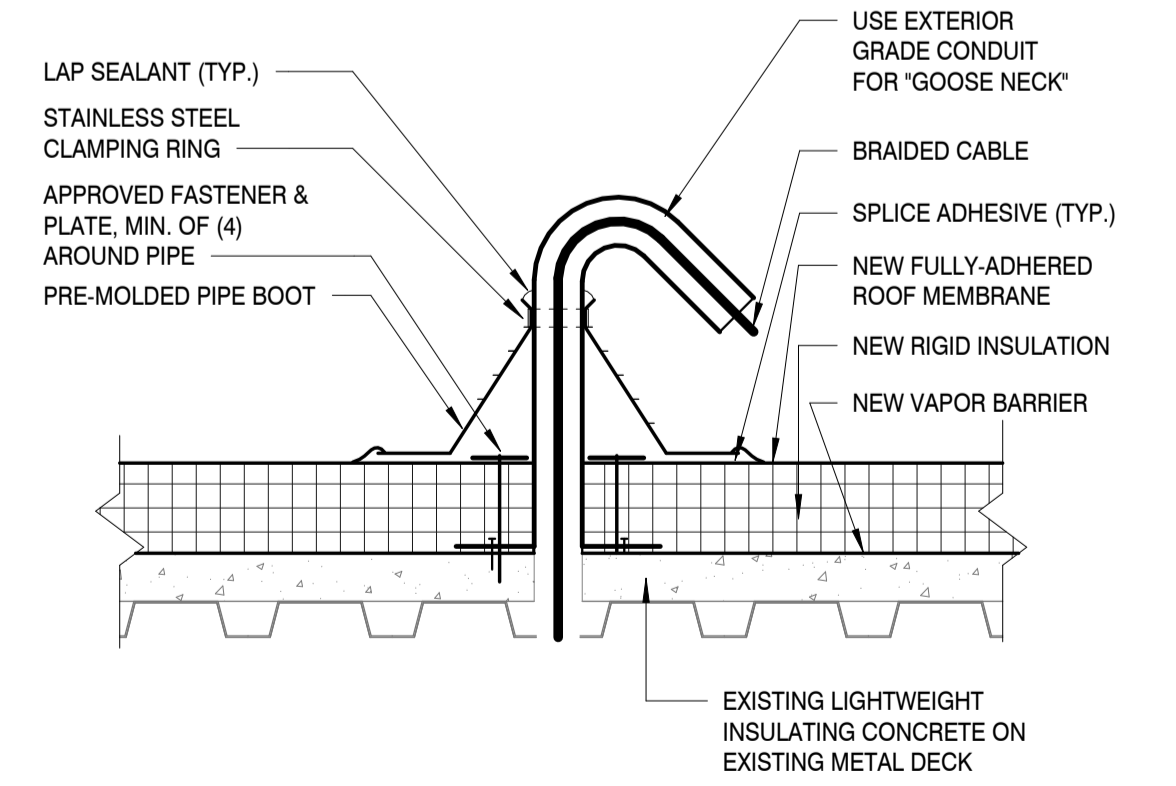
**ROOF MOUNTED POST** 9  
SCALE: 1 1/2" = 1'-0"



