



Built Up Roofs



ALLANA BUICK & BERS
Making Buildings Perform Better

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Allana Buick & Bers, Inc. 2020



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Making Buildings Perform Better

Best Practice

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Karim P. Allana, PE, RRC, RWC

- **Education:** B.S., Civil Engineering, Santa Clara University
- **Registration:** P.E., Civil Engineering, California, Washington, Nevada, and Hawaii
- **Certification:** Registered Roof Consultant (RRC), Roof Consultants Institute, and Registered Waterproofing Consultant (RWC)



- **Overview:**
 - CEO and Senior Principal at Allana Buick & Bers.
 - Former Turner Construction Employee (Project Engineering and Superintendent)
 - Over 37 years experience providing superior technical standards in all aspects of building technology and energy efficiency.
 - Principal consultant in forensic investigations of building assemblies, failure analysis, evaluation and design of building infrastructure and building envelope evaluation and design.
 - Expert in all aspects of building envelope technology.
 - Completed numerous new construction, addition, rehabilitation, remodel and modernization projects for public and private sector clients.
 - Specialization in siding, roofing, cement plaster, wood, water intrusion damage, window assemblies, storefronts, below grade waterproofing, energy efficiency, solar engineering and complex building envelope and mechanical assemblies.

ABBAE Firm Overview

- Allana Buick & Bers (ABBAE) is an Architectural Engineering firm specializing in Building Envelope Systems
- ABBAE is one of the 5 largest building envelope consultants in the country
- ABBAE has over 33 years of experience & over 12,500 projects
- ABBAE is also a leading Forensic Defect firm with hundreds of forensic projects (litigation)
- Locations – 16 offices across California, Nevada, North Carolina, Oklahoma, Oregon, Texas, Virginia, Washington, Colorado and Hawaii



Staff & In-House Expertise

- Licensed Professional Engineers – Civil, Structural, and Mechanical
- Registered Architects
- Building Enclosure Commissioning Process Providers (BECxPs)
- Registered Building Envelope Consultant (RBEC)
- Registered Roofing Consultants (RRCs)
- Registered Waterproofing Consultants (RWCs)
- Registered Exterior Wall Consultant (REWCs)
- Registered Roof Observers (RROs)
- Certified Exterior Insulation and Finish System (EIFS) inspectors
- Curtain Wall Specialists
- ICC Certified Building Inspectors
- Quality Assurance Monitors
- Water Testing Experts
- Leak Investigation and Diagnosis Experts
- Infrared Imaging and Nuclear Moisture Scanning Experts

ABBAE Building Expertise

- Building Envelope Systems

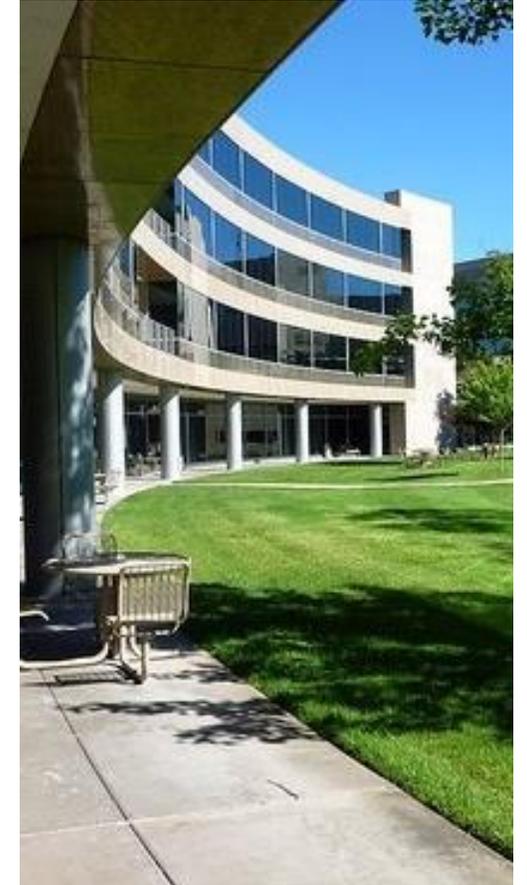
- Roofing Systems
 - High-Slope/Low-Slope Roofs
 - Green/Garden Roofs
 - Drainage Systems
 - Pedestrian Plazas
- Exterior Wall Systems
 - Wall Cladding/Siding/GFRC/pre-cast
 - EIFS/cement plaster/stucco
 - Sheet Metal Flashings
- Windows and Glazing Systems
 - Punched Windows
 - Curtain Wall/Window Wall Systems
 - Sliding Glass Doors
 - Skylights

- Building Envelope Systems (cont'd)

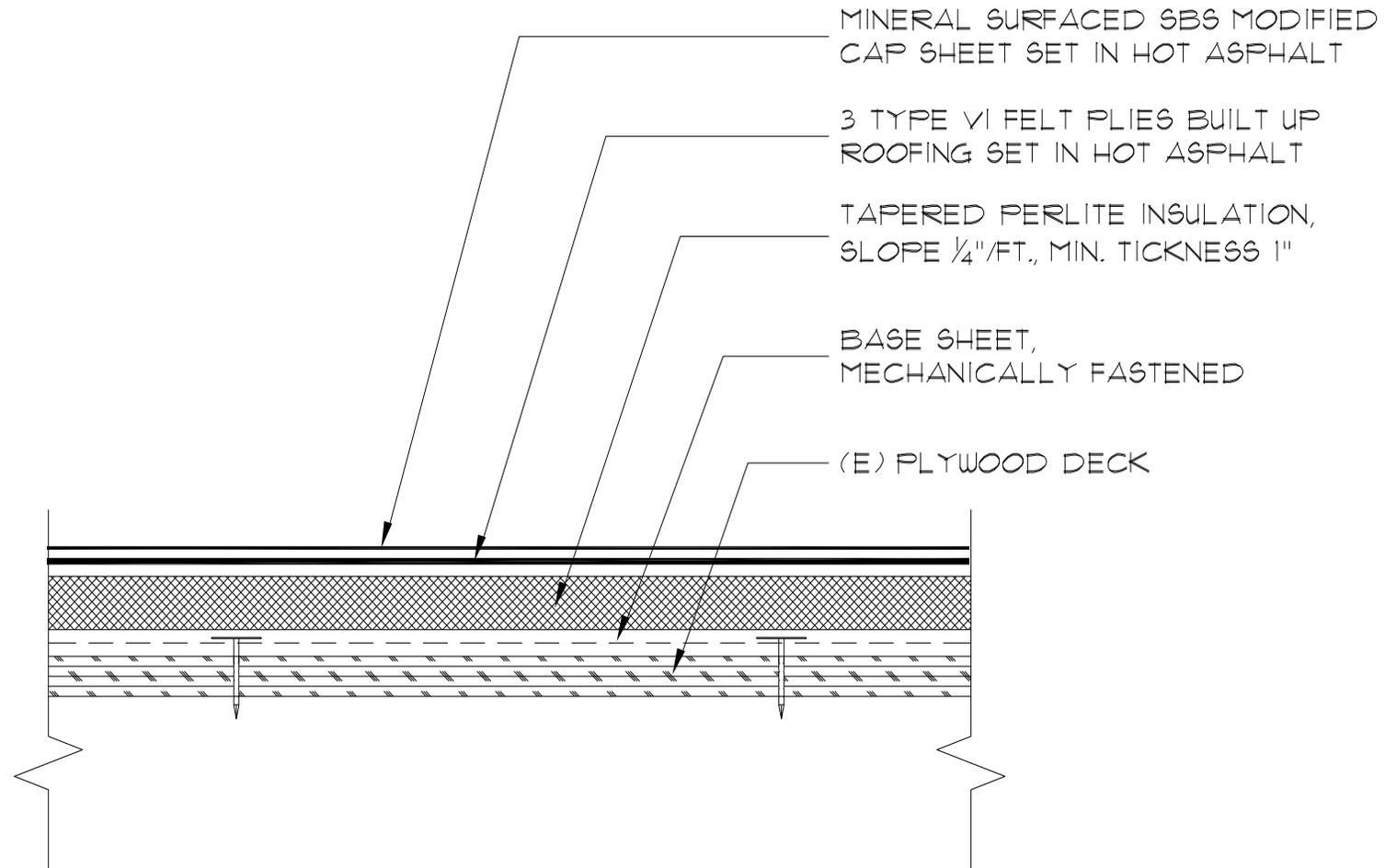
- Roofing & Waterproofing Systems
 - Deck/Balcony/Lanai Waterproofing
 - Podium Waterproofing
 - Pool/Spa Deck Waterproofing
 - Above-Grade/Below-Grade Waterproofing
 - All types of low and steep sloped roofing
- Commissioning BECx
 - OPR/BOD/Commissioning Plan
- Mechanical/HVAC Systems
 - HVAC design
 - Plumbing systems
 - Commissioning and testing

