

**640 Poirier St,
Coquitlam, BC
Project #25-0387**



PREPARED FOR:

CITY OF COQUITLAM



CONTACT: Brie-Anne Mason

ROOF AREAS: 1-4

ISSUE DATE: April 2025

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01 11 00 - Scope of Work

PART 1 GENERAL

1.1 GENERAL CONDITIONS

- 1.1.1 Apply in accordance with the Drawings, Specifications and the requirements of the jurisdictional authorities and the Canadian Roofing Contractors Association's Roofing Manual and/or RCABC Roofing Practices Manual.
- 1.1.2 Abide by all Federal, Provincial, Municipal and Local Laws or Codes, rules and regulations that in any way affect work including all amendments up to the project date. No plea of misunderstanding will be considered on account of ignorance thereof. Notify the Consultant immediately in writing of any provisions in drawings, specifications or Contract, which are contrary to or inconsistent with any law, rule or regulation.
- 1.1.3 Where documents differ, the most stringent interpretation will apply.

1.2 TYPE OF FACILITY

- 1.2.1 This Contract will be carried out on the premises of an institutional building.
- 1.2.2 Exercise appropriate care and keep construction noise and disruption to an absolute minimum and to the satisfaction of the Owner.
- 1.2.3 Take special precautions where alterations are required above and, in all areas, occupied by staff, or pedestrians.

PART 2 ROOF REPLACEMENT

2.1 DEMOLITION PHASE

- 2.1.1 Remove and dispose of all the following existing components and assemblies within the Scope of Work, including but not limited to:
 - .1 Sheet metal flashings, roof membranes and membrane flashings, overlay board, vapour retarder, vents, roof drains, redundant equipment, and all other accessories down to the level of the existing deck.
- 2.1.2 Upon observation, the roofer shall inform the Owner and Consultant of any deteriorated components.

2.2 RECONSTRUCTION PHASE

- 2.2.1 Remove and replace any unsound/deteriorated roofing components or substrates, prior to the installation of new roofing materials.
- 2.2.2 Existing deck and substrates shall be cleaned and prepared for the installation of new roofing materials and components.

2.3 NEW ROOF ASSEMBLIES

- 2.3.1 Supply and install the new roofing systems comprised of the following (from the top down):
 - .1 **Roof Areas 1-4:**
 - (a) 1-ply modified bitumen cap sheet, self-adhered in place
 - (b) 1-ply modified bitumen base sheet, self-adhered in place
 - (c) 13mm (0.5") gypsum sheathing, mechanically fastened in place
 - (d) Tongue & groove wood deck (existing)
 - (e) Membrane Flashings: 1-ply modified bitumen cap sheet self-adhered, and 1-ply modified bitumen base sheet self-adhered

2.4 EXISTING ASSEMBLIES

2.4.1 It is the Contractor's choice to cut and confirm the roof assemblies. No additional costs will be accepted or approved for/or by the Owner. The existing roofing assemblies are:

.1 Roof Areas 1-4

- (a) 2-ply modified bitumen membranes (base & cap)
- (b) Asphaltic overlay board
- (c) 13mm (0.5") fibreboard overlay
- (d) Kraft paper
- (e) Tongue and groove wood deck

2.5 ADDITIONAL REQUIREMENTS

- 2.5.1 Please see attached *Hazardous Materials Inspection Report 2025*, attached to this document.
- 2.5.2 Supply and install new pavers (on 1.0" XPS padding) in all locations where existing, and beneath all downspouts draining onto lower (canopy) roof levels.
- 2.5.3 Roofing contractor shall be responsible for the removal and reinstallation of all perimeter-mounted equipment (lights, antennae, etc.).
- 2.5.4 **Roof Area 1 (Base Bid):** Supply and install new roof ridge vents (VMAX-301 by Ventilation Maximum, or approved alternate). Install 1 roof vent every 1,000 Sq. Ft of attic space, or as recommended by the manufacturer.
- 2.5.5 Install new wood blocking at perimeters as required. Raise eave perimeters to achieve 200mm (8") above finished roof height. Raise rake perimeters to achieve 150 (6") above finished roof height. Raise interior curbs 200mm (8") on the high side. All flashings at walls are to be minimum 130mm (5") above finished roof height.
- 2.5.6 Base Bid: Supply and install new 24ga., pre-painted, cross-broken metal cladding and cap to all chimneys (match existing).
- 2.5.7 Existing downspouts to remain. All downspouts draining to lower roof levels (canopies) are to be equipped with concrete paver on insulated padding.
- 2.5.8 Roofer is responsible for all electrical and mechanical work within the scope of work. All electrical penetrations associated with the various mechanical units on the roof top are required to be flashed through the new roofing system using gooseneck style metal flashings. If electrical lines are too short, extensions are required.
- 2.5.9 Owner responsible for contacting Municipal Electrical Services to protect/lock-out/disconnect any electrical service lines located near the roof.
- 2.5.10 All improperly run wires are to be re-routed through gooseneck style projections.
- 2.5.11 Paint all rusted rooftop equipment with 2 coats of rust-inhibiting paint.
- 2.5.12 Utilize a single source supplier of membrane and related primary materials.
- 2.5.13 Provide the membrane manufacturer's warranty as specified.
- 2.5.14 Dispose of all debris/waste in approved containers and transfer to an approved municipal and/or provincial disposal site(s).

END OF SECTION 01 11 00

06 10 00 - Rough Carpentry

PART 1 GENERAL

1.1 GENERAL CONDITIONS

- 1.1.1 Apply in accordance with the Drawings, Specifications and the requirements of the jurisdictional authorities and the Canadian Roofing Contractors Association's Roofing Manual.
- 1.1.2 Abide by all Federal, Provincial, Municipal and Local Laws or Codes, rules, and Regulations that in any way affect the Work, including all amendments up to the Project date.
- 1.1.3 All Standards, Regulations and Specifications listed herein are the latest edition.

1.2 CO-ORDINATION

- 1.2.1 Co-ordinate Work of this Section with Work of:
 - .1 Section 01 11 00 Summary of Work
 - .2 Section 07 52 16 SBS Modified Bituminous Membrane Roofing
 - .3 Section 07 62 00 Sheet Metal Flashing and Trim.
 - .4 Section 07 92 00 Joint Sealants.

1.3 REFERENCE STANDARDS

- 1.3.1 Carpentry materials, products, and accessories shall be in accordance with the most current applicable industry standards including but not limited to:
 - .1 ASTM INTERNATIONAL
 - (a) ASTM A123/A123M Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - (b) ASTM A307, Carbon Steel Bolts & Studs.
 - (c) ASTM A653/A653M Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by Hot-Dip Process.
 - (d) ASTM-D1037 – Wood Based Fiber & Particle Panels (Hardboard, OSB)
 - (e) ASTM D1761 Mechanical Fasteners in Wood.
 - (f) ASTM D5456 Evaluation of Structural Composite Lumber Products.
 - (g) ASTM F1667, Nails, Spikes & Staples
 - .2 ANSI/ASME
 - (a) ANSI/ASME B18.6.1 – Wood Fasteners
 - (b) ANSI/ASME B18.6.3 – Steel Fasteners
 - .3 CSA INTERNATIONAL
 - (a) CAN/CSA Asphalt Coated Roofing Sheets
 - (b) CSA B111 - Wire Nails, Spikes and Staples.
 - (c) CSA 080 – Preservative Treatment of Timber by Pressure Process.
 - (d) CSA O112 Series - CSA Standards for Wood Adhesives.
 - (e) CSA O121 - Douglas Fir Plywood.
 - (f) CAN/CSA O122 - Structural Glued-Laminated Timber.
 - (g) CSA O141 - Softwood Lumber.

- (h) CSA 0151 - Canadian Softwood Plywood.
- (i) CSA 0153 - Poplar Plywood.
- (j) CSA 0325 - Construction Sheathing.
- (k) CSA 0437 Series - Standards on OSB and Waferboard.
- .4 FOREST STEWARDSHIP COUNCIL (FSC)
 - (a) FSC-STD-01-001 - FSC Principle and Criteria for Forest Stewardship.
 - (b) FSC-STD-20-002 - Structure and Content of Forest Stewardship Standards V2-1.
 - (c) FSC Accredited Certified Bodies.
- .5 NATIONAL LUMBER GRADES AUTHORITY (NLGA)
 - (a) Standard Grading Rules for Canadian Lumber.
- .6 UNDERWRITERS' LABORATORIES OF CANADA (ULC)
 - (a) CAN/ULC-S706 - Standard for Wood Fibre Insulating Boards for Buildings.

1.4 QUALITY ASSURANCE

- 1.4.1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- 1.4.2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ASTM standards.

PART 2 PRODUCTS

2.1 COMPATIBILITY

- 2.1.1 Compatibility between materials is an essential requirement of the Contract.

2.2 WOOD

2.2.1 BLOCKING AND ROUGH FRAMING

- .1 Grade No. 2, Northern Softwood in accordance with "Standard Grading Rules for Canadian Lumber" as issued by National Lumber Grades Authority (N.L.G.A.).
- .2 Spruce, #1 Softwood, conforming to CSA 0151.
- .3 Wood Cants: 89mm x 89mm (3.5" x 3.5", 2x4 nominal).
- .4 Wood Blocking: 38mm x 38mm (1.5" x 1.5", 2x2 nominal), 38mm x 89mm (1.5" x 3.5", 2x4 nominal), 38mm x 140mm (1.5" x 5.5", 2x6 nominal), 38 x 184mm (1.5" x 7.25", 2x8 nominal), 38mm x 254mm (1.5" x 9.25", 2x10 nominal), 38mm x 286.35mm (1.5" x 11.25" (2x12 nominal).

2.2.2 PLYWOOD SHEATHING

- .1 Exterior, Spruce #1, conforming to CSA 0151 or 0121, exterior grade, G1S. Thickness of 12.7mm (1/2") and/or 19.05mm (3/4") as noted on the Drawings.

2.2.3 WOOD PRESERVATIVE

- .1 Copper or Zinc Naphthanate of 5% Pentachlorophenol solution, water repellent preservative to CSA Series 080, green or clear colour or approved alternate. If preservative is Ammonium Copper Quartenary (ACQ), then stainless steel 300 fasteners are to be used.

2.2.4 NAILS

- .1 Ardox spiral, to CSA Standard B111, length to give 25.4mm (1") minimum penetration into the materials being fastened.
- 2.2.5 SCREWS
- .1 Fasteners for wood: Galvanized steel wood screws with countersunk heads of size and length to provide a minimum 38mm (1.5") penetration into the underlying member.
 - .2 Fasteners for steel substrates: Flat head, self-tapping steel screw with galvanized finish as supplied by Fastening House, or Approved Alternate. Length: to suit. Penetrate through the member a minimum of 19.05mm (3/4").
 - .3 Fasteners for masonry and concrete substrates: Tapcon fasteners with "ClimaSeal" corrosion resistant finish, as manufactured by Buildex/Red Head, or Approved Alternate. Screw to be of sufficient length to penetrate into the substrate a minimum of 38mm (1.5").
 - .4 Bolts, Washers and Nuts: to ASTM A307. Size as indicated on the Drawings. Hot dipped galvanized or an approved equivalent corrosion resistant finish.

PART 3 EXECUTION

3.1 GENERAL

- 3.1.1 All carpentry Work is to comply with the best practices of trade and by skilled carpenters.
- 3.1.2 Provide carpentry alterations and comply with best trade practices. Anchor all wood blocking securely to the existing surfaces and to each other.
- 3.1.3 Make adjustments to the specified procedures caused by weather and site conditions only with the Owner's approval.
- 3.1.4 Maintain all equipment in good Working order to ensure the control of roofing operations and the protection of the Work. Equipment and laying techniques are to meet the approval of the Consultant.

3.2 EXAMINATION

- 3.2.1 Ensure that existing wood blocking to be incorporated with the Work is in good condition and is permanently and properly secured to the existing surfaces.
- 3.2.2 Inform the Consultant of any unacceptable conditions immediately upon discovery.
- 3.2.3 Proceed with installation only after the unacceptable conditions have been remedied.
- 3.2.4 Replace all damaged material and re-seal masonry anchors as required to conform to the design intent herein described.
- 3.2.5 Remove all sharp edges that would otherwise damage materials that come in contact.

3.3 INSTALLATION

- 3.3.1 Cut, align, plumb, and secure the wood to conform to the full intent of the Details. Shim the new wood assembly where required in order to obtain true to line levels.
- 3.3.2 Construct continuous members from pieces of the longest practical length. Treat all saw cuts with wood preservative.
- 3.3.3 Countersink bolts where necessary to provide clearance for other Work.
- 3.3.4 Install spanning members with "crown-edge" up.
- 3.3.5 Install cant strips and blocking as indicated on the Drawings, secured permanently to the structure trimmed and levelled to accommodate chamfers and slopes. Install to accommodate insulation, roofing, and flashing materials.