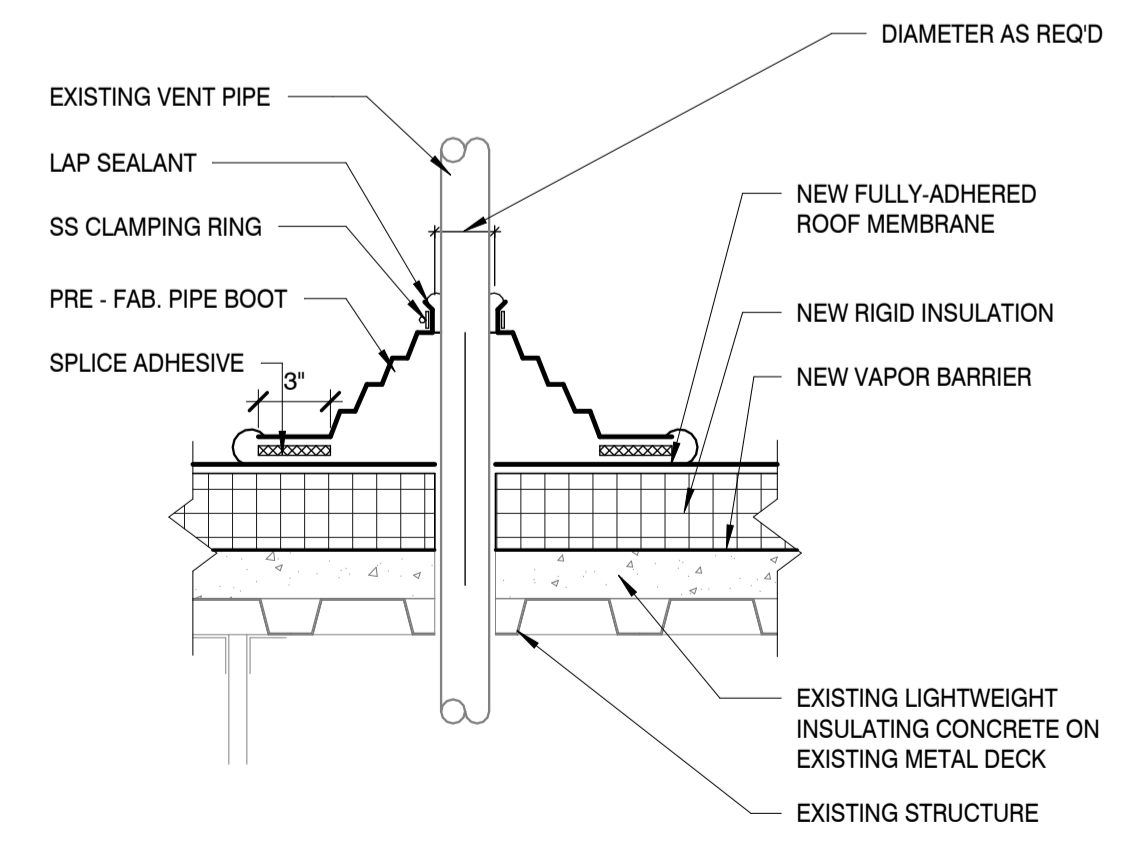
**ROOF PARAPET FLASHING** 10  
SCALE: 1 1/2" = 1'-0"