ABBAE Core Services

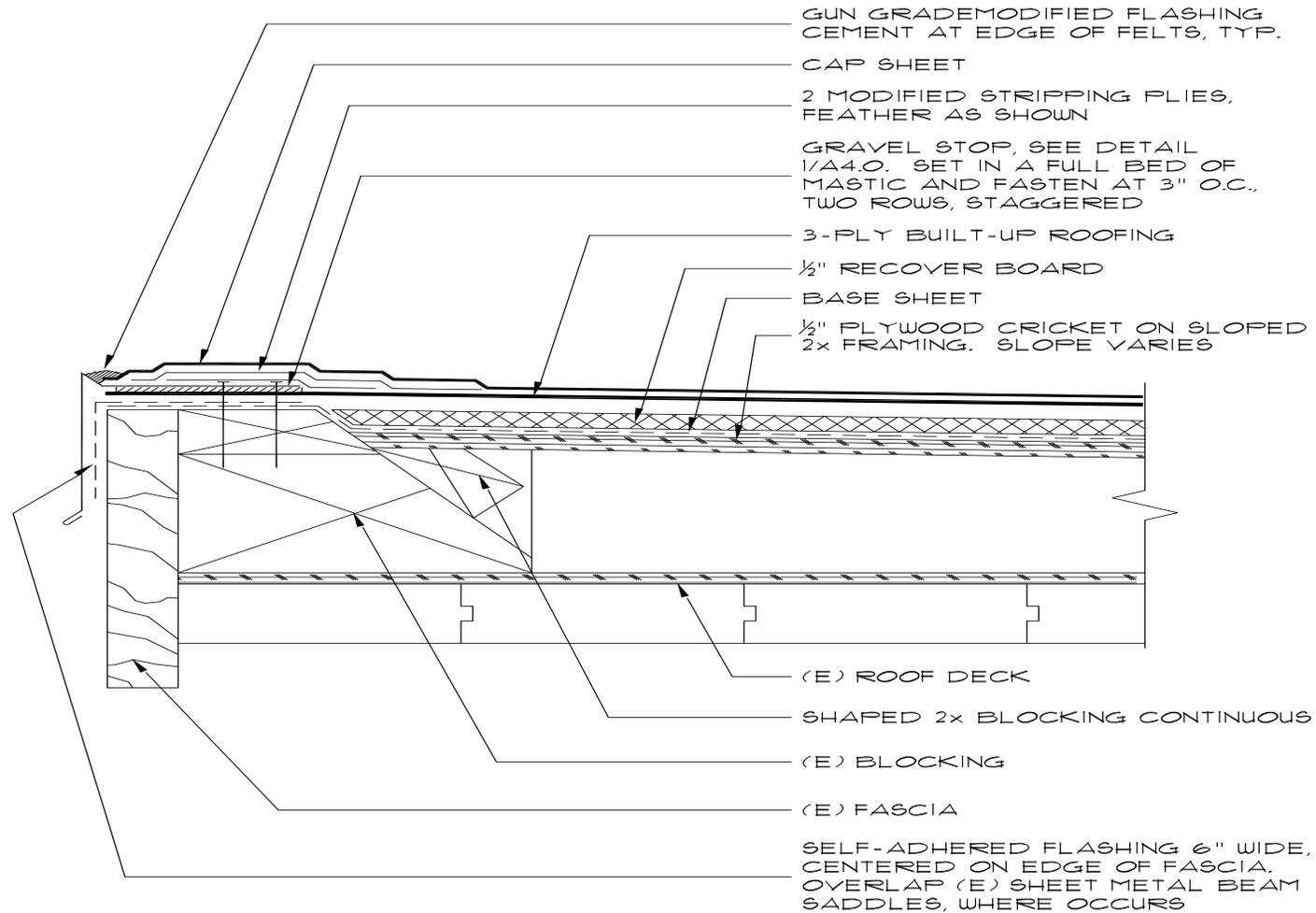
- Consulting and third-party peer review services
- Engineer of record for building envelope systems
- Contract administration services
- Inspection services (usually direct with owner)
- Air and water performance testing
- Mock-up design, observation, and testing
- Building assessments and forensic investigations
- Litigation support and expert witness services
- Educational seminars with AIA credits