- 3.3.6 Install continuous plywood sheathing, wood blockings, cants, studs, nailers and continuous shims where required and Detailed on the Drawings and Details. Shims are to be of sufficient height to ensure a minimum two (2%) percent positive slope on all parapet, perimeter, and dividing walls.
- 3.3.7 Install the roof sheathing in accordance with the requirements of the NBC (National Building Code).
- 3.3.8 Install furring and blocking as required to space-out and support facings, fascia, soffit, siding, and other work as required. All lumber is to be installed with butt joints offset 52mm (2"). Fasten at 457.2mm (18") o.c. using a 57mm (2-1/4") Ardox spiral nail.
- 3.3.9 Install furring to support siding applied vertically where sheathing is not suitable for direct nailing.
- 3.3.10 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.
- 3.3.11 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- 3.3.12 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.
- 3.3.13 Where required, fabricate sleepers, expansion joints, perimeters, and walls as detailed. Maintain a minimum height of 203mm (8") above the finished roof surface for sleepers and curbs and where permitted at walls.
- 3.3.14 Securely the anchor wood blocking, nailers and shims in place at 304.8mm (12") on centre in a staggered pattern. Fasten studs to the top and bottom plates with two screw fasteners. Fasten wood blocking, nailers and shims to existing substrate with appropriate screw fasteners.
- 3.3.15 Fasten the plywood along the supported edges at a minimum of 152.4mm (6") on centre. Fasten to the framing members within the field of the plywood panel at a maximum of 406.35mm (16") on centre. Fasten the plywood to the framing and the existing substrate with the appropriate fasteners.
- 3.3.16 Re-fasten any loose existing wood blocking, shims and plywood with screw fasteners where permitted to remain as part of the finished Work and to the satisfaction of the Consultant.
- 3.3.17 Coordinate Work to keep cutting and remedial Work to a minimum. Fasteners are to be of size and spacing required to assure secure anchorage. Fastener spacing of the wood blocking to the substrate and to each other is not to exceed 304.8mm (12") o.c. unless otherwise accepted in writing by the Consultant.
- 3.3.18 Construct wood blocking as per Details. Build-up all perimeter Details to accommodate the height of the new roof assembly where required. Install wood blocking so that the new wood blocking extends a minimum of 101.635mm (4") above the required finished roof surface. Install sloped wood blocking along the top of the perimeter sloping inward towards the roof. Build-up all unit curbs a minimum of 304.8mm (12") above the finished roof level to accommodate the height of the new roof assembly.
- 3.3.19 Offset blocking layers 304.8mm (12") and weave corners.
- 3.3.20 Assemble blocking using two staggered rows of nailing. Space nails in any row a maximum of 609.635mm (24") on center. Within 2440mm (8') of outside corners, reduce maximum spacing to 304.8mm (12") on center.
- 3.3.21 Install asphalt protection board along the perimeters/curbs/walls, from the top of the existing deck to the top edge of the wood blocking along the perimeters/curbs/walls. The asphalt protection board is to be secured 152.4mm (6") on center horizontally with fasteners spaced no more than 304.8mm (12") on center vertically.

3.4 MECHANICAL CURBS

- 3.4.1 All fans, HVAC, vents, skylight curbs etc. are to be box framed to a minimum height of 204mm (8") above the finished roof surface.
- 3.4.2 This includes all roof top openings except drains, electrical conduits, soil stacks, hot stacks and vent stacks.
- 3.4.3 38mm (1-1/2") thick lumber is to be used or as detailed. Widths as may be required to achieve design intent.
- 3.4.4 Disconnecting, extending, and reconnecting electrical services to fans, HVAC units etc. Is to be completed by a Mechanical Contractor.
- 3.4.5 Extending ductwork and vent pipes to new elevations, as required, is to be performed as part of this Contract.

3.5 PROTECTION

- 3.5.1 Protect the installed products and components from damage during construction.
- 3.5.2 Repair damage to adjacent materials caused by rough carpentry installation.

3.6 CLEANING

- 3.6.1 Remove all surplus materials and debris resulting from the foregoing work daily as the Work proceeds and upon completion.

END OF SECTION 06 10 00

07 52 16 - Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing

PART 1 GENERAL

1.1 GENERAL CONDITIONS

- 1.1.1 Apply in accordance with the Drawings, Specifications and the requirements of the jurisdictional authorities and the Canadian Roofing Contractors Association's Roofing Manual.
- 1.1.2 Abide by all Federal, Provincial, Municipal and Local Laws or Codes, rules and regulations that in any way affect work including all amendments up to project date.

1.2 SECTION INCLUDES

- 1.2.1 Roof Areas 1-4

1.3 CO-ORDINATION

- 1.3.1 Co-ordinate work of this Section with work of:
 - .1 Section 01 11 00 Summary of Work
 - .2 Section 06 10 00 Rough Carpentry.
 - .3 Section 07 62 00 Sheet Metal Flashing and Trim.
 - .4 Section 07 92 00 Joint Sealants.

1.4 STANDARDS

- 1.4.1 CAN/CSA O80 SERIES-08 – Wood Preservation.
- 1.4.2 CAN/CGSB 19.13-M87: Single Compound, One-Component, Elastomeric, Chemical Curing.
- 1.4.3 CSA A123.23: Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing.
- 1.4.4 CGSB 37-GP-9MA: Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
- 1.4.5 CSA A123.23: Mat Reinforcing, Fibrous Glass, for Membrane Waterproofing Systems and Built-up Roofing.
- 1.4.6 ASTM C165-12: Standard Test Method for Measuring Compressive Properties of Thermal Insulations.
- 1.4.7 ASTM D6164/D6164M-11: Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- 1.4.8 ASTM A653/A653M-10: Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process.
- 1.4.9 ASTM E84-12: Standard Test Method for Surface Burning Characteristics of Building Materials
- 1.4.10 UL 790: Standard Test Methods for Fire Tests of Roof Coverings
- 1.4.11 UL 1256: Fire Test of Roof Deck Constructions.

1.5 SYSTEM DESCRIPTION

1.5.1 Roof Areas 1-4

- .1 Modified Bituminous Roofing System: 1-ply granulated modified bitumen cap sheet self-adhered in place over; 1-ply modified bitumen base sheet self-adhered in place; over gypsum sheathing mechanically fastened to the existing tongue and groove wood deck.
- .2 Membrane Flashings: 1-ply modified bitumen base sheet self-adhered; and 1-ply granulated modified bitumen cap sheet self-adhered.

1.6 QUALIFICATIONS

- 1.6.1 Contractor qualifications are listed in the GENERAL CONDITIONS under section 01 43 23 CONTRACTOR QUALIFICATIONS.

1.7 QUALITY CONTROL

- 1.7.1 Quality controls are listed in the GENERAL CONDITIONS under section 01 45 00 QUALITY CONTROL – GOOD ROOFING PRACTICES

1.8 PRE-START MEETING

- 1.8.1 A pre-start meeting is to be scheduled one week prior to any work commencing. The roofing contractor, the consultant, the on-site contact and/or owner's representative should be present. The following items will be discussed at the pre-start meeting:
 - .1 methods and procedures relating to the roof assembly installation
 - .2 on-site procedures
 - .3 on-site material storage
 - .4 the construction schedules

1.9 DELIVERY, STORAGE & HANDLING

- 1.9.1 Delivery, storage, and handling are listed in the GENERAL CONDITIONS under section 01 66 00 STORAGE & DELIVERY OF MATERIALS.

PART 2 PRODUCTS

2.1 MATERIALS

- 2.1.1 Roof Membrane (Modified Bitumen – Cap Sheet): Modified bituminous membrane, granulated top and self-adhering bottom surfaces. Non-woven polyester reinforced, conforming to CSA A123.23 Type B
- 2.1.2 Roof Membrane (Modified Bitumen – Base Sheet): Modified bituminous membranes, with self-adhering top and bottom surfaces. Non-woven polyester reinforced, conforming to CSA A123.23 Type B
- 2.1.3 Flashing Membrane (Modified Bitumen – Cap Sheet): Modified bituminous membrane, granulated top and self-adhering bottom surfaces, non-woven polyester reinforced, conforming to CSA A123.23 Type B
- 2.1.4 Flashing Membrane (Modified Bitumen – Base Sheet): Modified bituminous membrane, self-adhering top and self-adhering bottom surfaces, non-woven polyester reinforced, conforming to CSA A123.23 Type B
- 2.1.5 Gypsum Boards: 0.5" gypsum sheathing/subdeck boards (4'x8' sheets). Acceptable Product: DensDeck Prime by Georgia Pacific.
- 2.1.6 Gypsum Board Fasteners: as recommended by manufacturer.

- 2.1.7 Asphalt Protection Board: 6.35mm (1/4") thick (4'x4' boards), torch safe, semi-rigid protection board.
- 2.1.8 Self-Adhering Membrane (Perimeter Parapets): Self-adhering, self-sealing, composite membrane consisting of a high softening point with SBS rubberized asphalt compound.
- 2.1.9 Self-Adhering Membrane Adhesive (Perimeter Parapets): Rubber based adhesive for self-adhering membranes.
- 2.1.10 Mastic: One-part, solvent & asbestos free, moisture curing elastomer.
- 2.1.11 Liquid Applied PMMA Membrane Flashings: Two-component polymethacrylate liquid membrane with catalyst and mesh reinforcement. UV stable and VOC compliant. Conforming to ASTM D5147.

2.2 ACCESSORIES

- 2.2.1 Wood Blocking, Plywood Sheathing: Construction grade; free from warping and visible decay; pressure-treated spruce, to CAN/CSA O80 SERIES-08.
- 2.2.2 Metal Flashing: 24 gauge pre-painted galvanized; Series 8000 baked enamel finish; colour to match existing, to ASTM A653/A653M-10. 22-gauge metal for all cleats and hook strips. Colour to be confirmed by the Owner.
- 2.2.3 Ridge Vent: Vmax-301 by Ventilation Maximum, or approved alternate. Install 1 vent every 1000 – 1200 sq.ft of attic space.
- 2.2.4 Pitch Pan: Pre-manufactured type; 16 oz. copper, fully soldered, minimum 152.4 mm (6") high above finished roof level, complete with copper caps.
- 2.2.5 Pitch Pan Sealant: M-1 Structural sealant and 1-part pourable sealer.
- 2.2.6 Sealant: single component; moisture cure; polyurethane sealant conforming to CAN/CGSB19.13M87.
- 2.2.7 Fasteners: 25 mm square or round head, ring shanked galvanized or non-ferrous type, length as required to suit application.
- 2.2.8 Drains: New Copper Retrofit Drain, with flange, dome, and blue drain seals by Menzies Metal Products
- 2.2.9 Control Flow Mechanism: As supplied by the drain manufacturer (if required by Municipality)
- 2.2.10 Tall Cones: all sizes (1.5" – 12"): Menzies Metal Products
- 2.2.11 Gooseneck Flashing: Electrical Roof Flashings by Menzies Metal Products
- 2.2.12 Vent Stacks: Prefabricated, insulated, 3" or 4". Spun aluminum with a vandal proof cap by Menzies Metal Products
- 2.2.13 Termination Bar: 10' Alum Termination Bar by Menzies Metal Products
- 2.2.14 Gas Line Supports: Gas line support with prefabricated insulation cushion
- 2.2.15 Gas Line Paint: Paint to conform to CSA B149.1. Tremclad Yellow by Tremco or Corrostop by SICO.
- 2.2.16 Concrete Pavers: Wire mesh reinforced with 6-8% air entrainment and to 30 MPa. Size to be 610 mm x 610 mm (24" x 24"). Thickness of 45 mm (1.75"). Colour to be natural with Diamond texture top surface.
- 2.2.17 Concrete Paver Insulation Pad: Closed cell extruded polystyrene (XPS) insulation, Type IV. Compressive strength of 240 KPa (35 psi) and formed using the Hydrovac process. Size 508 mm x 508 mm (20" x 20") thickness of 25 mm (1").
- 2.2.18 Foam Gasket: EMSEAL MST Multi-Use Sealant Tape or EMSEAL UST Sealant Tape.

NOTE: The contractor must supply all primers, mastics, and membranes from a single source Manufacturer. No alternates will be accepted without written approval from the Consultant

PART 3 EXECUTION

3.1 PREPARATION

- 3.1.1 Supply and install perimeter safety warning as prescribed by the Provincial Occupational Health and Safety Code and all local codes before starting any other work.
- 3.1.2 It is the Contractor's responsibility to obtain all required permits for this project and must carry this cost in his bid price.
- 3.1.3 The ground areas around the building are to be protected as much as possible. All disposal boxes must be placed on planks. The interior areas of the building, where the roofing Contractor has access, are to be protected.
- 3.1.4 It is the responsibility of the roofing Contractor to contact the Owner to mark the exact location of buried utilities.
- 3.1.5 Remove the existing roofing down to the existing structural deck. Dispose of all debris at an appropriate licensed dump site. No garbage is to be stored on the roof. Remove the existing metal flashings and membrane flashings down to the existing substrates.
- 3.1.6 Inspect the structural deck and report any deficiencies to the Consultant and Owner. Do not apply any new roofing over deficiencies, other than temporary waterproofing, until all deficiencies have been corrected.
- 3.1.7 Should the wood deck be found to be deteriorated, requiring replacement, the roofing Contractor is responsible to document all areas with photographs and measurements indicated on a roof plan, on a daily basis and provide them to both the Consultant and Owner. Wood deck replacement quantities proposed for replacement are to be approved in writing by the Consultant and Owner prior to any area being replaced.
 - .1 Should the existing wood deck require replacement, the roofing Contractor is responsible to have an engineer review the installation of the wood deck and provide a written and stamped report indicating that the deck has been installed according to code requirements and is structurally adequate. All reports are to be submitted to the Consultant and Owner.
- 3.1.8 Should the roofing Contractor proceed to install any structural deck without photos, measurements and written approval, no additional funds will be paid for these areas. All pricing for the deck replacement will be taken from the unit prices provided in the Bid Form. Should approval not be obtained the same day, the roofing Contractor will be responsible for temporarily waterproofing the area.
- 3.1.9 Do not remove more of the existing roofing than can be completely waterproofed in one day.
- 3.1.10 The roofing Contractor shall be responsible for all roof leaks (both on the existing roofing assembly and the new roofing assembly) at the building once they begin to set-up and load materials onto the roof at the beginning of the project.
- 3.1.11 The roofing Contractor is responsible to disconnect and reconnect any mechanical, electrical conduit, cabling, and/or gas lines which are affecting the roof installation. The roofing Contractor is responsible for all satellites. The satellites are to be moved and put back in the approximate same location. Roofing Contractor is responsible for repositioning satellites to obtain proper signal.
- 3.1.12 Should wall anchors, roof anchors, and/or davit arm bases require re-certification it will be the roofing Contractor's responsibility to do so and is to be carried in the tender price.

- 3.1.13 Remove all designated redundant equipment, pipes, cones, pitch pans, conduits, unused anchors, davits and equipment as identified by the Owner.