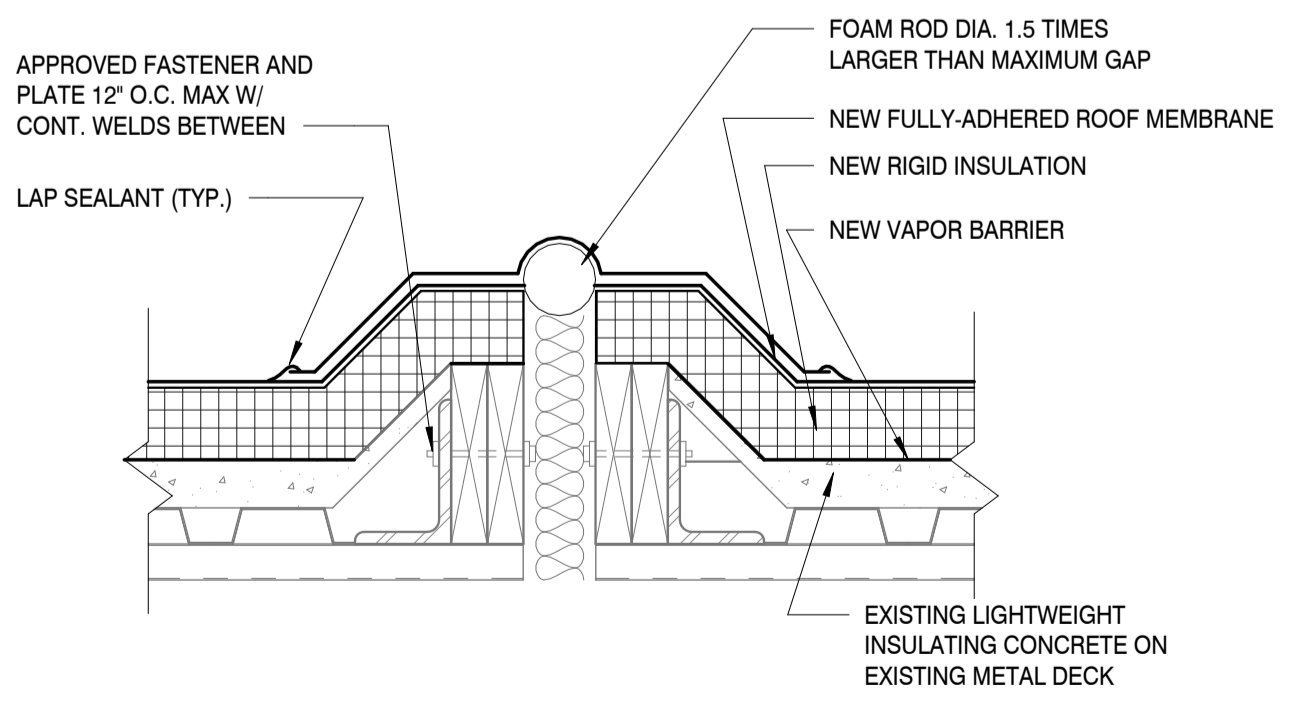
**ROOF DRAIN** 11  
SCALE: 1 1/2" = 1'-0"



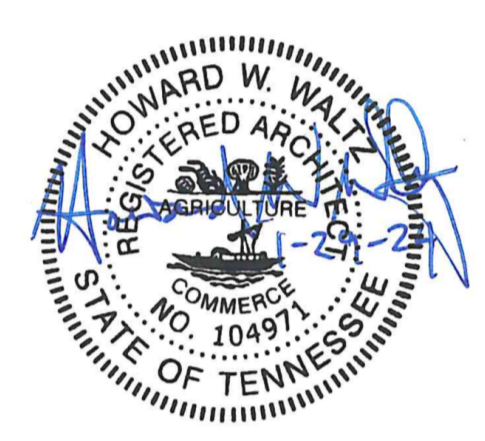
**CABLE PENETRATION** 12  
SCALE: 1 1/2" = 1'-0"



**VENT PIPE** 13  
SCALE: 1 1/2" = 1'-0"



**EXPANSION JOINT DETAIL** 14  
SCALE: 1 1/2" = 1'-0"



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**PROJECT INFORMATION**

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**FARRAGUT HIGH SCHOOL ROOF REPLACEMENT**  
PROJECT ADDRESS:  
11237 KINGSTON PIKE,  
KNOXVILLE, TN 37994  
KNOX COUNTY  
PROJECT NO.:  
**231315**

**ACTIVE DESIGN PHASE**

- FOR REVIEW ONLY
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**REVISION INFORMATION**

NO.	DATE	DESCRIPTION
1	01/12/2024	ADDENDUM 02
2	01/29/2024	ADDENDUM 03

**KEY PLAN**

**SHEET INFORMATION**

SHEET ISSUED: 01/29/2024  
DESIGNED BY: HW  
DRAWN BY: LS  
REVIEWED BY: HW  
SHEET TITLE:

**EXTERIOR**

PREFINISHED METAL FLASHING W/ TERM. BAR, SEE DETAIL 2/A801  
 CLEAT & FASTENING BY MANF. SPECIFICATIONS BEYOND  
 EXTEND MEMBRANE UP CURB WALL AND UNDER 24 GA. PREFINISHED STEEL SILL FLASHING  
 NEW FULLY-ADHERED ROOF MEMBRANE OVER RIGID INSULATION  
 LAP SEALANT (TYP.)  
 8" MIN.  
 3 3/4"  
 3 3/4"  
 0"  
 3 3/4"  
 NEW VAPOR BARRIER  
 EXISTING LIGHTWEIGHT INSULATING CONCRETE ON EXISTING METAL DECK  
 EXISTING WALL