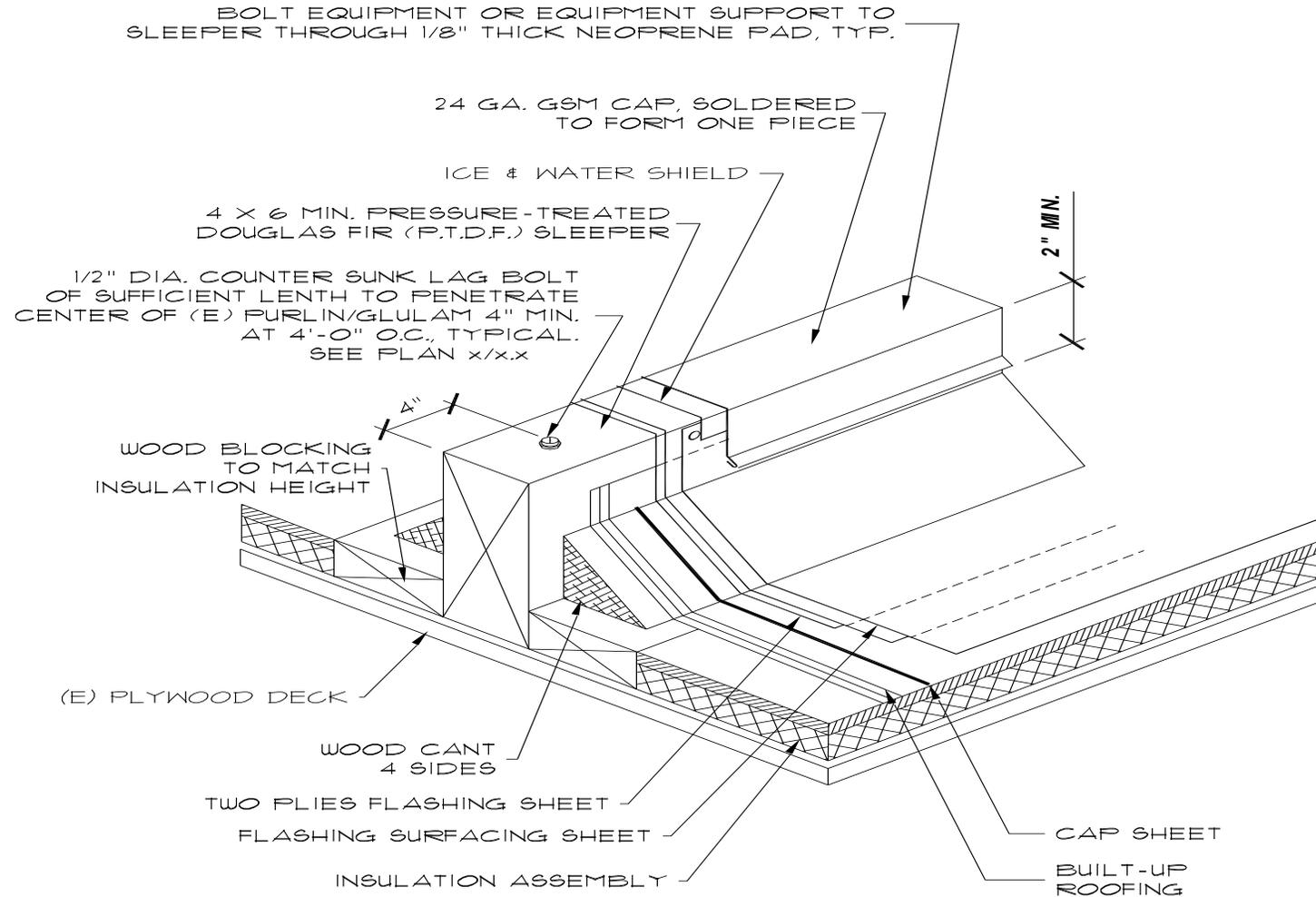
Built up Roofing (SBS) System Detail



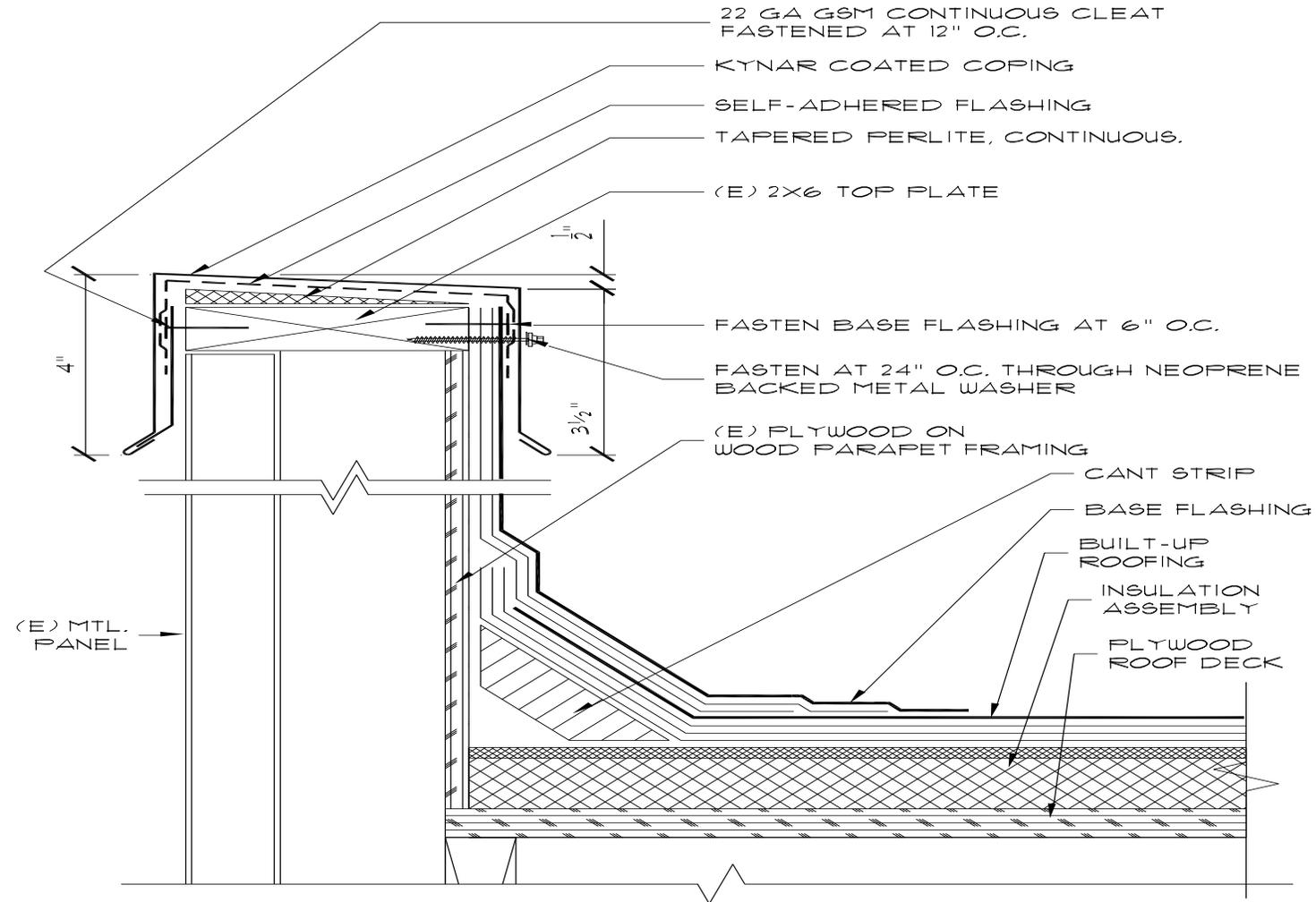
Non-insulated Eave Metal – Built Up Roof