3.2 CARPENTRY

- 3.2.1 Construct wood blocking as per details. Build-up all perimeter details to accommodate the height of the new roof assembly.
- 3.2.2 Rake edges of perimeter to be built-up to 130mm (5") above finished roof height, and slope inwards.
- 3.2.3 Eave edges of perimeter to be built-up to 200mm (8") above finished roof height, and slope inward.
- 3.2.4 All interior curbs shall be built up to 200mm (8") above finished roof height.
- 3.2.5 Offset blocking layers 304.8mm (12") and weave corners.
- 3.2.6 Assemble blocking using two staggered rows of nailing. Space nails in any row a maximum of 609.6mm (24") on centre. Within 2440mm (8') of outside corners, reduce maximum spacing to 304.8mm (12") on centre.
- 3.2.7 Install asphalt protection board along all perimeters, curbs and walls, from the top of the deck to the top of the details. The asphalt protection board is to be secured 6" on centre horizontally with fasteners spaced no more than 12" on centre vertically.

3.3 GYPSUM BOARD

- 3.3.1 Ensure the deck is clean, dry, and prepared for the installation of new roofing materials.
- 3.3.2 Install the new gypsum boards, mechanically fastened in place over the existing wood deck. All gypsum board edges and ends are to be butted tight. Gypsum boards are to be staggered.
- 3.3.3 Ensure that all gypsum boards are fully supported. Mechanically fasten the gypsum boards with 10 fasteners per 4'x8' board within the field. 16 fasteners per 4'x8, board within 10' of the perimeters and 32 fasteners per 12'x12' area within the corners.
- 3.3.4 It is the roofing contractor's responsibility to confirm the location of any conduits, on the underside of the wood deck, prior to and during the fastening of gypsum boards. Should any conduits be damaged, it will be the roofing contractor's responsibility to repair them at their own costs.

3.4 MEMBRANE APPLICATION – BASE SHEET (SELF-AHDERED)

- 3.4.1 **Primer:** All surfaces to receive self-adhering modified bitumen membranes and membrane flashings are to receive a membrane primer at a rate of 150 sq. ft. per gallon, or as recommended by the Membrane Manufacturer. Ensure that all surfaces are clean and dry before primer application.
- 3.4.2 Unroll the modified bituminous membranes and allow them to relax, as per manufacture's written instructions.
- 3.4.3 Beginning at the drains, perpendicular to the slope, and shingled to shed water, install the modified bituminous base sheet self-adhered in place. The modified bituminous base sheet is to be terminated at the base of the transition/cant.
- 3.4.4 Heat weld the seams and ensure that approximately 6.35mm (1/4") bleed out is achieved at all laps.
- 3.4.5 Side laps are to be 76.2mm (3") and end laps are to be 152.4mm (6"). End joints are to be staggered a minimum of 304.8mm (12").
- 3.4.6 Ensure that the base sheet membranes lie flat, with no wrinkles, fishmouths, or blisters, and are fully bonded.

3.5 MEMBRANE APPLICATION – CAP SHEET (SELF-ADHERED)

- 3.5.1 **Primer:** All surfaces to receive self-adhering modified bitumen membranes and membrane flashings are to receive a membrane primer at a rate of 150 sq. ft. per gallon, or as recommended by the Membrane Manufacturer. Ensure that all surfaces are clean and dry before primer application.
- 3.5.2 Unroll the granulated modified bituminous cap sheet membranes and allow them to relax, as per manufacturer's written instructions. Ensure the modified bituminous base membranes are clean and dry.
- 3.5.3 Offset all cap sheet membranes 457.2mm (18") from the base sheet membranes.
- 3.5.4 Beginning at the drains, perpendicular to the slope and shingled to shed water, install the modified bituminous cap sheet self-adhered in place to the base sheet. The modified bituminous cap sheet field membranes are to be terminated at the top of the cant strip.
- 3.5.5 Install the modified bituminous cap sheet membrane in parallel courses with the end laps staggered a minimum of 914.4mm(36") from each other and a minimum of 914.4mm(36") from the base sheet membranes. Side laps are to be 76.2mm (3") and end laps are to be 152.4mm (6"). All corners, at end laps are to be cut as per membrane manufacturer's requirements.
- 3.5.6 Heat weld the seams and ensure that approximately 6.35mm (1/4") bleed out is achieved at all laps.
- 3.5.7 Ensure that the cap sheet membranes lie flat, with no wrinkles, fishmouths, or blisters, and are fully bonded.

3.6 NIGHT SEAL

- 3.6.1 Roofer is responsible to have all roofs closed-in and in a watertight condition at the end of each production day.
- 3.6.2 It is the Foreman's responsibility to thoroughly check this detail at the end of each day before leaving the roof.

3.7 MEMBRANE FLASHINGS

- 3.7.1 **Membrane Flashings:** 1-ply modified bituminous self-adhered base sheet membrane and 1-ply modified bituminous self-adhered cap sheet membrane.
- 3.7.2 **Primer:** All surfaces to receive self-adhering modified bitumen membranes and membrane flashings are to receive a membrane primer at a rate of 150 sq. ft. per gallon, or as recommended by the Membrane Manufacturer. Ensure that all surfaces are clean and dry before primer application.
- 3.7.3 Install flashings, including laps, splices, joints, bonding, adhesion and attachment as required and in accordance with manufacturer's written instructions and details.
- 3.7.4 Unroll the modified bituminous membrane flashings and allow them to relax, as per manufacturer's written instructions.
- 3.7.5 The Contractor is responsible to disconnect and reconnect any electrical conduit, metal railings, ladders, cabling, and/or gas lines which affect the roof installation.
- 3.7.6 Perimeter (Outside Perimeters):
 - .1 Raise the existing perimeter to accommodate the height of the roof assembly and slope inward towards the roof, as per details.
 - .2 Install 6.35mm (1/4") asphalt recovery board over exposed substrate. Asphalt recovery board is to be continuous. It is to extend from the top of the deck to the top of the wall.

- .3 Apply one coat of quick dry primer on all surfaces to receive modified bituminous membranes. Ensure that all surfaces are clean and dry before primer application.
- .4 After the application of the modified bituminous base sheet field membranes, apply 1-ply self-adhered modified bituminous base sheet flashing membranes fully adhered in place, extending onto the field of the roof a minimum of 101.6mm (4").
- .5 Once the modified bituminous cap sheet field membranes have been installed, 1-ply modified bituminous granulated cap sheet flashing membranes self-adhered in place, extending onto the field of the roof a minimum of 101.6mm (4"). Cap sheet flashing membrane to be installed in 1-meter widths with 76.2mm (3") side laps. Cap sheet flashing side laps to be staggered 101.6mm (4") from the cap sheet field membrane overlaps.
- .6 Continuously seal the top edge of the granulated modified bituminous cap sheet membrane flashings with elastomeric sealant.
- .7 Fully cover the membrane flashings with new pre-painted metal flashings.

3.7.7 Equipment Curb Flashings:

- .1 Build-up all unit curbs a minimum of 203mm (8") above the finished roof level to accommodate the height of the new roofing assembly where required.
- .2 Install 6.35mm (1/4") asphalt recovery board over exposed substrate. Asphalt recovery board is to be continuous. It is to extend from the top of the deck to the top of the curb.
- .3 Temporarily disconnect each HVAC/fan unit, completely lift the unit off the curb and set it on the roof while flashing the curb. The curb is to be set on plywood, protecting the roof membrane. Once the curb has been flashed, the unit is to be lifted off the roof and set back on the curb. Then once the unit has been reinstalled and reconnected it is to be tested to ensure it is working properly. The unit work must be performed only by qualified HVAC Contractors. Roofing Contractor is responsible for these costs in his bid price.
- .4 Apply one coat of quick dry asphalt primer on all surfaces to receive modified bitumen membranes. Ensure that all surfaces are clean and dry before primer application.
- .5 After the application of the modified bituminous base sheet field membrane, apply 1 ply of self-adhered modified bituminous base sheet flashing membrane fully adhered in place, extending over top of the curb, and down onto the field of the roof a minimum of 4.0".
- .6 After the application of the modified bituminous cap sheet field membrane, apply 1 ply of modified bituminous cap sheet flashing membrane self-adhered in place, extending onto the field of the roof. Extending a minimum of 4.0" beyond the 1st ply onto the field of the roof and extending over top of the curb. Ensure that the laps of the 2nd ply do not coincide with the laps of the 1st ply.
- .7 The cap sheet flashing membrane is to be nailed every 6.0" o.c. at the top of the curb.
- .8 Fully cover the membrane flashings with new pre-painted 26-gauge metal.
- .9 Install new foam gasket over top of the metal flashings prior to reinstalling mechanical equipment/skylights. Ensure foam gasket is continuous, creating a permanent seal between the mechanical equipment/skylights and metal flashings.

3.7.8 Pitch pans:

- .1 All pitch pans will be replaced. Pitch pans must be a minimum of 152.4mm (6") high with a 101.6mm (4") primed roof flange. The sides of the pan will be a minimum of

50.8mm (2") from the projection. Where possible use a copper gooseneck instead of a pitch pan.

- .2 Mechanically fasten a metal cone down to the deck. The cone must extend up past the finished level of the roofing a minimum of 50.8mm (2").
- .3 Over the new modified bituminous base sheet field membrane, embed the flange of the new pitch pan/gooseneck in elastomeric sealant.
- .4 Install 1 ply modified bituminous base sheet flashing membrane over the flange. The base sheet flashings shall be applied starting 38mm (1.5") away from the upright and extend a minimum of 101.6mm (4") beyond the flange. The modified bituminous cap sheet field membrane shall be applied tight to the upright. Elastomeric sealant is to be applied where the modified bituminous cap sheet field membrane meets the pitch pan along the base.
- .5 Ensure the penetration and the inside walls of the new pitch pans are clean and free from any dirt or debris before applying any sealant.
- .6 Apply M1 Structural sealant around the inside walls and base of the pitch pan. Apply M1 sealant around the roof projection.
- .7 Fill all pitch pans using 1-part pourable sealant.
- .8 Supply and install new copper cap over the pourable sealant, secured to the side of the pitch pan and caulked around the projection.
- .9 Install new pitch pans as required at mechanical units and at other roof penetrations/projections. No conduits, satellite cables, or gas lines are to be carried through the curb flashings. The roofing Contractor is responsible for the disconnection and reconnection, where required using a Mechanical / Electrical Sub-Contractor

3.7.9 Plumbing Vents:

- .1 Stack jack flange must be primed before installation.
- .2 Mechanically fasten a metal cone down to the deck. The cone must extend up past the finished level of the roofing a minimum of 50.8mm (2").
- .3 Over the new modified bituminous base sheet field membrane, embed the flange of the new soil stack in elastomeric sealant. No cracked or broken stacks will be accepted.
- .4 Install 1 ply self-adhered modified bituminous base sheet flashing membrane over the flange. The base sheet flashings shall be applied starting 38mm (1.5") away from the upright and extend a minimum of 101.6mm (4") beyond the flange. The modified bituminous cap sheet field membrane shall be applied tight to the upright. Elastomeric sealant is to be applied where the modified bituminous cap sheet field membrane meets the vent flashing along the base.
- .5 Install insulating sleeve.
- .6 Mechanically fasten soil stack cover with 2 self-tapping stainless-steel metal screws.

3.7.10 Furnace Stacks:

- .1 Replace any damaged cones. Prime all flanges, paint all existing furnace stacks using Double Duty aluminum paint.
- .2 Mechanically fasten a metal tall cone flashing down to the wood deck. The tall cone must extend up past the finished roof level a minimum of 52mm (2").
- .3 Over the new 2 ply roofing membranes, embed the flange of the tall cone flashing in elastomeric sealant
- .4 Unroll the modified bituminous base sheet membrane flashings and allow them to

relax, as per manufacturer's written instructions. Side laps are to be 76.2mm (3") and end laps are to be 152.4mm(6").

- .5 Install 1- ply of modified bitumen base sheet membrane self-adhered in place over the flange applied tight to the upright and extending a minimum of 204mm (8") beyond the flange.
- .6 Apply 1-ply of granulated modified bituminous cap sheet membrane self-adhered in place, extending a minimum of 102mm (4") beyond the ply of modified bituminous base sheet membrane onto the roof surface. Elastomeric sealant is to be applied where the modified bituminous membranes meet the tall cone stack flashings along the base.
- .7 Hand insulate with portion of batt insulation after the tall cone is installed over the mechanical pipe.
- .8 Install double storm collars around stack openings and seal with caulking.

3.7.11 Roof Drains:

- .1 Plug the drains temporarily while working around them.
- .2 Over the new modified bituminous base sheet field membrane, install new U-Flow drain inserts complete with U-Flow seals in a full bed of elastomeric sealant. Check the drainpipes on the underside of the deck to ensure the installation of the proper length of insert down-pipe. Ensure that the pipe does not impede the flow of water.
- .3 Apply 1 coat of primer to the flange.
- .4 Install 1 ply self-adhered modified bituminous base sheet flashing membrane extending a minimum of 450mm (18") from the centre of the drain.
- .5 Install 1 ply modified bituminous cap sheet field membrane over the base sheet flashing membrane.
- .6 The new metal strainer and control flow mechanism are to be installed immediately following the installation of the flashing membranes. Therefore, if the roof has 10 drains and only two drains have been flashed (that particular day), those two drains are to have the metal strainer and control flow mechanism installed at the end of that workday.

3.7.12 EIFS Wall:

- .1 Flashing membranes at EIFS walls are to be terminated minimum 200mm (8") above the finished roof height.
- .2 Apply one coat of quick dry primer on all surfaces to receive modified bituminous membranes at a rate of 150 sq.ft. per gallon. Ensure that all surfaces are clean and dry before primer application.
- .3 After the application of the modified bituminous base sheet field membranes, apply 1-ply self-adhered modified bituminous base sheet flashing membrane fully adhered in place.
- .4 After the application of the modified bituminous cap sheet field membranes, apply 1-ply of granulated modified bituminous cap sheet, self-adhered in place, extending a minimum of 101.6mm (4") beyond the modified bituminous membrane base sheet flashings onto the roof surface and extending to the top of the perimeter. Ensure that the laps of the granulated modified bituminous cap sheet flashings do not coincide with the laps of the modified bituminous membrane base sheet flashings.
- .5 Continuously seal the top edge of the flashing membranes with elastomeric sealant.
- .6 A termination bar is to be installed through the flashing membranes, approximately 12.7mm (0.5") below the top of the membrane. It is to be secured 152.4mm (6") on centre.