**INTERIOR: EXISTING STAIR PENTHOUSE**  
 NEW PRIMER, BACKER ROD, AND SEALANT (BEYOND)  
 SLOPE AT 1/4" PER 1'-0"  
 NEW DOOR, DOOR FRAME, AND THRESHOLD INSTALLED AT NEW SILL PLATE  
 NATIONAL GUARD THRESHOLD #884V SET IN FULL BED OF MASTIC  
 EXISTING DOOR, EXISTING FRAME, AND EXISTING THRESHOLD TO BE REMOVED  
 NEW P.T. 2X WOOD BLOCKING CUT TO MATCH WIDTH SCREW FASTENED AT 12" O.C. STAGGERED  
 EXISTING CONCRETE SLAB

**STAIR ENCLOSURE - DOOR THRESHOLD**

SCALE: 1 1/2" = 1'-0"

1

**STAIR ENCLOSURE - DOOR JAMB DETAIL**

SCALE: 1 1/2" = 1'-0"

2

**STAIR ENCLOSURE - DOOR HEAD DETAIL**

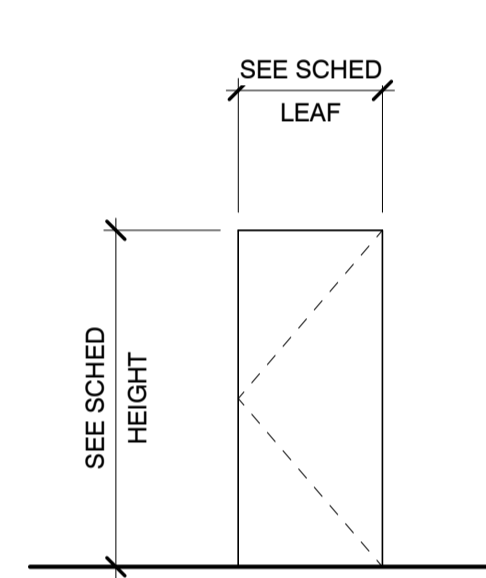
SCALE: 1 1/2" = 1'-0"

3

DOOR NUMBER	D-TYPE	THICK	HEIGHT	FULL WIDTH	PANEL CONFIG	LEAF (LEAF)	D-MAT	D-FINISH	LABEL	DOOR FRAME			DETAILS				REMARKS				
										F-TYPE	F-HEIGHT	F-WIDTH	DOOR HEAD	DOOR JAMBS	F-MAT	F-FINISH		HEAD	JAMB	T-HOLD	H-WARE
101A	F	1 3/4"	5' - 8" V.I.F.	3' - 0" V.I.F.	SINGLE - SWING	3' - 0" V.I.F.	HM	PAINT	45	S	5' - 10" V.I.F.	3' - 4"	2"	2"	HM	PAINT	3/A802	2/A802	1/A802	1	ROOF ACCESS DOOR, INSULATED, FLUSH, HOLLOW METAL DOOR PANEL AND HOLLOW METAL DOOR FRAME HEIGHT AND WIDTH TO BE VERIFIED IN FIELD - PAINT TO MATCH EXISTING

- GENERAL DOOR NOTES**
- RATED DOORS ASSEMBLIES MUST HAVE RATED FRAMES, HARDWARE, CLOSERS AND OTHER RATED ACCESSORIES. ANY GLAZING SHALL BE CLEAR AND WIRELESS FIRE-RATED GLASS CERAMIC. PERMANENTLY LABEL EACH LITE W/ FIRE RATING LISTED AND LABELED BY UL.
  - CLOSERS AND POSITIVE LATCHING ARE REQUIRED ON FIRE RATED DOORS AND DOORS IN SMOKE TIGHT PARTITIONS.
  - INTERIOR WOOD DOORS TO BE FACTORY FINISH. WOOD SPECIES TO BE ROTARY CUT BIRCH.
  - EXTERIOR HOLLOW METAL DOORS ARE TO BE INSULATED.
  - EXTERIOR HOLLOW METAL DOORS AND FRAMES ARE TO BE FACTORY PRIMED AND FIELD PAINTED.

