

Request for Tenders for the P&H CENTRE PARTIAL ROOF REPLACEMENT

RFT-2026-01-PRC

Issue Date: May 14, 2026

Closing Time: June 9, 2026, 1:59:59 pm Eastern Standard Time (this date may be revised through Addendum)

***A Mandatory Pre-Bid Meeting is scheduled for Friday, May 22, 2026 at 10:00 am.
Meet at the front entrance***

Location: www.biddingo.com/hanover

Email: civic@hanover.ca

Hard Copy: 341-10th Street, Hanover, ON N4N 1P5

Attention: Manager of Legislative Services/Clerk

Late Submissions will not be accepted.

The lowest or any Submission may not necessarily be accepted.

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1.1.1

Section 1 - Instructions to Bidders

1.1 Form of Tender

All Tenders must be submitted upon the documents provided in accordance with Section 1.2 below. The Town of Hanover (herein "Town") prefers bids through Biddingo but will also accept emails to email address civic@hanover.ca and hard copies dropped off at the Civic Centre in sealed envelopes.

1.2 Tender Submission and Process

Bidders are to follow the attached web link to gain access to Town's Bidding Website called www.biddingo.com/hanover. All files are preferred to be uploaded to the attached website.

1.3 Biddingo.com Instructions for Requested Documents

Please note the type and number of files allowed. The maximum upload file size is 100 MB.

Please do not embed any documents within your uploaded files, as they will not be accessible or evaluated.

Upload your submission at: www.biddingo.com/hanover

Your submission must be uploaded, submitted, and finalized prior to the Closing Time. We strongly recommend that you give yourself sufficient time and **at least ONE day** before Closing Time to begin the uploading process and to finalize your submission.

Important Notes:

Each item of Requested Information will only be visible to Town Staff after the Closing Time.

Uploading large documents may take significant time, depending on the size of the file(s) and your Internet connection speed.

The bidding system will send an email confirmation receipt with a unique confirmation number once you finalize and submit your tender.

Minimum system requirements: Internet Explorer 8/9/10+, Google Chrome, or Mozilla Firefox. JavaScript must be enabled. Browser cookies must be enabled.

Need Help?

Please contact Biddingo at <https://www.biddingo.com/contact> for technical questions related to your submission.

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1.4 Definitions

Bidding Website:	Refers to the Town's online Bidding portal on Biddingo.com
Corporation:	Refers to the Corporation of the Town of Hanover
Town/Owner:	Refers to the Town of Hanover
Bidder:	Refers to any eligible entity providing a Tender
Successful Bidder:	Refers, in the event of an award, to the selected Bidder
Contract:	Refers, in the event of an award, to the Tender document including all addenda issued and the Successful Bidder's bid submission
Contractor:	Refers, in the event of an award, to the Successful Bidder
Consultant	Refers to Dycon Roof & Building Consultants
Tender(s), Bid(s):	Offer or bid from a Bidder

1.5 Tender Submission Deadline

Bids must be submitted, and received by the Town, on or before the bid closing date and time indicated on the Bidding Website (the "Submission Deadline"), which will be determined by the Bidding Website clock. Bidders are cautioned that the timing of their submission is based on when the bid is received in the Bidding Website, not when it is submitted by the Bidder.

The Corporation is not responsible for submissions delivered to any other location.

1.6 Late Submissions

Bidders will not be able to access the Biddingo.com portal after 1:59:59PM on the day of close. Sealed Bids also will not be accepted past 2PM via email or dropped off at the Town of Hanover, Civic Centre Building.

1.7 Tender Opening

Bids received, by the date & time of closing, will be reviewed by Town staff and results will be placed on the Biddingo.com portal and on the Town website. **No public tender opening will occur.**

1.8 Addenda

If required by the Owner, addenda will be distributed to all Bidders registered as a document taker for this bid. Addenda will be distributed using the latest contact information as provided by the Bidder. It is the Bidder's ultimate responsibility to ensure all addenda have been received.