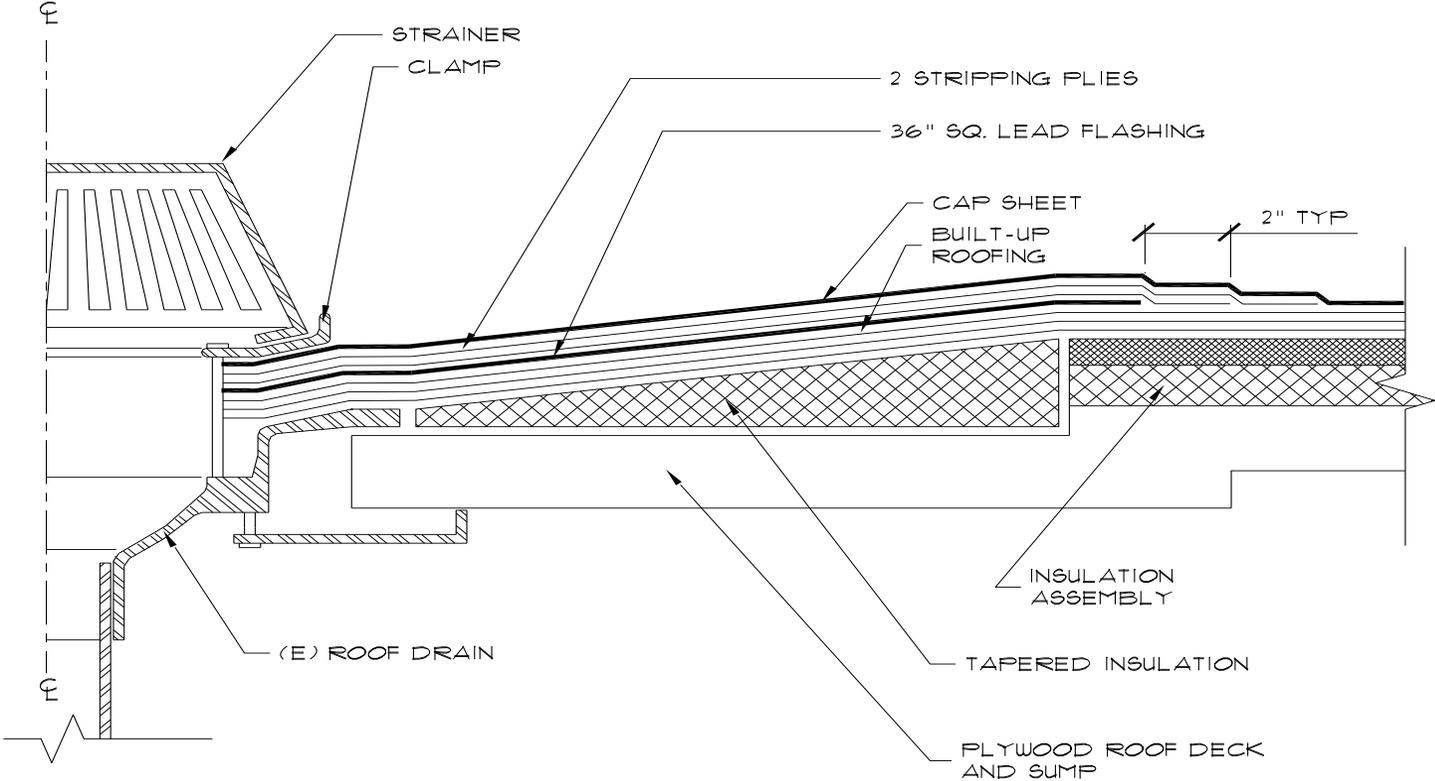
Roofing over Sleeper – Built Up Roofing



Parapet Flashing Detail – Built Up Roofing

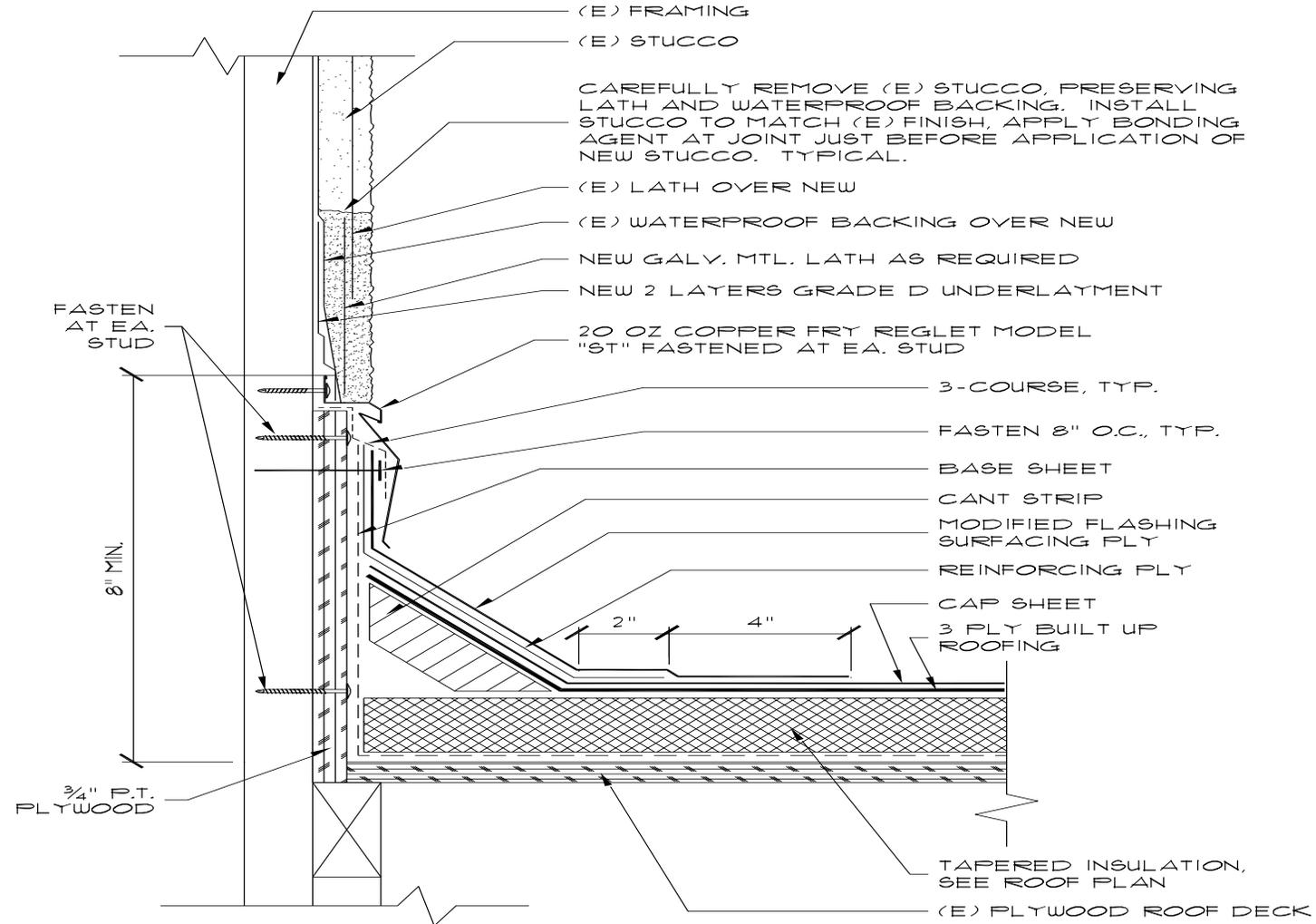


Roof Drain Detail – Built Up Roofing

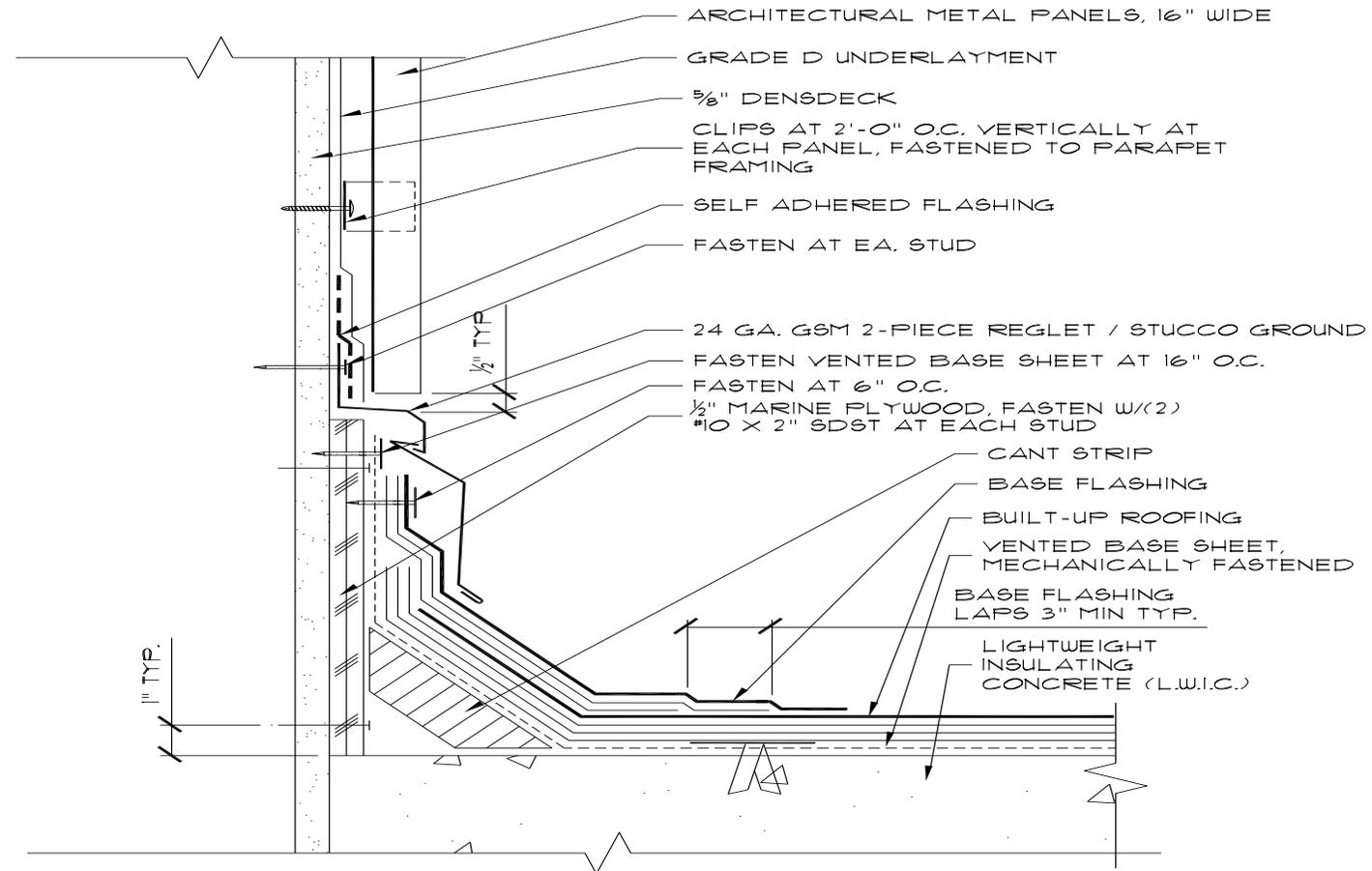


- NOTES:
1. REPLACE ANY DAMAGED OR MISSING DRAIN PARTS.
 2. REPLACE (E) PLASTIC STRAINERS WITH CAST IRON STRAINERS TO FIT (E) DRAIN BOWLS.

Roof to Stucco Flashing Detail – Built Up Roofing



Parapet Base to Roof Flashing – Built Up Roofing



NOTES:

1. SEE DETAIL 0134 FOR COPING.
2. FOR FASTENERS SEE FASTENER SCHEDULE, DETAIL x/x.xx.

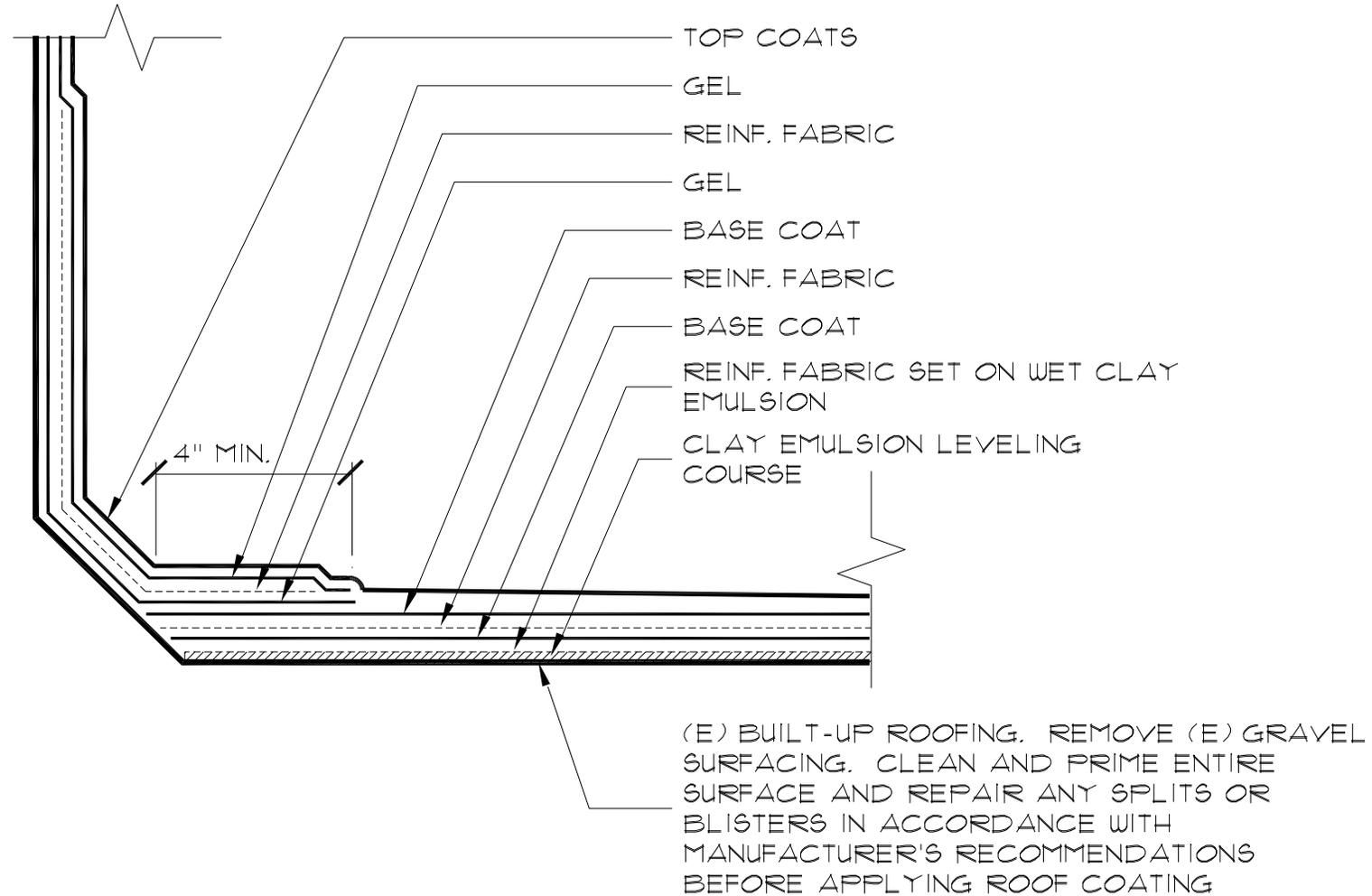


Roof Coating over Built Up Roofing



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Roof Coating System over Built Up Roofing



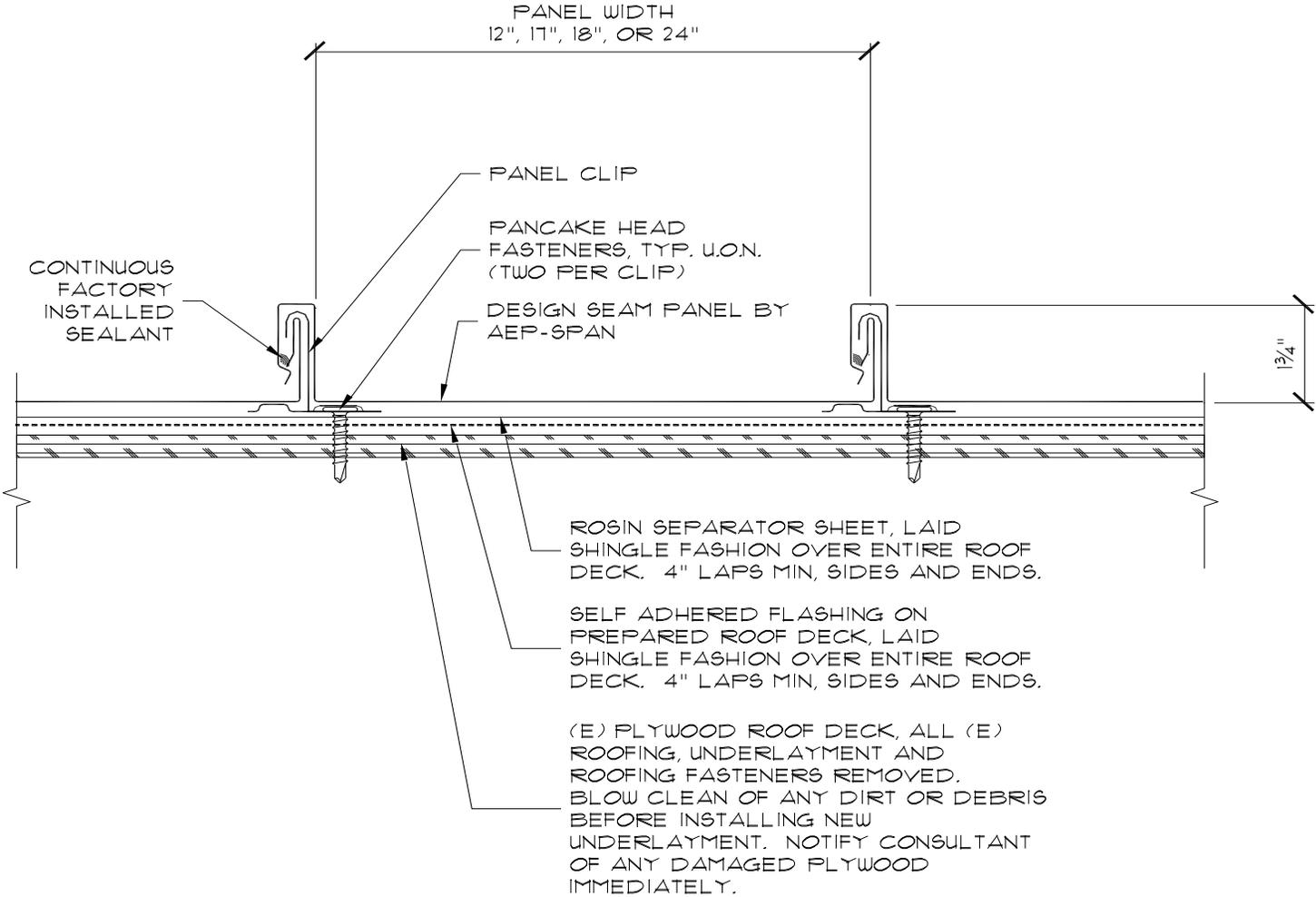


Metal Roofing

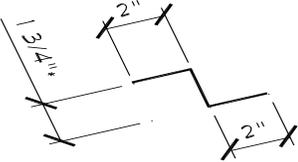


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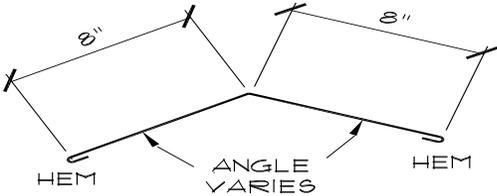
Typical Standing Seam Metal Roof System