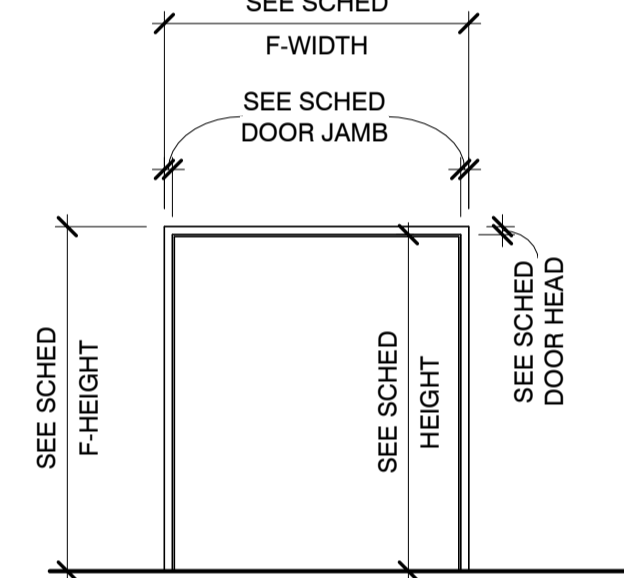
- DOOR HARDWARE**
- DOOR HARDWARE SET #1  
 DESCRIPTION: SINGLE - EXTERIOR - ROOF ACCESS  
 1 CONTINUOUS HINGE (A31331G) CFM (HEIGHT) HD1 PT (PE)  
 1 ENTRY/OFFICE LEVER AU4704LN X 626 (YAL)  
 1 SURFACE CLOSER (C02021-P143) CPS/500 689 (NO)  
 1 KICK PLATE 190S 34" X 34" 630 AS REQ'D (HAG)  
 1 THRESHOLD NATIONAL GUARD THRESHOLD #884V SET  
 1 RAIN GUARD (R0Y976) 346C (PE)  
 1 SWEEP (R3D534) 345AV (PE)