- .7 Fully cover the membrane flashings with new pre-painted metal flashings and apply a continuous bead of sealant between the EIFS and new metal flashings.
- .8 Install an addition section of new pre-painted metal flashings and apply a continuous bead of sealant between the masonry and new metal flashings (double gum lip).

3.7.13 Wood Siding Wall:

- .1 Remove the existing membranes down to the existing substrate. Flashing membranes at the siding wall are to be terminated up the wall a minimum of 200mm (8") above finished roof height. The existing siding is to be cut as required to complete the detail. Cut the existing membranes (membranes found behind siding), approximately 152.4mm(6") below the siding (where it is going to be cut). Peel up the existing membrane flashings to allow for the installation of new asphalt protection board and new membrane flashings.
- .2 Install 6.35mm(1/4") asphalt protection board over exposed substrate from the top of the existing wood/sub deck to the top of the detail.
- .3 Apply one coat of primer on all surfaces to receive modified bituminous membrane flashings. Ensure that all surfaces are clean and dry before primer application.
- .4 After the application of the base sheet field membranes, apply 1-ply modified bituminous base sheet membrane flashing fully adhered in place and extending a minimum of 100mm (4") beyond the toe of the cant strip. Membrane flashings are to be extended to the top of the detail.
- .5 Side laps are to be 75mm (3") and end laps are to be 150mm (6"). Once the modified bituminous base sheet membrane flashings have been applied, use a roller to apply even pressure to the membrane, ensuring the membrane is smooth, free from wrinkles, blisters, fishmouths and fully bonded in place.
- .6 After the application of the cap sheet field membrane, apply 1 ply granulated modified bituminous cap sheet, self-adhered in place, extending a minimum of 100mm (4") beyond the modified bituminous membrane base sheet flashings onto the roof surface and extending to the top of the detail. Ensure that the laps of the granulated modified bituminous cap sheet flashings do not coincide with the laps of the modified bituminous membrane base sheet flashings.
- .7 A termination bar is to be installed through the flashing membranes, approximately 12.7mm(1/2") below the top of the membranes. It is to be secured 150mm (6") on centre.
- .8 Continuously seal the top edge of the granulated cap sheet with elastomeric sealant.
- .9 Shingle the existing membrane flashings/peel & stick (cut and left in place) over the new membrane flashings.
- .10 Install new metal drip closure, to be tucked behind the existing siding and mechanically fastened in place. Fully cover the membrane flashings with new pre-painted metal flashings.

3.8 DOWNSPOUTS/MECHANICAL CONDENSATE PIPE/ROOF ACCESS

- 3.8.1 Install new concrete patio pavers on 25.4mm (1") extruded polystyrene insulation. The extruded polystyrene insulation is to be cut 50.8mm (2") smaller (all the way around) than the concrete patio pavers. Therefore, if the concrete paver is 609.6mm x 609.6mm (2'x2') the extruded polystyrene insulation should be 508mm x 508mm (1'8"x 1'8").
- 3.8.2 Install four concrete patio pavers on 25.4mm (1") extruded polystyrene insulation, in a square pattern at roof hatch and all access doors.

3.9 FINISH

- 3.9.1 Perform a daily clean up to collect all wrappings, empty containers, and any other debris from the project site.
- 3.9.2 Upon completion, all debris is to be disposed of in a legally acceptable manner.
- 3.9.3 Prior to the final inspection, the Contractor is to perform a pre-inspection to review all work and to verify that all flashings have been completed as well as the application of all caulking.

END OF SECTION 07 52 16

07 62 00 - Sheet Metal Flashing & Trim

PART 1 GENERAL

1.1 GENERAL CONDITIONS

- 1.1.1 All conditions of the Contract and Divisions 0 and 1 apply to this section and to the requirements of the Canadian Roofing Contractors Association Roofing Manual Specifications as referred to herein.
- 1.1.2 Abide by all Federal, Provincial, Municipal and Local Laws or Codes, rules and regulations that in any way affect the Work including all amendments up to the Project date.

1.2 CO-ORDINATION

- 1.2.1 Co-ordinate the Work of this Section with the Work of:
 - .1 Section 06 10 00 Rough Carpentry
 - .2 Section 01 11 00 Summary of Work
 - .3 Section 07 52 16 SBS Modified Bituminous Membrane Roofing
 - .4 Section 07 92 00 Joint Sealants

1.3 SECTION 07 92 00 JOINT SEALANTS.REFERENCE STANDARDS

- 1.3.1 Sheet metal work, products and accessories shall be in accordance with the most current applicable industry standards including but not limited to:
- 1.3.2 THE ALUMINUM ASSOCIATION INC. (AAI)
 - .1 AAI-Aluminum Sheet Metal Work in Building Construction
 - .2 AAI DAF45-[03]; Designation System for Aluminum Finishes.
- 1.3.3 AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL (ASTM)
 - .1 ASTM A167: Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - .2 ASTM A240/A240M: Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - .3 ASTM A606: Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.
 - .4 ASTM A653/A653M: Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process.
 - .5 ASTM A792/A792M: Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by Hot-Dip Process.
 - .6 ASTM B32:Solder Metal.
 - .7 ASTM B370:Copper Sheet and Strip for Building Construction.
 - .8 ASTM B813; Flux
 - .9 ASTM D41; Asphalt Primer
 - .10 ASTM D226; Asphalt or Tar Saturated Roofing felt.
 - .11 ASTM D1970; Self-Adhering Ice Dam Protection
 - .12 ASTM D523:Test Method for Specular Gloss.
 - .13 ASTM D822:Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
 - .14 ASTM F1667; Nails, Spikes and Staples

- 1.3.4 CANADIAN ROOFING CONTRACTORS ASSOCIATION (CRCA)
 - .1 Roofing Specifications Manual, latest edition.
- 1.3.5 CANADIAN SHEET STEEL BUILDING INSTITUTE (CSSBI)
 - .1 CSSBI Bulletin SSF-3; Care & Maintenance of Prefinished Sheet Steel Building Products.
 - .2 CSSBI Technical Bulletin S-8; Quality & Performance Specification for Prefinished Sheet metal Used for Building Products.
- 1.3.6 CANADIAN STANDARDS ASSOCIATION (CSA INTERNATIONAL)
 - .1 CSA A123.3: Asphalt Saturated Organic Roofing Felt.
 - .2 AAMA/WDMA/CSA 101/I.S.2/A440-[2008], Standard/Specification for Windows, Doors, and Unit Skylights.
 - .3 CSA A123.22; Self-Adhering Polymer Modified Eave Protection
 - .4 CSA B111: Wire Nails, Spikes and Staples.
- 1.3.7 GREEN SEAL ENVIRONMENTAL STANDARDS
 - .1 Standard GS-03-[93]; Anti-Corrosive Paints.
 - .2 Standard GS-11-[97]; Architectural Paints.
 - .3 Standard GS-36-[00]; Commercial Adhesives.
- 1.3.8 HEALTH CANADA/WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)
 - .1 Safety Data Sheets (SDS).
- 1.3.9 SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA)
 - .1 SMACNA Manual, latest Edition

1.4 APPROVAL

- 1.4.1 Do not install any metal work until the membrane flashings have been inspected and accepted by the Owner's Representative. The colour is to be determined by the Owner.
- 1.4.2 In all cases and prior to the fabrication of the finished product, supply and install a sample for approval by the Owner's representative.

1.5 SCHEDULE

- 1.5.1 Schedule the Work so that the membrane flashings are not left exposed for more than thirty (30) days.

1.6 WARRANTY

- 1.6.1 Guarantee the metal flashing in conjunction with the membrane roofing for TWO (2) year. Submit on the same form as for the membrane roofing, CRCA Warranty.

1.7 QUALITY CONTROL

- 1.7.1 Quality control for Work of this Section is to be performed by the Consultant under the work of and as specified in Section 01 10 10 General Requirements.
- 1.7.2 Work of this Section is to be carried out by a specialist having a minimum of five (5) years of related experience.
- 1.7.3 Work is to be performed in accordance with the practices and details of SMACNA Architectural Manual – 6th Edition (Sheet Metal and Air Conditioning Contractors National Association Inc.), unless otherwise required in the Contract Documents.

PART 2 PRODUCTS

2.1 COMPATIBILITY

2.1.1 Compatibility between roofing materials is an essential requirement of the Contract.

2.2 METAL COUNTERFLASHINGS

2.2.1 PREFINISHED STEEL METAL:

- .1 Pre-painted galvanized steel, 24-gauge core nominal thickness, Series 8000 with a baked enamel finish to ASTM A653.
- .2 The finish is to be Dofasco Perspectra Series, Valspar WeatherX factory baked finish, or an approved alternate.
- .3 The colour is to be approved by the Owner.

2.2.2 GALVANIZED STEEL:

- .1 Galvanized sheet steel, Z275 (G90) zinc coating. Thickness as specified or shown on the Drawings.

2.2.3 HOOK, STARTER, LOCK STRIP / CLEAT:

- .1 Fabricated from pre-finished steel, 22-gauge core nominal thickness, Z275 (G90) zinc coating to ASTM A653. Width minimally 102mm (4"). Colour to match prefinished sheet metal where exposed. Starter strips are to be continuous.

2.2.4 COPPER:

- .1 Copper to be 0.8mm (16 oz.) cold rolled to ASTM B370.

2.2.5 SOLDER & FLUX:

- .1 Solder to be lead-free.
- .2 Flux is a rosin, cut hydrochloric acid or commercial preparation suitable for materials to be soldered.

2.2.6 WEDGES:

- .1 Rolled Plumber sheet lead.

2.2.7 ISOLATION COATING:

- .1 Asphalt based back paint for application to sheet metal in contact with masonry. Use asphalt primer to ASTM D41.

2.2.8 PITCH PAN:

- .1 Size as specified in the Summary of Work or as shown in the Detail. One piece pre-fabricated aluminum or fabricated from 24-gauge pre-painted steel or 16 oz. Copper.

2.2.9 PITCH PAN FILLER:

- .1 One (1) or two (2) part elastomer such as ChemLink M-1 Sealant, Sopramastic SP-2 or approved alternate.

2.2.10 TOUCH-UP PAINT:

- .1 As recommended by the prefinished sheet metal Manufacturer.

2.2.11 FASTENERS:

- .1 Nails: Hot dipped galvanized steel flat head roofing nails of length and thickness to suit the application.
- .2 Where exposed, use Hex Head screws with 12.7mm (1/2") dome and neoprene

washers as supplied by Weather Guard, or equal.

- .3 Fasteners for masonry and concrete: Tapcon fasteners with "Climaseal" corrosion resistant finish, or an approved equivalent, of sufficient length to provide a minimum 38mm (1.5") penetration into the substrate.
- .4 Expansion Fasteners: A tamper-proof nail drive anchor which has a body formed from Zamac alloy. Zamac Nail-in.

PART 3 EXECUTION

3.1 GENERAL

- 3.1.1 Apply in accordance with the Drawings, Specifications and the requirements of the jurisdictional authorities and the Canadian Roofing Contractors Association's Roofing Manual.
- 3.1.2 Regard the Manufacturer's printed recommendations and Specifications as a minimum requirement for materials, methods and quality of Work not otherwise specified herein.
- 3.1.3 Make adjustments to the specified procedures caused by weather and site conditions only with the Owner's approval.
- 3.1.4 Maintain all the equipment in good working order to ensure control of roofing operations and protection of the Work. Equipment and laying techniques are to meet the approval of the Consultant.

3.2 FABRICATION

- 3.2.1 Shop fabricate the flashings and trims in accordance with the applicable requirements of SMACNA Architectural Manual and in accordance with the Contract Documents. Form sheet metal on a bending brake. Shaping, trimming and seaming on a bench.
- 3.2.2 Form sections square, true, and accurate to size, free from distortion, oil canning and other defects detrimental to the appearance and performance, and to the dimensions as indicated/required.
- 3.2.3 Fabricate the cap flashings, starter strips, and base counter flashings less than 304.8mm (12") in height in 2440mm (96") maximum lengths. Form the counter flashings between 304.8mm and 609.6.35mm (12" and 24") in height in 1219.2mm (48") maximum lengths.
- 3.2.4 Provide a counter flashing and an intermediate vertical flashing where the cap flashing is greater than 610 mm (24") above the top of the roofing membrane. Form the vertical flashings in 1220 mm (48") maximum lengths.
- 3.2.5 Provide an "S-Lock" joint at all end joints and at all horizontal joints between the cap flashing and the vertical flashing and between the vertical flashing and the base counter flashing.
- 3.2.6 Hem all exposed edges at least 12.7mm (1/2") for appearance and stiffness.
- 3.2.7 Provide a horizontal stiffening "V" or "X" break on all face metal exceeding 228.6mm (9") in girth. Centre the V or X break in mid-span of the panel. Cross break the metal face flashing on all parapet flashings exceeding 457.2mm (18") in girth.
- 3.2.8 Mitre and form the standing seams at all corners. Make allowances for movement at the joints.
- 3.2.9 Apply an isolation coating to the metal surfaces to be embedded in concrete or mortar joints.

3.3 PITCH PAN FABRICATION / INSTALLATION

- 3.3.1 All boxes shall be minimum 254 mm (10.0") high above finished roof surface, with 125 mm (5.0") roof flange as approved by the Consultant. Make all seams continuous and soldered. Tapered rain collars to be included.

- 3.3.2 Install new pitch pans where required and as shown on Drawings.
- 3.3.3 Fill the bottom two-thirds (2/3) of the pitch pan with polyurethane foam. Apply polyurethane pitch pocket sealant on the exposed interior face and fill the top third of the pitch pan with the pourable sealer. The pourable sealer is to extend 13 mm (1/2") above the pitch pan at the centre and cove it to shed water.
- 3.3.4 Once the sealant has cured, apply the specified storm collar and clamp to existing protrusion to provide complete protection over the pitch pan. Apply sealant if required.