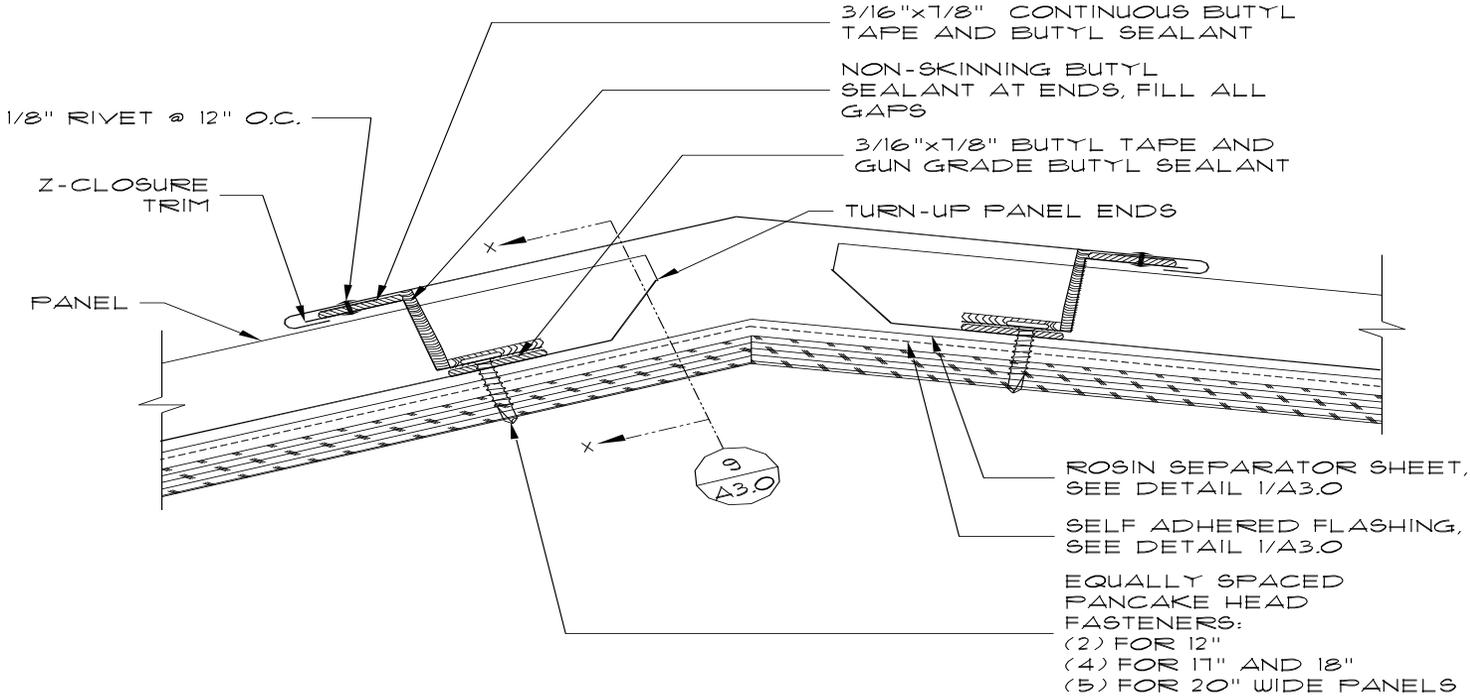
Metal Roof Ridge



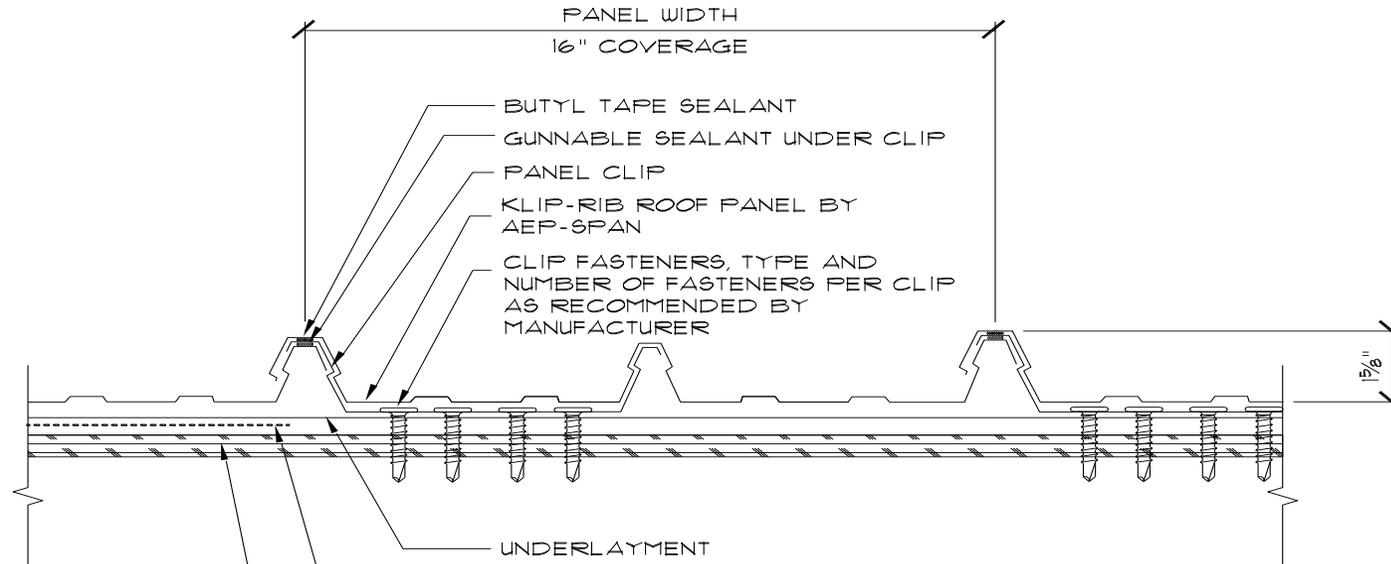
Z-CLOSURE



RIDGE CAP



Metal Roof (Structural System)



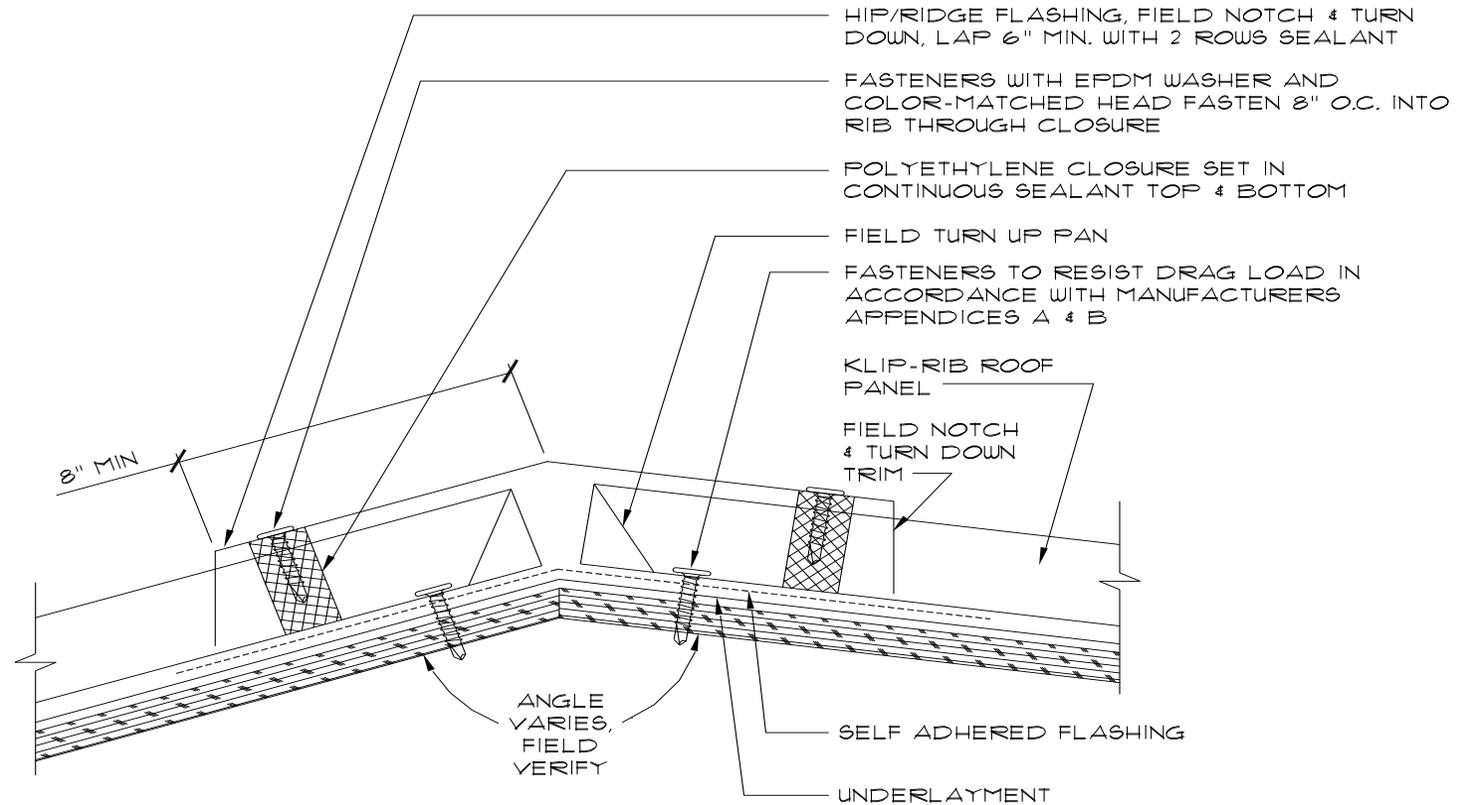
SELF ADHERED FLASHING AT ROOF EDGES, TRANSITIONS, PENETRATIONS AND AS SHOWN OR NOTED.

(E) PLYWOOD ROOF DECK, ALL (E) ROOFING, UNDERLAYMENT AND ROOFING FASTENERS REMOVED. BLOW CLEAN OF ANY DIRT OR DEBRIS BEFORE INSTALLING NEW UNDERLAYMENT. NOTIFY CONSULTANT OF ANY DAMAGED PLYWOOD IMMEDIATELY.

NOTES:

1. (E) ROOF SLOPE VARIES THROUGHOUT THE PROJECT. FIELD VERIFY CONDITIONS AND ADJUST SHEET METAL FABRICATION ANGLES, LAPS, ETC. ACCORDINGLY.

Metal Roof Ridge Section (Klip-Rib System)



NOTES:

1. (E) ROOF SLOPE VARIES THROUGHOUT THE PROJECT. FIELD VERIFY CONDITIONS AND ADJUST SHEET METAL FABRICATION ANGLES, LAPS, ETC. ACCORDINGLY.