**DOOR TYPES**

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

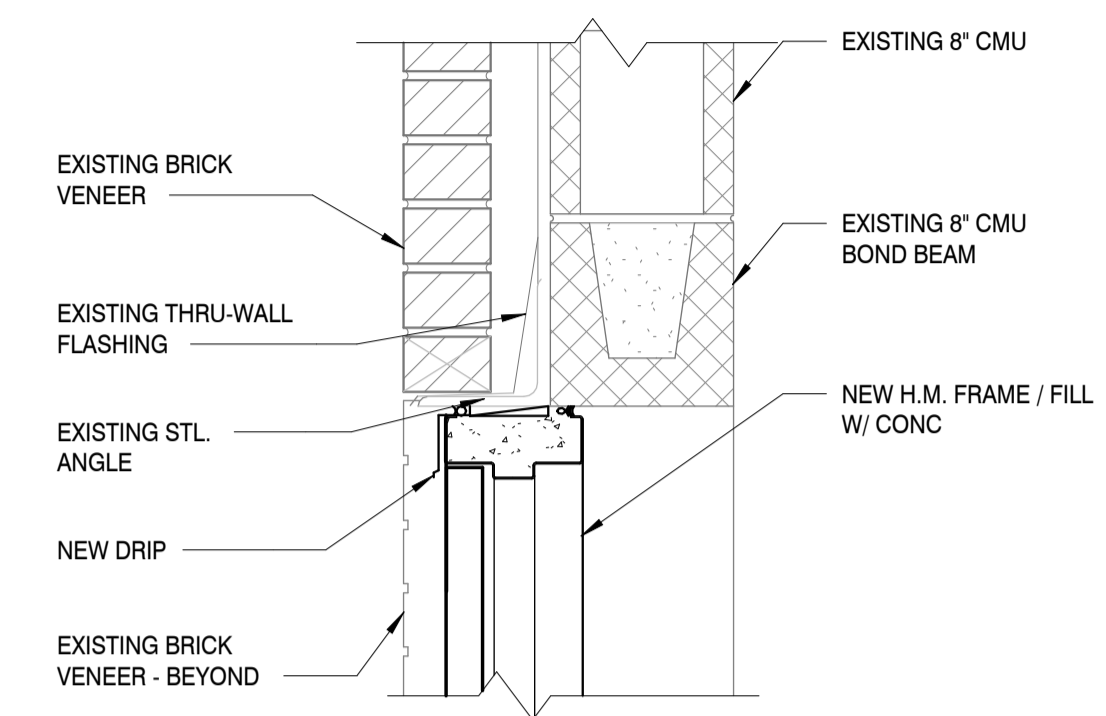
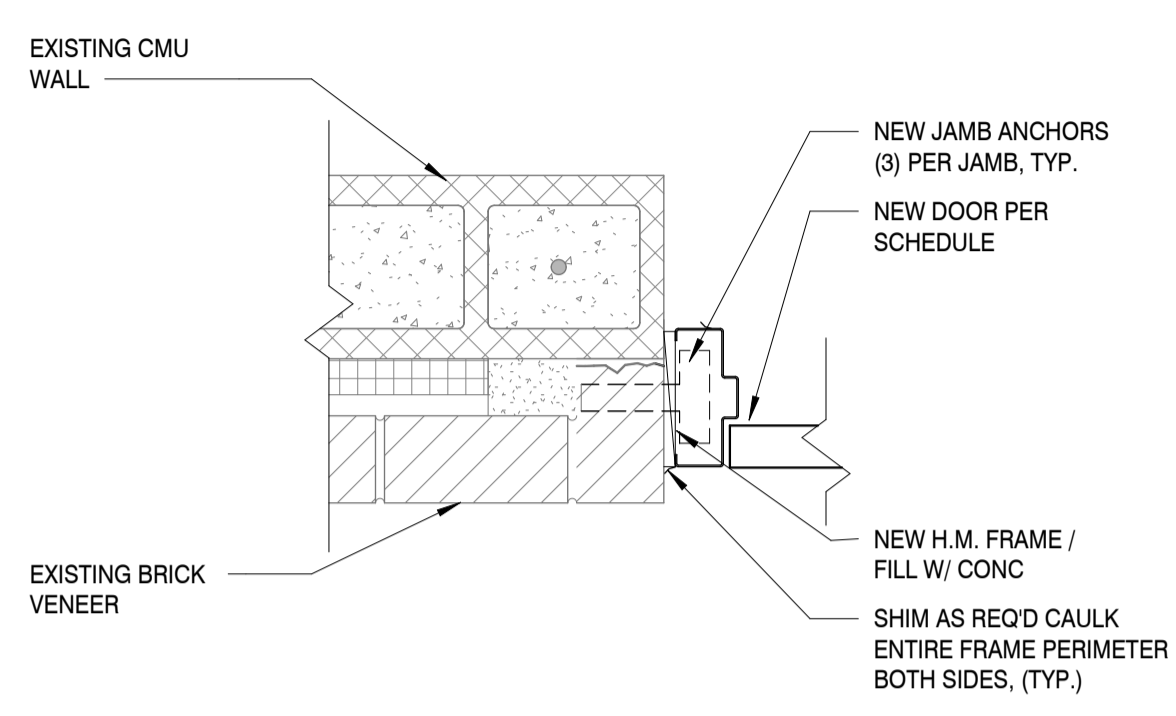
F



**DOOR FRAME TYPES**

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

S



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 299 N. WEISGARBER ROAD  
 KNOXVILLE, TN 37919  
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2	01/29/2024	ADDENDUM 03

**KEY PLAN**

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 DESIGNED BY: HW  
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 SHEET TITLE:

**DOOR DETAILS**

SHEET NO.:

**A802**