3.4 SCUPPER FABRICATION AND INSTALLATION – IF REQUIRED

- 3.4.1 Fabricate scuppers from copper. Fabricate scuppers to suit a 102 mm (4") diameter down spout and in general accordance with CRCA standard flashing detail FL 9. Solder all joints in the scupper. Ensure flange is continuous by filling in outside corners.
- 3.4.2 Fabricate deck flange to provide a 152 mm (6") wide apron. Ensure flange is continuous by filling in outside corners. Apply isolation coating on deck flange. Provide a gravel stop soldered in place across scupper opening.
- 3.4.3 Provide copper or stainless steel strainers for outlet.
- 3.4.4 Install new scuppers at existing and/or new scupper locations, where applicable. Set pre-primed flange in a full bed of rubberized mastic for BUR and Modified bitumen membranes.
- 3.4.5 Install scuppers in general accordance with CRCA standard flashing detail FL. 9 or to Detail.

3.5 COPPER SLEEVE FABRICATION AND INSTALLATION- IF REQUIRED

- 3.5.1 Fabricate sleeve flashing for existing penetrations from copper.
- 3.5.2 Provide a two piece or split sleeve with a minimum height of 305 mm (12").
- 3.5.3 Fabricate deck flange to provide a 152 mm (6") wide apron. Ensure flange is continuous by filling in outside corners.
- 3.5.4 Fabricate sleeve and flange with flat lock joints suitable for field soldering.
- 3.5.5 Apply isolation coating on surface of penetration.
- 3.5.6 Install copper sleeve flashing around penetrations.
- 3.5.7 Close and solder all joints and seams. Clean copper on joint surfaces to receive solder with steel wool. Flux and fill joints with molten solder.
- 3.5.8 Wipe and wash clean all traces of acid from the flux immediately after the joints are made.
- 3.5.9 Install split storm collar in strict accordance with Manufacturer's recommendations. Apply silicone sealant, as specified in Section 07 92 00 - Joint Sealants, at joint between storm collar and gas line penetration.
- 3.5.10 Install rain collar with sealant bead.

3.6 SHEET METAL UNDERLAYMENT INSTALLATION- IF REQUIRED

- 3.6.1 Install self-adhesive bituminous membrane as per the Detail Drawings, according to Manufacturer's instructions.
- 3.6.2 Provide membrane underlayment beneath sheet metal flashings at all locations, except where membrane flashings are present.
- 3.6.3 Ensure all surface areas are free from frost, dust, grease, oil, loose or spalled material.
- 3.6.4 Apply primer as per Manufacturer's printed instructions. Allow the primer to dry and install underlayment membrane on the same day as priming.
- 3.6.5 Proceed only when weather is favourable. Should installation be undertaken at temperature

below 4°C (40°F), consult Manufacturer regarding special procedures.

- 3.6.6 Maintain the recommended minimum side lap and end lap as per the Manufacturer's printed instructions.
- 3.6.7 Roll the membrane underlayment immediately after placement to ensure continuous adhesion. The roller to be of the type and size recommended by the Manufacturer.
- 3.6.8 Ensure the continuity of the membrane underlayment is maintained at all penetrations and terminations. Apply membrane sealant as required to fill inaccessible gaps following the Manufacturer's instructions.
- 3.6.9 Do not cover the membrane underlayment until it is reviewed and approved by the *Consultant*.

3.7 TERMINATION BAR INSTALLATION

- 3.7.1 Provide continuous termination bar along top of membrane flashings where indicated on Drawings and at locations and where membrane flashings terminate at the base of a wall and no other means of mechanical securement is specified or indicated.
- 3.7.2 Install the termination bar 3 mm (1/8") below the top edge of the base flashing membrane and mechanically secure to the masonry wall using 38 mm (1 1/2") "Tapcon" fasteners, or Zamac Nail-ins at 152 mm (6") o.c.
- 3.7.3 Seal the top of the termination bar with rubberized mastic or polyurethane based sealant.

3.8 METAL DRIP EDGE FLASHING INSTALLATION- IF REQUIRED

- 3.8.1 Install new pre-finished aluminum metal drip edge along eaves at area of work.
- 3.8.2 Metal is to extend onto perimeter wood substrate 52 mm (2") minimum. Fasten metal to wood substrate with roofing nails installed every 152 mm (6") on-centre, along edge. Nails are to be set in 25 mm (1") and parallel from edge of metal.
- 3.8.3 Metal drip flashings to be fabricated up to 3048 mm (10') lengths and overlapped at joints 76.2mm (3") minimum. Apply sealant within joints prior to securement.

3.9 SHEET METAL INSTALLATION

- 3.9.1 Install the cap flashings, counter flashings, starter strips, and other miscellaneous sheet metal Work in accordance with the Contract Documents.
- 3.9.2 Provide a continuous starter (hook) strip where detailed or required to present a true, non-waving, leading edge. Fasten the starter strip to the substrate at a minimum of 304.8mm (12") on centre in a "Z" pattern using roofing nails of at least 25.4mm (1") length.
- 3.9.3 Ensure the parapet cap flashings are installed with a minimum positive slope of 2% toward the roof area. The slope is to be provided by the installation of continuous wood shims, plywood or wood blockings as detailed in accordance with Section 00 61 00 – Rough Carpentry.
- 3.9.4 Install cross-broken flat stock metal to entire parapet wall over 304.8mm (12") in height.
- 3.9.5 Caulk all horizontal joints less than 1:100 slope (1%).
- 3.9.6 Join all sheet metal with evenly spaced flat lock seams 25.4mm (1") wide to allow for thermal movement.
- 3.9.7 Counter flash bituminous flashing membranes at roof joints, walls, perimeters, parapets and curbs. Flash joints in metal flashings using S-locks and standing seams forming tight fit over hook strips. Construct internal and external mitres.
- 3.9.8 End joints where adjacent lengths of metal flashing meet to be made using an "S-lock" joint. This is to be executed by inserting the end of one length in a 25.4mm (1") deep "S" lock

formed in the end of the adjacent length. The concealed portion of the "S" lock is to extend 25.4mm (1") outwards and is to be nailed to the substrate. Face nailing of joints will not be permitted.

- 3.9.9 Insert the top edge of the sheet metal flashing under the cap flashings to form weather tight junctions.
- 3.9.10 Turn the top edge of the flashings into recessed reglets or mortar joints a minimum of 25.4mm (1"). Fasten the sheet metal flashing into the reglet joint at a maximum spacing of 457.2mm (18") or more often if required.
- 3.9.11 Ensure all fasteners are located a minimum of 304.8mm (12") above the surface of the roofing membrane, unless otherwise detailed.
- 3.9.12 Where detailed or required, saw cut existing/new reglets into the masonry surfaces to receive metal flashings. The reglet is to be a minimum 19.05mm wide x 13 mm deep (3/4" x 1/2").
- 3.9.13 Lock seam corners. Do not use pop rivets.
- 3.9.14 Install the sheet metal with concealed fasteners. Exposed fastening is permitted only upon the Consultant's approval.
- 3.9.15 Use lead plugs or an approved expansion shield and screw in place with rubber washers where metal is installed over concrete or masonry.
- 3.9.16 Do not secure metal work to cant strips.
- 3.9.17 Install sheet metal in a uniform manner, level, true to line, free of warp or distortions.
- 3.9.18 Install metal flashings under cap flashings and behind other claddings a minimum of 38mm (1.5") to form a weather tight junction.
- 3.9.19 All outside perimeter cap flashings are to completely cover all fascia, or otherwise extend a minimum of 76.2mm (3") below deck or wood blocking level.
- 3.9.20 Properly cover the area to be protected with the metal flashings lightly touching the gravel pour and firmly secured to prevent movement or stripping by the wind.
- 3.9.21 No irregular or badly fitted metal work will be accepted. Provide metal strips, cleats, as required.
- 3.9.22 Install self-adhering modified bituminous membrane over all exposed masonry, concrete or wood to be flashed with metal. Secure in place.
- 3.9.23 At walls or junctions, re-cut the reglet joint, wedge the flashings with lead wedge at 304.8mm (12") o.c. Turn top edge of flashing into reglet or mortar joint a minimum of 25.4mm (1").

3.10 SEALANTS

- 3.10.1 Apply sealant at the junction between the sheet metal counterflashing and the reglet joint in accordance with Section 07 92 00 – Joint Sealants.

3.11 CLEANING

- 3.11.1 Remove completely from surfaces and crevices the flux residue, other deposits, stains and protections and wash the visible metal left unpainted

END OF SECTION 07 62 00

07 92 00 - Joint Sealants

GENERAL

1.1 GENERAL CONDITIONS

- 1.1.1 All conditions of the Contract and Divisions 0 and 1 apply to this Section and to the requirements of the Canadian Roofing Contractors Association Roofing Manual Specifications as referred to herein.
- 1.1.2 Abide by all Federal, Provincial, Municipal and Local Laws or Codes, rules and regulations that in any way affect the Work including all amendments up to the Project date.

1.2 CO-ORDINATION

- 1.2.1 Co-ordinate Work of this Section with Work of:
 - .1 Section 06 10 00 Rough Carpentry
 - .2 Section 01 11 00 Summary of Work
 - .3 Section 07 52 16 SBS Modified Bituminous Membrane Roofing
 - .4 Section 07 62 00 Sheet Metal Flashing and Trim.

1.3 REFERENCE STANDARDS

- 1.3.1 Sealant work, materials, products and accessories shall be in accordance with the most current applicable industry standards including but not limited to:
- 1.3.2 AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL, (ASTM)
 - .1 ASTM C919:-Use of Sealants in Acoustical Applications.
 - .2 ASTM C920; Elastomeric Joint Sealants, Type S, grade NS.
 - .3 ASTM C1311; Solvent Release Sealants
- 1.3.3 DEPARTMENT OF JUSTICE CANADA (JUS)
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- 1.3.4 GENERAL SERVICES ADMINISTRATION (GSA) - FEDERAL SPECIFICATIONS (FS)
 - .1 TT-S-00227E; Sealing Compound Elastomeric Type- Multi-Component, Class A, Type 2.
 - .2 TT-S-00230C; Sealing Compound elastomeric Type- Single component, Class A, Type 2.
- 1.3.5 HEALTH CANADA/WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)
 - .1 Safety Data Sheets (SDS).
- 1.3.6 TRANSPORT CANADA (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).

1.4 CLIMATE CONDITIONS

- 1.4.1 ENVIRONMENTAL LIMITATIONS
 - .1 Do not proceed with the installation of joint sealants under the following conditions:
 - (a) When ambient and substrate temperature conditions are outside the limits permitted by the joint sealant manufacturer.
 - (b) When joint substrates are wet.

- .2 Joint-Width Conditions:
 - (a) Do not proceed with the installation of joint sealants where the joint widths are less than those allowed by the joint sealant manufacturer for the applications indicated.
- .3 Joint-Substrate Conditions:
 - (a) Do not proceed with the installation of joint sealants until contaminants capable of interfering with adhesion are removed from the joint substrates.

1.5 ENVIRONMENTAL REQUIREMENTS

- 1.5.1 Comply with the requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Safety Data Sheets (SDS) acceptable to Labour Canada.
- 1.5.2 Conform to the manufacturer's recommended temperatures, relative humidity, and substrate moisture content for the application and curing of sealants including special conditions governing use.

1.6 WARRANTY

- 1.6.1 Provide all applicable material and labour Warranties offered by the material Manufacturer for a minimum of two (2) years.
- 1.6.2 Defective joint sealant installation covered under Warranty is to include but not be limited to:
 - .1 joint leakage, hardening, craze cracking, crumbling, melting, bubbling, shrinkage, runs, sags, change of colour, loss of adhesion, loss of cohesion and staining of adjoining or adjacent material surfaces.
- 1.6.3 Carry out all replacement and repair Work during the Warranty period as directed by the Consultant and at no additional cost to the Owner.

1.7 QUALITY CONTROL

- 1.7.1 Quality control for Work of this Section is to be performed by the Consultant under the Work of and as specified in Section 01 10 10 General Requirements.

PART 2 PRODUCTS

2.1 COMPATIBILITY

- 2.1.1 All materials in a sealant system are to be compatible with each other and with the substrate.
- 2.1.2 Colour or colours of the sealants are to be selected are to match existing substrate and are to be approved by the Consultant.

2.2 SEALANT MATERIALS

- 2.2.1 Exterior Metal To Wood, Masonry, Stone Or Porous Surfaces:
 - .1 One-part elastomeric, non-sag urethane based sealant. Accepted products:
 - (a) "Dymonic" as manufactured by Tremco
 - (b) "Sikaflex 1-A" as manufactured by Sika Canada
 - (c) "Vulkem 931" by Mameco as manufactured by Tremco
 - (d) "SK-1 Structural Sealant" as supplied by Chemlink.
- 2.2.2 Exterior And Interior Metal To Metal And Metal To Glass Joints:
 - .1 One-part Silicone based sealant. Accepted Products:

- (a) "Spectrum 2" as manufactured by Tremco
- (b) "Contractors SCS 1000 Sealant" as manufactured by GE Silicones Canada
- (c) "DC 999-A Silicone Building & Glazing Sealant" as manufactured by DowCorning Canada.

2.3 JOINT BACKING

- 2.3.1 Extruded polyethylene, urethane, neoprene or vinyl foam recommended by sealant Manufacturer. Extruded closed-cell foam, Shore "A" Hardness 20, Tensile Strength of 140-200 Kpa.
- 2.3.2 Circular shape with a diameter 25% greater than the joint width before installation.

2.4 VOID FILLER

- 2.4.1 Glass fibre or Rockwool insulation with a nominal density of 14 kg/m³ (2.86 lbs. / cu. ft.) Sized for 25% compression.

2.5 BOND BREAKER TAPE

- 2.5.1 Pressure sensitive plastic tape which will not bond to sealants. Supplied or recommended by the sealant Manufacturer.

2.6 PRIMER

- 2.6.1 As recommended by the sealant Manufacturer to assure adhesion of the compound and to prevent staining of the substrate.

2.7 CLEANING AGENTS

- 2.7.1 Joint cleaning compounds as recommended by the sealant Manufacturer. Xylol (Xylene), Methyl Ethyl Ketone (MEK) or non-corrosive type compatible with joint forming materials.