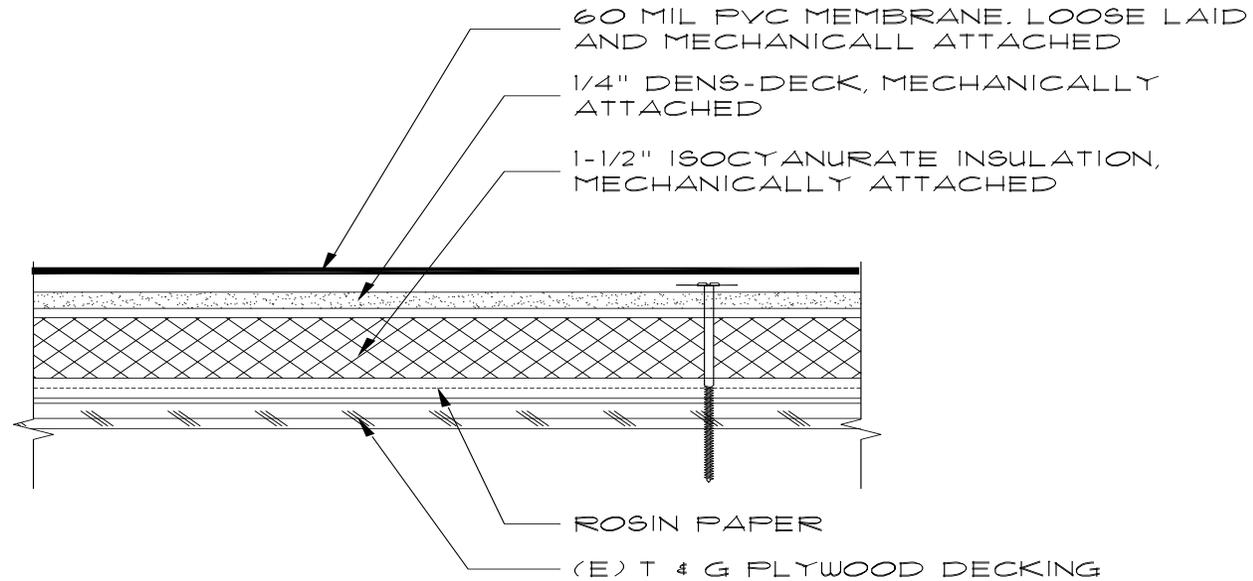


Single Ply Roofing



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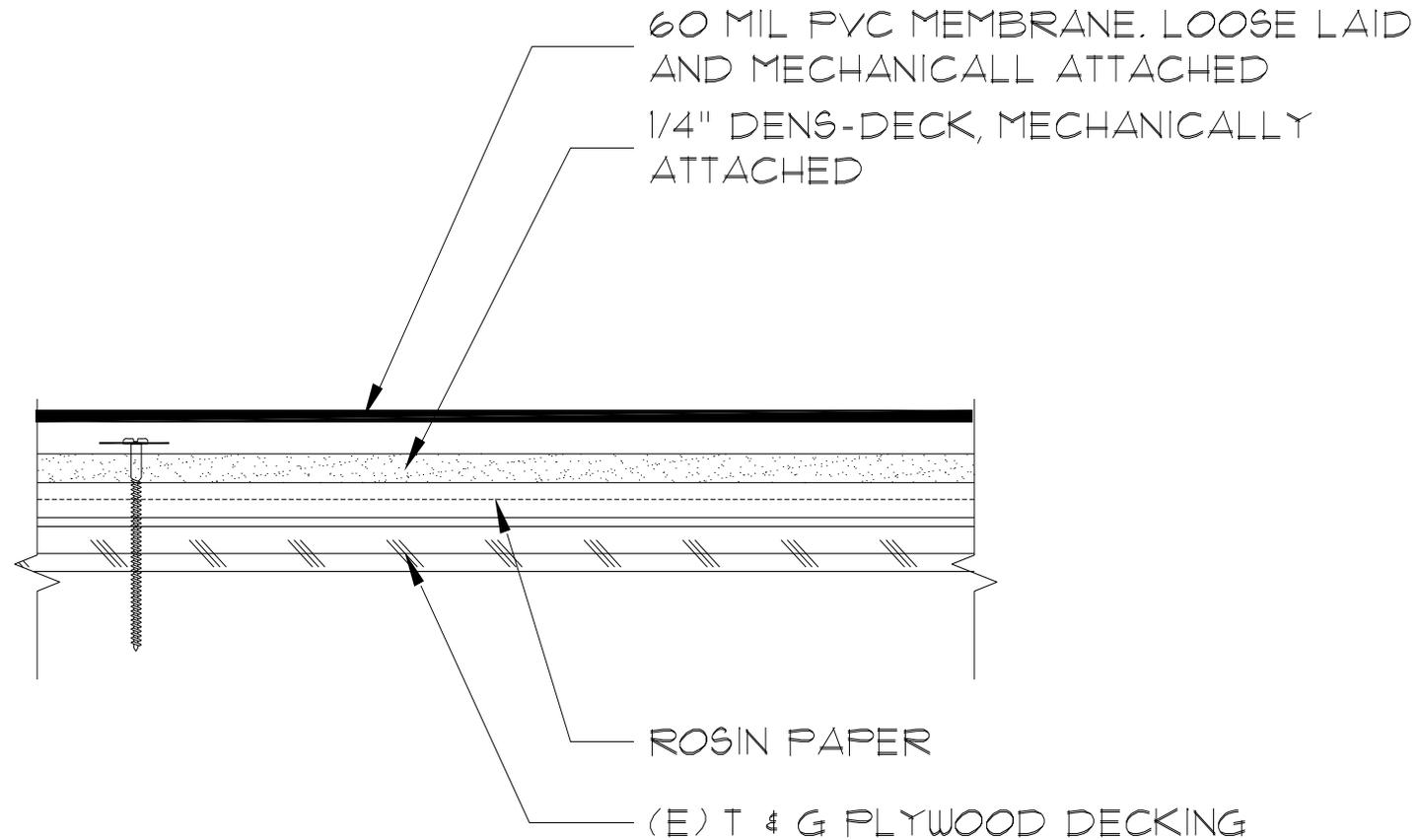
Single Ply Roof System over Polyisocyanurate



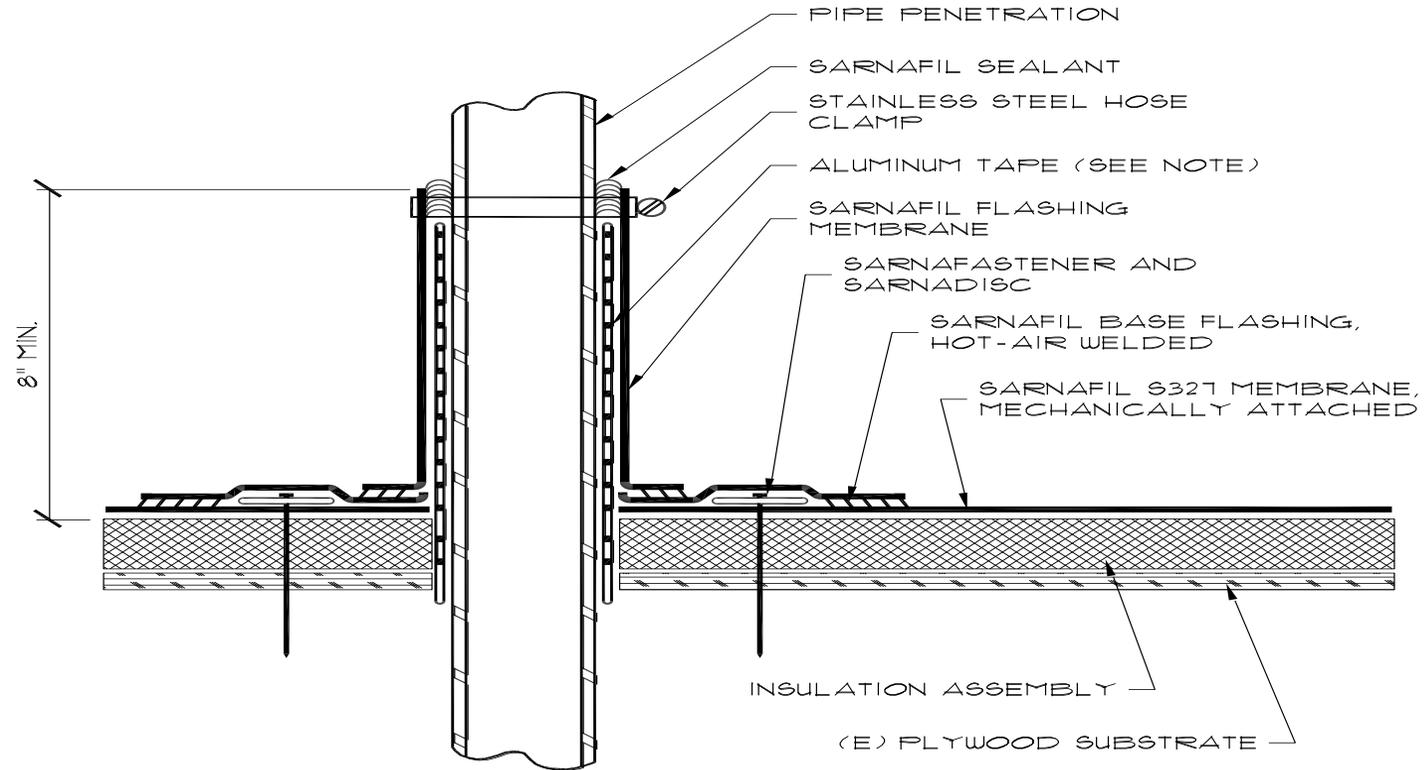
NOTE:

- 1) MANUFACTURER TO PROVIDE AND TEST SECUREMENT BAR FASTENING PATTERNS.
- 2) PERFORM FASTENER PULL OUT TESTS.
- 3) AT NORTH AND SOUTH ENDS AND WHEREVER CRICKETS OCCUR.