PART 3 EXECUTION

3.1 EXAMINATION

- 3.1.1 Inspect existing conditions, and substrates upon which Work of this Section is dependent. Report to the *Consultant* in writing any defects or discrepancies. Commencement of Work implies acceptance of existing conditions and assuming full responsibility for the finished condition of the Work.
- 3.1.2 Verify, before commencing Work, that the joint size, depth and substrate will not adversely affect execution, performance or quality of completed Work; and that the joints can be sealed in an acceptable condition by means of preparation specified in this Section. Verify site conditions together with sealant Manufacturer's representative.
- 3.1.3 Defective Work resulting from application to unsatisfactory joint conditions will be considered the responsibility of those performing the Work of this Section.

3.2 GENERAL

- 3.2.1 Apply in accordance with the Drawings, Specifications and requirements of the jurisdictional authorities and the Canadian Roofing Contractors Association's Roofing Manual.
- 3.2.2 Regard the Manufacturer's printed recommendations and Specifications as a minimum requirement for materials, methods and quality of Work not otherwise specified herein.
- 3.2.3 Make adjustments to the specified procedures caused by weather and site conditions only with the Consultants approval.
- 3.2.4 Conform to the Details.

- 3.2.5 Examine joints before caulking to ensure that the configuration, surface and widths are suitable for the sealant and service, and that the execution of caulking and performance of sealants will not be adversely affected.
- 3.2.6 Verify, before commencing the Work, that the joint size, depth and substrate will not adversely affect the execution, performance or quality of the completed Work; and that joints can be sealed in an acceptable condition by means of the preparation specified in this Section. Verify the site conditions together with the sealant Manufacturer's representative.
- 3.2.7 Defective Work resulting from the application to unsatisfactory joint conditions will be rejected.

3.3 REMOVAL & PREPARATION

- 3.3.1 Remove the existing sealant and backing material and all deleterious material from the joint. Use the method of surface preparation suitable for substrate that does not damage adjacent surfaces, as recommended by the sealant Manufacturer.
- 3.3.2 Rake out joints, cracks and crevices to receive sealant to a depth measuring half (1/2) the joint width.
- 3.3.3 Brush, scrub, scrape or grind the inner face surfaces to remove loose mortar, dust, oil, grease, oxidation, mill scale, and other materials which will affect the adhesion and integrity of the sealant.
- 3.3.4 Wipe down metal surfaces with clean cellulose sponges or rags soaked in solvent compatible with the sealant, and dry with clean cloths. Ensure solvents do not damage painted surfaces.
- 3.3.5 Ensure that surfaces have not been coated with release agents, coating or other treatments, or that, if present, they are entirely removed.
- 3.3.6 Examine joint sizes and correct to achieve width to depth ratio of 1:2 with joint size no less than 12.7mm (1/2") width and 25.4mm (1") depth.
- 3.3.7 Install joint filler to achieve correct depth, if required.
- 3.3.8 Where necessary to prevent staining, mask adjacent surfaces prior to priming and sealant application.
- 3.3.9 Apply bond breaker tape where required to sealant Manufacturer's printed instructions.

3.4 JOINT DEPTH

- 3.4.1 Provide the following Depth To Width Ratios:
 - .1 Masonry:
 - (a) 6.35mm (1/4") deep, up to 12.7mm (1/2") wide
 - (b) 9.53.16mm (3/8") deep, up to 19.05mm (3/4") wide
 - (c) 12.7mm (1/2") deep, up to 25.4mm (1") wide
 - (d) 19.05mm (3/4") deep, up to 50.8mm (2") wide.
 - .2 Non Porous Materials:
 - (a) Joint depth and width to be not be less than 6.35mm (1/4").

3.5 PRIMING

- 3.5.1 Prime the inner face surfaces of joints as necessary for the substrate, in accordance with the sealant Manufacturer's Specification, to provide full adhesion and to prevent staining of the face surface at the joint.
- 3.5.2 Prime surfaces prior to installing the joint backing rod.

3.6 JOINT FILLING AND BACKING

- 3.6.1 Install joint backing where required to maintain the joint depth.
- 3.6.2 Pack joints tightly with sealant in accordance with the Manufacturer's Specifications using pressure guns. Fill joints completely to the required depths with sealant compound. Use sufficient pressure to fill all voids and joints. Sealant is to bond to both sides of the joint.
- 3.6.3 Apply bond breaker tape, prior to applying sealant, where joints are of insufficient size to install backer rod or at 90° junctions or where recommended by the sealant Manufacturer or *Consultant*. Ensure bond surface area meets the minimum required size recommended by the sealant Manufacturer.
- 3.6.4 Mask, with masking tape, all surfaces adjacent to joints which are likely to become coated with sealant during sealant application.
- 3.6.5 Apply sealant using gun dispenser with proper size nozzle for joint to be sealed to leave a weather tight, airtight installation.
- 3.6.6 Fill joints completely to required depths with sealant compound. Use sufficient pressure to fill all voids and joints solid. Sealant shall bond to both sides of the joints but not to backing material. ***Superficial pointing with skin bead is not acceptable.***
- 3.6.7 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets or embedded impurities. Neatly tool surface to create a slightly concave joint.
- 3.6.8 Slope sealant surface at top of surface reglet flashings to create positive water shed.
- 3.6.9 Finish joints smooth, free of wrinkles, ridges, air pockets and imbedded foreign materials. Tool joints to a slight concave surface using a soap/water mixture.
- 3.6.10 Cure sealants in accordance with the sealant Manufacturer's instructions.
- 3.6.11 Do not cover up sealants until proper curing has taken place.
- 3.6.12 Do not allow sealants to cover or spot surfaces outside of joints. Use masking tape on all surfaces adjacent to joints which may become coated with sealant during the caulking process.

3.7 CLEAN UP

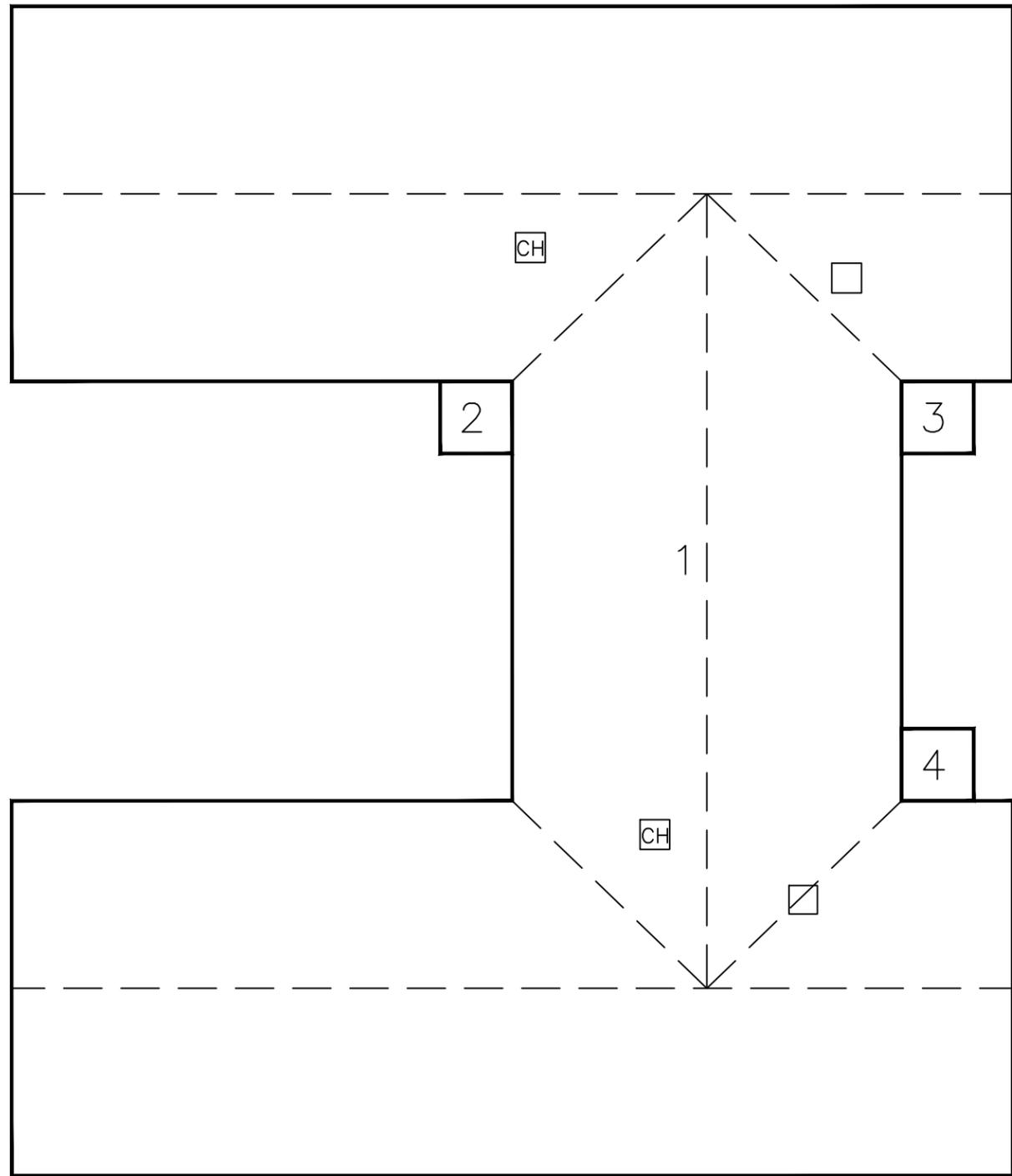
- 3.7.1 Remove from surfaces of other work sealant smears, droppings and masking tape immediately after caulking. Use recommended cleaners as required.
- 3.7.2 Clean surfaces soiled by Work of this Section. Do not use chemicals, scrapers, or other tools in cleaning which will damage surfaces. Make good other Work.
- 3.7.3 Clean up and remove from the job site on a daily basis, all rubbish and surplus materials resulting from this Work.
- 3.7.4 Joint sealants shall be protected from physical damage and the elements until such time as the sealant will not be affected by same.

END OF SECTION 07 92 00

SCHEDULE A – LIST OF PLANS AND DETAILS

Dwg #	Drawing Title	Issued/Revised	Date
1	Roof Plan	For BID	April 2025
2	Perimeter Detail	For BID	April 2025
3	Curb Detail	For BID	April 2025
4	Drain Detail	For BID	April 2025
5	Soil Stack Detail	For BID	April 2025
6	Furnace Stack Detail	For BID	April 2025
7	Pitch Pan Detail	For BID	April 2025
8	Wood Siding Wall Detail	For BID	April 2025
9	EIFS Wall Detail	For BID	April 2025

END OF LIST OF PLANS AND DETAILS



2025 ROOF REPLACEMENT PROJECT

ROOF AREAS 1-4 (ALL)



TRI-TECH PINNACLE
ROOF & BUILDING ENVELOPE CONSULTANTS

73 INDUSTRIAL PARKWAY NORTH - UNIT #3
AURORA - ONTARIO - L4G 4C4
TEL (905) 503-1300 - FAX (905) 503-2002

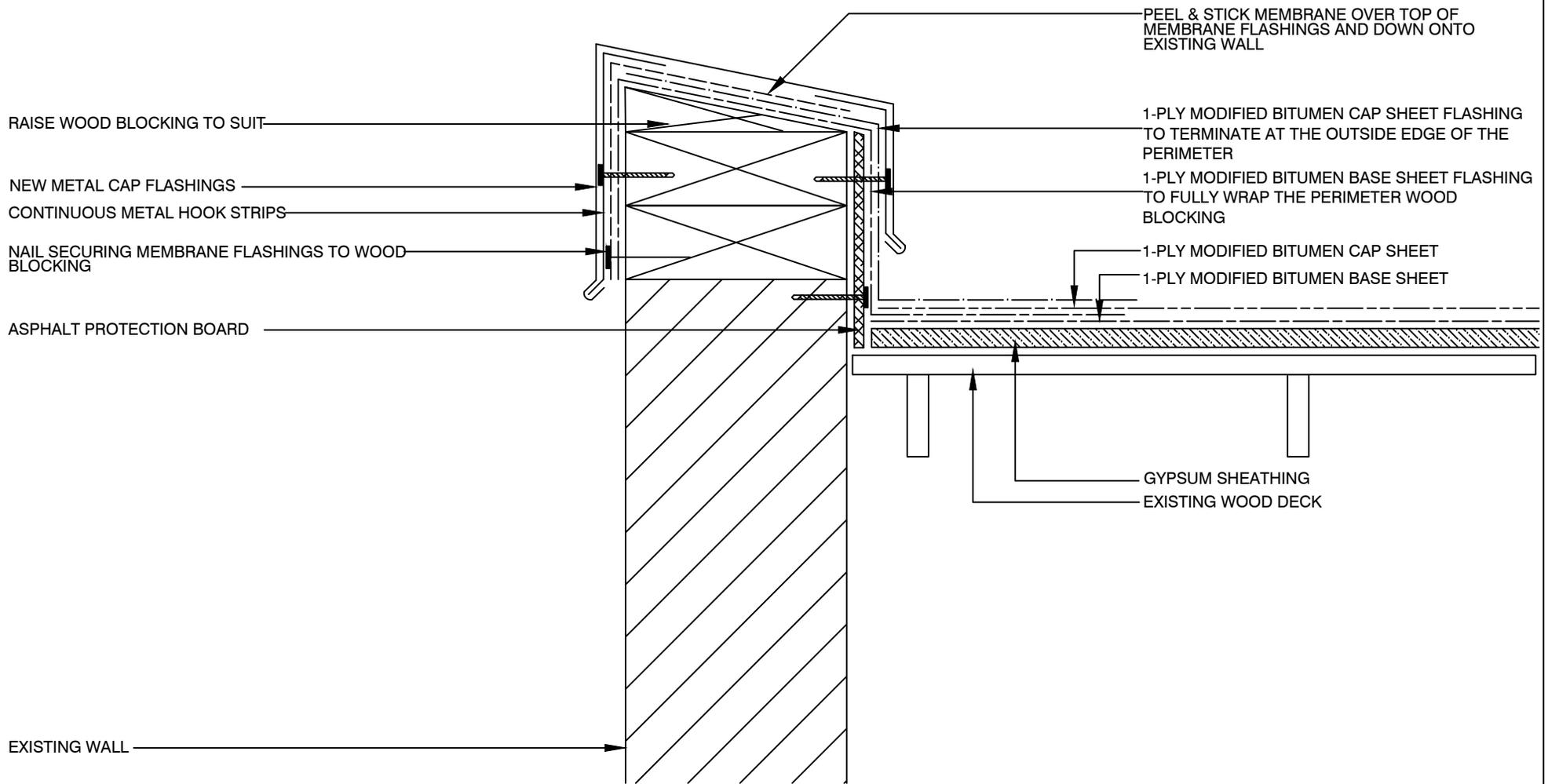
CLIENT
CITY OF COQUITLAM

PROJECT ADDRESS/NAME
640 POIRIER ST, COQUITLAM, BC

DRAWING TITLE
ROOF PLAN

FILE NO. 25-0387	SCALE N.T.S.	DRAWING NUMBER 1
DATE APRIL 2025		

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	PROJECT ADDRESS 640 POIRIER ST, COQUITLAM, BC	DATE APRIL 2025		
73 INDUSTRIAL PARKWAY NORTH - UNIT #3 AURORA - ONTARIO - L4G 4C4 TEL (905) 503-1300 - FAX (905) 503-2002	DRAWING TITLE PERIMETER DETAIL	THIS DRAWING IS THE PROPERTY OF TRI-TECH PINNACLE GROUP INC. AND MAY NOT BE REPRODUCED WITHOUT CONSENT		

INSTALL NEW CONTINUOUS FOAM GASKET
BETWEEN METAL FLASHINGS AND MECHANICAL
EQUIPMENT

NEW METAL FLASHINGS

1-PLY MODIFIED BITUMEN CAP SHEET FLASHING
TO TERMINATE AT THE OUTER EDGE OF THE CURB

1-PLY MODIFIED BITUMEN BASE SHEET FLASHING
TO TERMINATE AT THE TOP INNER EDGE OF THE CURB

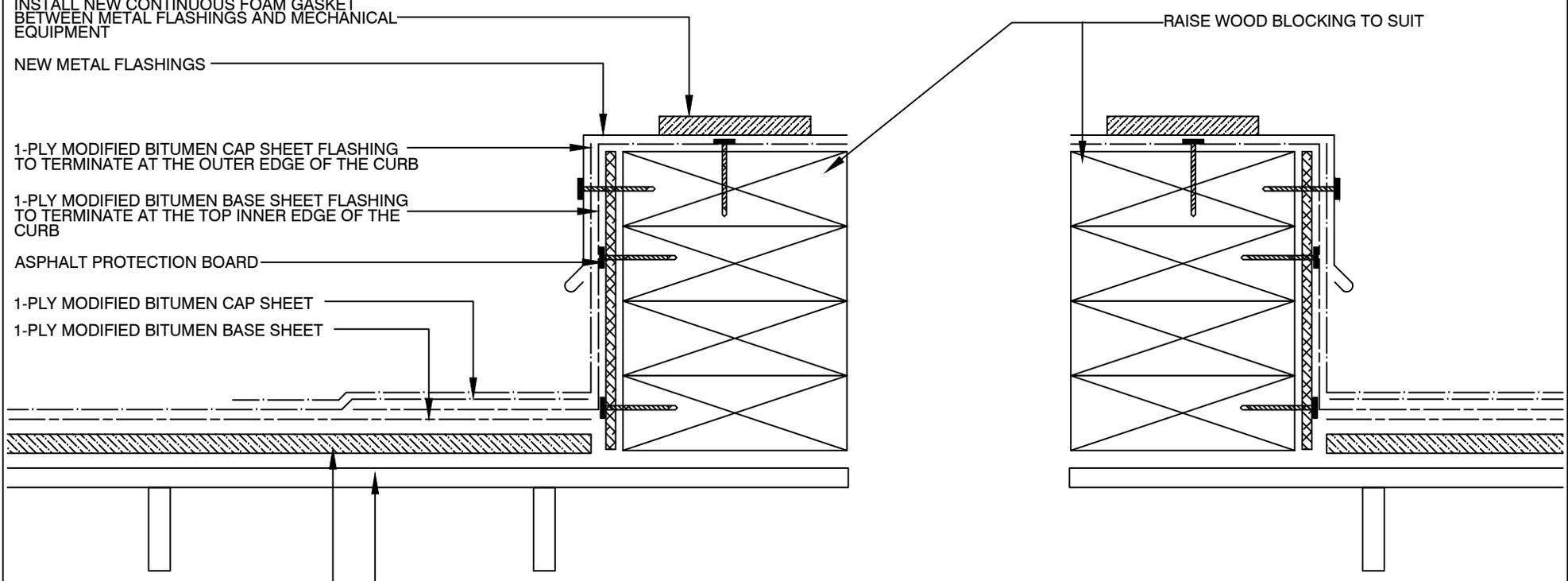
ASPHALT PROTECTION BOARD

1-PLY MODIFIED BITUMEN CAP SHEET

1-PLY MODIFIED BITUMEN BASE SHEET

RAISE WOOD BLOCKING TO SUIT

GYPSUM SHEATHING
EXISTING WOOD DECK



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CLIENT	CITY OF COQUITLAM
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DRAWING TITLE	CURB DETAIL

FILE NO.	25-0387
DATE	APRIL 2025

SCALE	N.T.S.
DRAWING NUMBER	3

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PRIMED DRAIN FLANGE TO BE SET IN A FULL
BED OF MASTIC

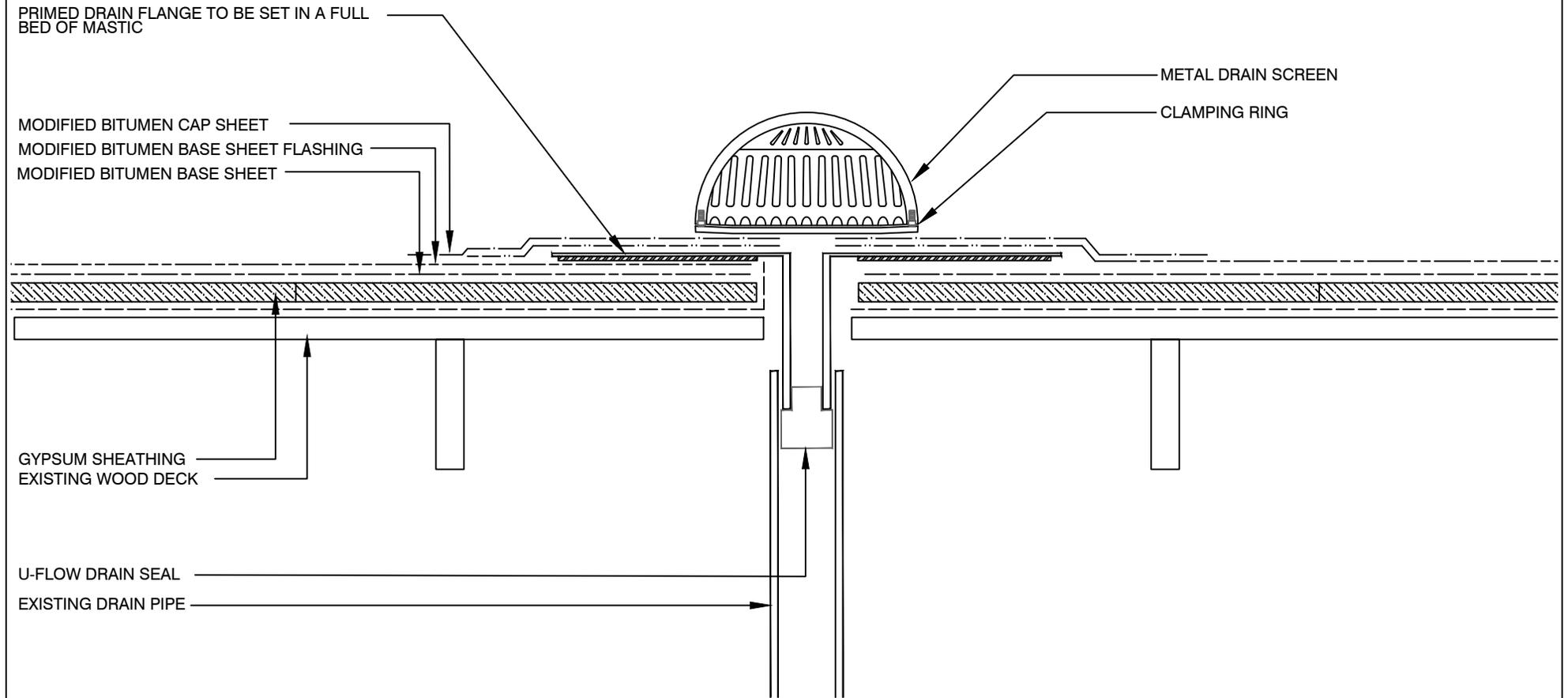
MODIFIED BITUMEN CAP SHEET
MODIFIED BITUMEN BASE SHEET FLASHING
MODIFIED BITUMEN BASE SHEET

METAL DRAIN SCREEN

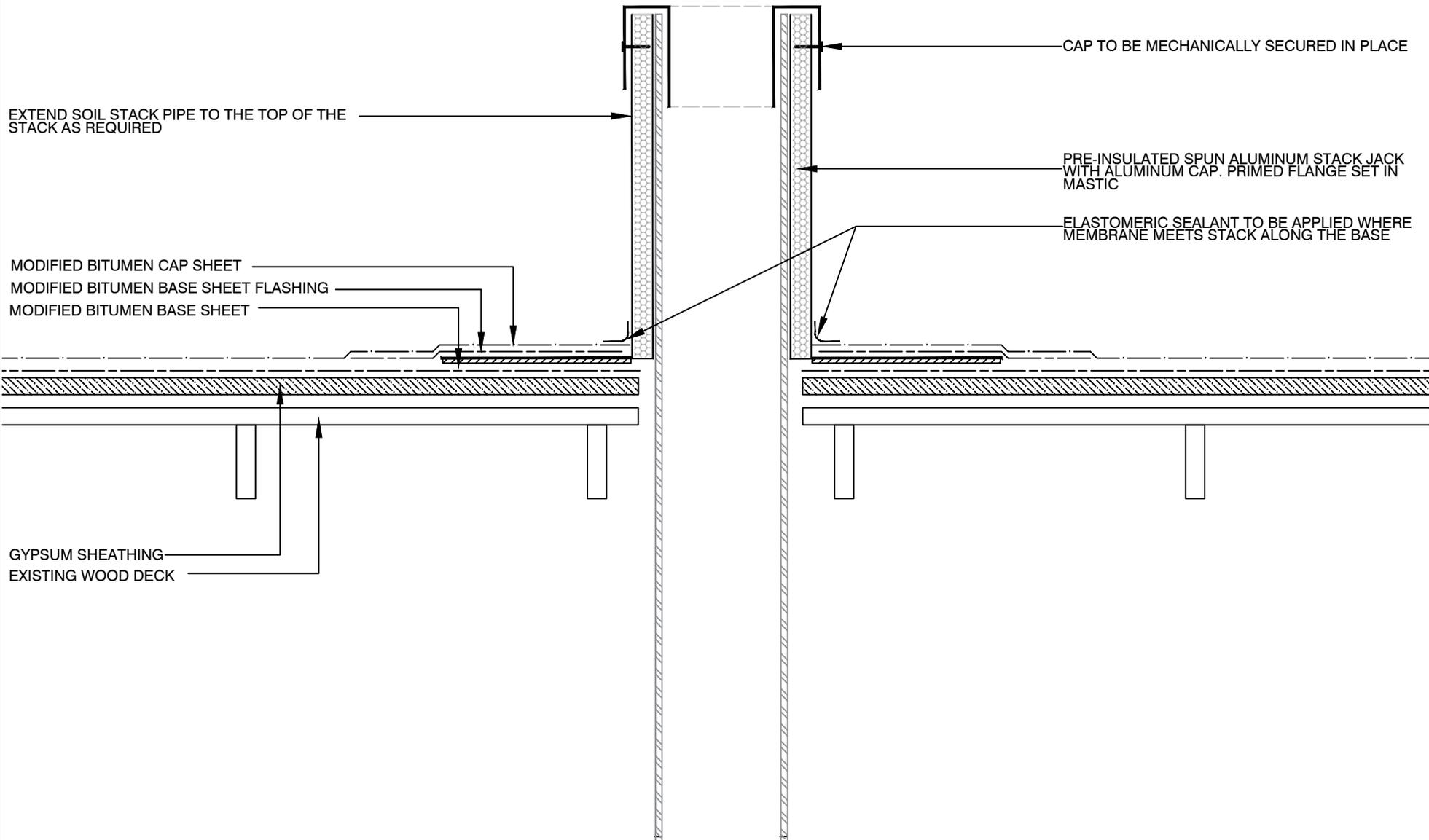
CLAMPING RING

GYPSUM SHEATHING
EXISTING WOOD DECK

U-FLOW DRAIN SEAL
EXISTING DRAIN PIPE



 TRI-TECH PINNACLE ROOF & BUILDING ENVELOPE CONSULTANTS	CLIENT CITY OF COQUITLAM	FILE NO. 25-0387	SCALE N.T.S.	DRAWING NUMBER 4
	PROJECT ADDRESS 640 POIRIER ST, COQUITLAM, BC	DATE APRIL 2025		
73 INDUSTRIAL PARKWAY NORTH - UNIT #3 AURORA - ONTARIO - L4G 4C4 TEL (905) 503-1300 - FAX (905) 503-2002	DRAWING TITLE DRAIN DETAIL	THIS DRAWING IS THE PROPERTY OF TRI-TECH PINNACLE GROUP INC. AND MAY NOT BE REPRODUCED WITHOUT CONSENT		