Single Ply Roof System over Dens-Deck

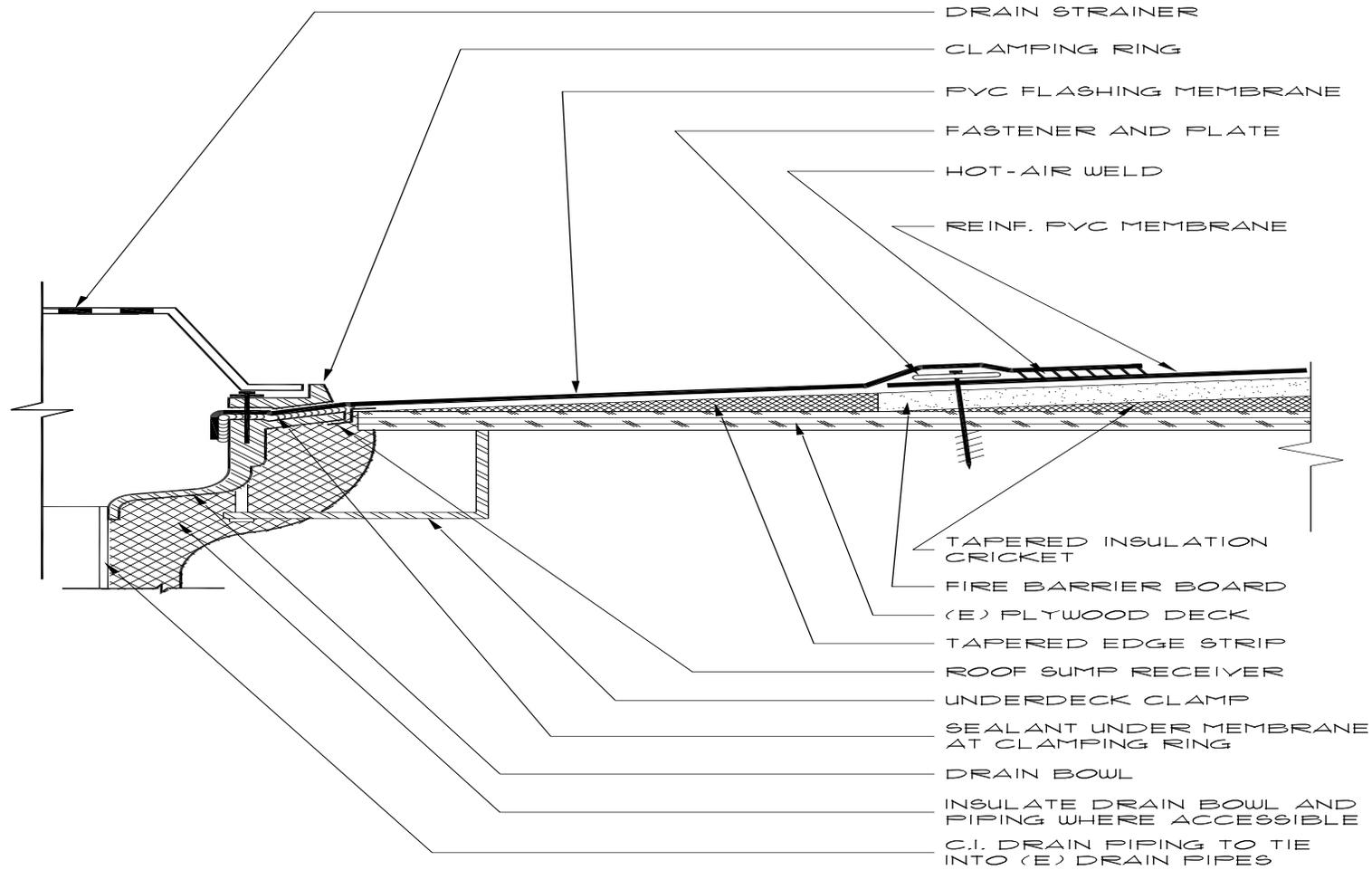


Pipe Penetration Flashing – Single Ply System



NOTE:
1) ALUMINUM TAPE IS REQUIRED IF EXISTING PENETRATION IS CONTAMINATED.

Roof Drain – Single Ply System



NOTES:
 1. ALL DRAIN COMPONENTS SHALL BE HOT-DIPPED GALVANIZED CAST IRON.
 2. SIZE DRAIN OUTLET TO MATCH (E) DRAIN PIPING.

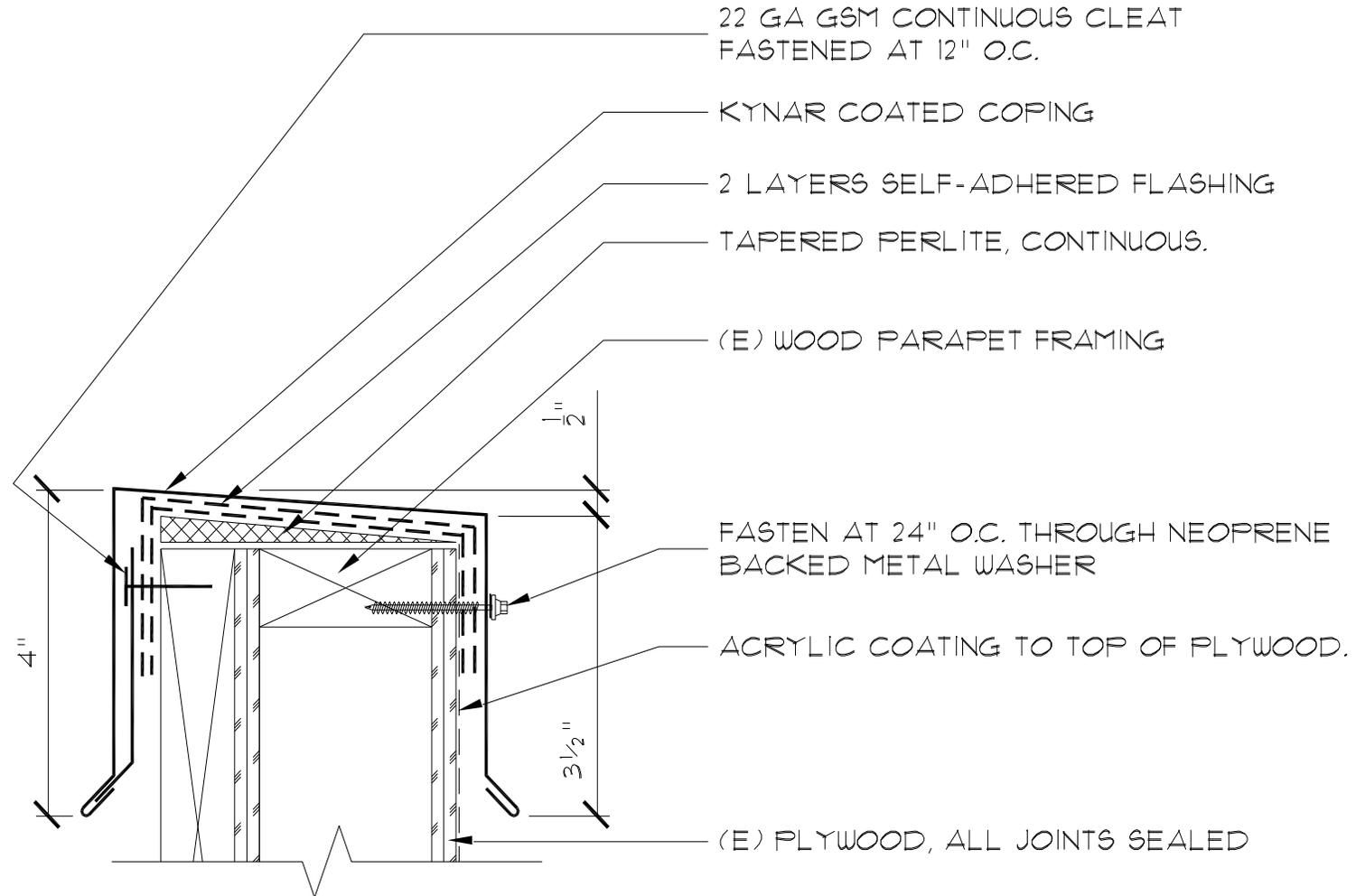


Supporting Details for ALL ROOFING SYSTEMS



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Coping Detail



Dish Antenna Support Detail