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CLIENT
CITY OF COQUITLAM

PROJECT ADDRESS
640 POIRIER ST, COQUITLAM, BC

DRAWING TITLE
SOIL STACK DETAIL

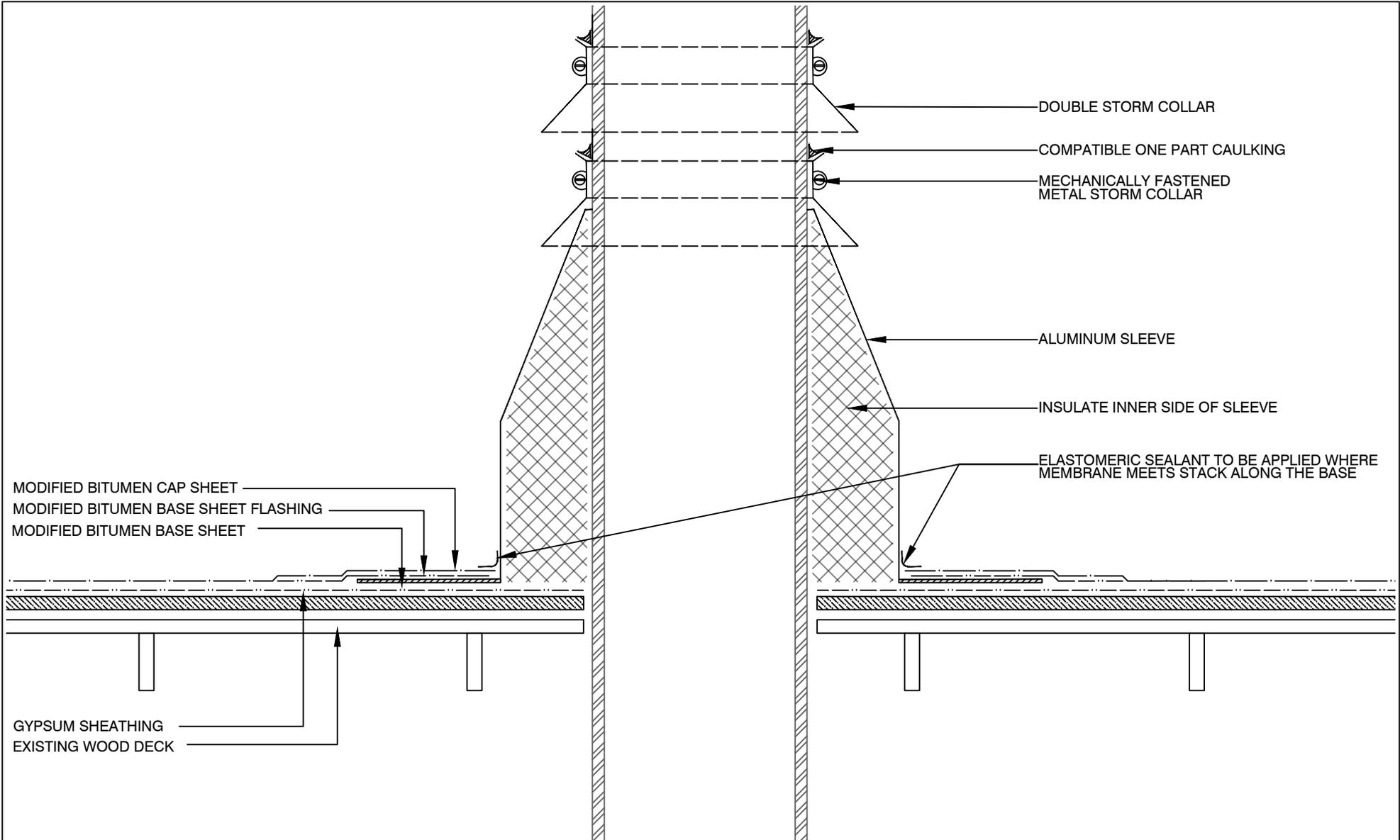
FILE NO.
25-0387

SCALE
N.T.S.

DATE
APRIL 2025

DRAWING NUMBER
5

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	PROJECT ADDRESS	640 POIRIER ST, COQUITLAM, BC	DATE	APRIL 2025				
	DRAWING TITLE	FURNACE STACK DETAIL	THIS DRAWING IS THE PROPERTY OF TRI-TECH PINNACLE GROUP INC. AND MAY NOT BE REPRODUCED WITHOUT CONSENT					

REMOVE ALL PREVIOUSLY APPLIED CAULKING, MASTIC, CEMENT, ASPHALT AND ANY OTHER CONTAMINANTS FROM PENETRATIONS USING A WIRE BRUSH

MODIFIED BITUMEN CAP SHEET
 MODIFIED BITUMEN BASE SHEET FLASHING
 MODIFIED BITUMEN BASE SHEET

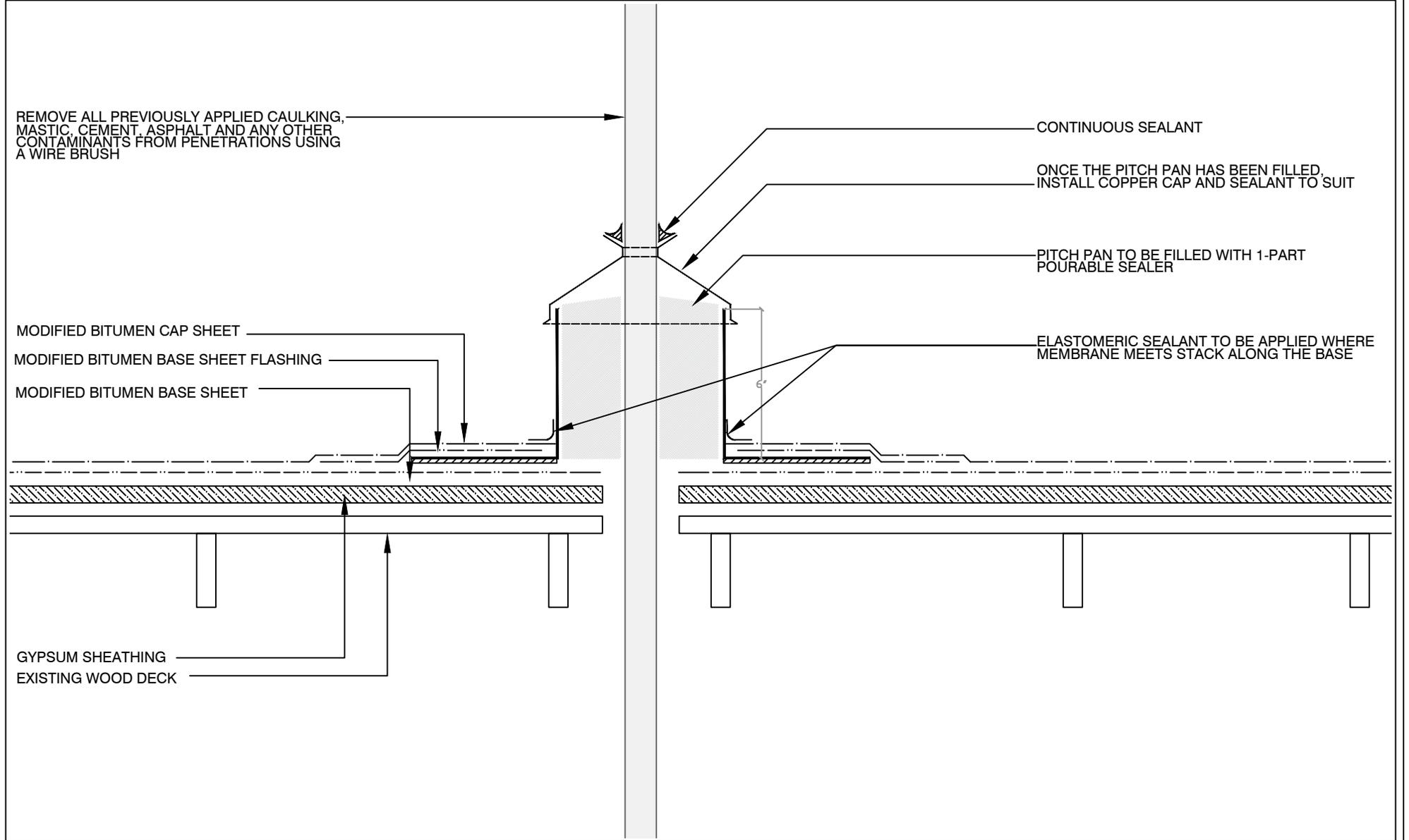
GYPSUM SHEATHING
 EXISTING WOOD DECK

CONTINUOUS SEALANT

ONCE THE PITCH PAN HAS BEEN FILLED, INSTALL COPPER CAP AND SEALANT TO SUIT

PITCH PAN TO BE FILLED WITH 1-PART POURABLE SEALER

ELASTOMERIC SEALANT TO BE APPLIED WHERE MEMBRANE MEETS STACK ALONG THE BASE



 TRI-TECH PINNACLE ROOF & BUILDING ENVELOPE CONSULTANTS	CLIENT	CITY OF COQUITLAM	FILE NO.	25-0387	SCALE	N.T.S.	<h1>7</h1>
	PROJECT ADDRESS	640 POIRIER ST, COQUITLAM, BC	DATE	APRIL 2025			
73 INDUSTRIAL PARKWAY NORTH - UNIT #3 AURORA - ONTARIO - L4G 4C4 TEL (905) 503-1300 - FAX (905) 503-2002	DRAWING TITLE	PITCH PAN DETAIL	THIS DRAWING IS THE PROPERTY OF TRI-TECH PINNACLE GROUP INC. AND MAY NOT BE REPRODUCED WITHOUT CONSENT				

EXISTING WALL MEMBRANES TO SHINGLE OVER AND BOND TO NEW ROOFING MEMBRANES

ASPHALT PROTECTION BOARD

EXISTING METAL WALL

EXISTING SIDING WALL PANELS

METAL DRIP EDGE FLASHING

CONTINUOUS BEAD OF SEALANT

TERMINATION BAR

NEW METAL FLASHINGS WITH DRIP

MODIFIED BITUMEN CAP SHEET

MODIFIED BITUMEN BASE SHEET

GYPSUM SHEATHING

EXISTING WOOD DECK



73 INDUSTRIAL PARKWAY NORTH - UNIT #3
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CLIENT
CITY OF COQUITLAM

PROJECT ADDRESS
640 POIRIER ST, COQUITLAM, BC

DRAWING TITLE
SIDING WALL DETAIL

FILE NO.
25-0387

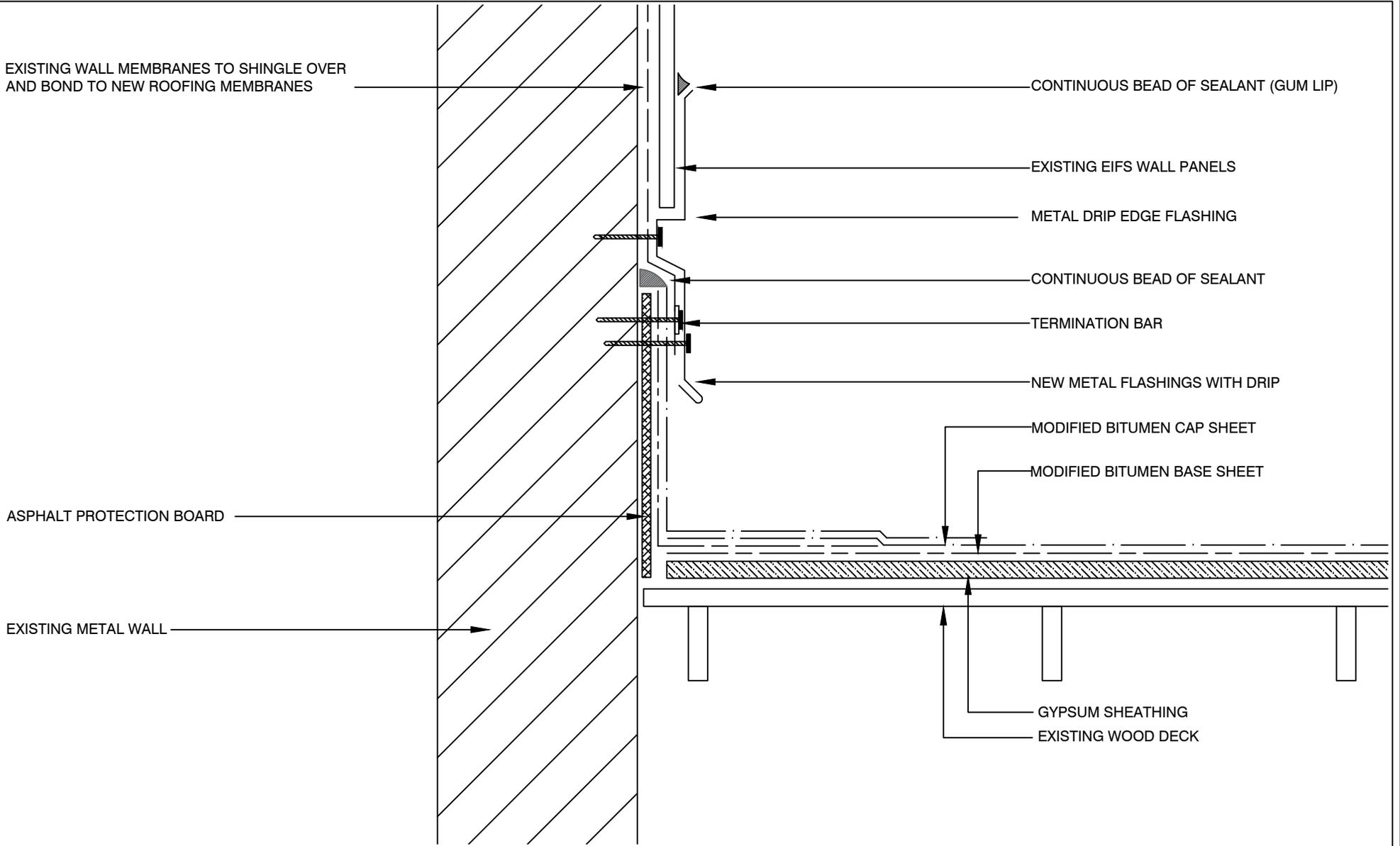
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