Bidders shall acknowledge receipt of addenda on the www.biddingo.com/hanover in the Data Field as requested by providing a Yes or No response to receipt of addenda. Bidders are required to submit all addenda with final submission.

1.9 Inquiries / Clarification

Inquiries must be received no later than 1:00 PM, four (4) business days prior to closing; otherwise, a response may not be provided.

Questions of clarification may be answered individually, but response(s) to any question that modifies the scope of the Request for Tender will be circulated in writing as an Addendum to all registered document takers who have received the Request for Tender document from the Corporation.

Questions shall be directed, in writing only, by email or through the Biddingo platform to:

Rob McIntosh | Manager of Parks, Recreation & Civic Facilities

Town of Hanover

Email: rmcintosh@hanover.ca

1.10 Omissions, Discrepancies, and Interpretations

Should a Bidder find omissions from or discrepancies in any of the Tender Documents or should the Bidder be in doubt as to the meaning of any part of such documents, the Bidder shall notify the Purchasing Representative listed above without delay. Should a correction, explanation or interpretation be necessary or desirable, an addendum will be issued through the Biddingo.com Website to all who have received Tender Documents.

No oral explanation or interpretation will modify any of the requirements or provisions of the Tender Documents.

1.11 Withdrawal or Alteration of Tender

Any Bidder who has submitted a Tender to the Biddingo.com portal may update their Tender at any time prior to the specified time and date of closing. The last Tender received will supersede all Tenders previously submitted. Bidders may also remove their Tender submission from the Biddingo.com portal at any time prior to the time of closing.

1.12 Retrieval of Official document and Addenda

Only documents found on the Owner's Bidding website are to be considered the "official" documents. The Owner accepts no responsibility for the accuracy of information found on other websites. The onus is on the bidder to check this site to verify they have received all relevant information.

Addenda will be posted on this website. Although the Owner will attempt to e-mail registered bidders to notify them when addenda are posted on the website, the Owner does not guarantee that e-mails will be sent to all bidders or received by all bidders. It is the Bidder's sole responsibility to check the website often to inform themselves of any posted addenda.

1.13 Examination of Tender Documents

Each Bidder must satisfy themselves by a personal study of the Tender documents, by calculations, and by personal inspection of the site, respecting the conditions existing or likely to exist in connection with the proposed work. There will be no consideration of any claim, after submission of Tenders, that there is a misunderstanding with respect to the conditions imposed by this Request for Tender.

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Prices bid must include all incidental costs and the Bidder must be satisfied as to the full requirements of the Tender. No claims for extra work will be entertained and any additional works must be authorized in writing prior to commencement. Should the Bidder require more information or clarification on any point, it must be obtained prior to the submission of the Tender.

1.14 Completion of the Tender

The Tender Form including the Bid Table and other relevant documents, must be completed. All entries shall be clear and legible. Entries must be made for unit price, lump sum, extensions and totals as appropriate. All items shall be bid according to instructions contained within the Tender Documents.

Alterations may be made provided they are legible and initialed by the Bidder's signing officer. Tenders which are incomplete, conditional, illegible or obscure, or that contain additions not called for, reservations, erasures, alterations incorrectly submitted, or irregularities of any kind may be rejected.

In the event of a discrepancy between the unit price and the total price, the unit price shall prevail.

1.15 Acceptance or Rejection of Tender

The Owner reserves the right to reject any or all tenders and to waive formalities as the interests of the Owner may require without stating reasons therefore.

Notwithstanding and without restricting the generality of the statement immediately above, the Owner shall not be required to award and accept a tender, or recall the Tenders at a later date:

- a) When only 1 tender has been received;
- b) Where the lowest responsive and responsible bidder substantially exceeds the estimated cost of the goods or service;
- c) When all tenders received fail to comply with the specifications or Tender terms and conditions;
- d) Where a change in the scope of work or specifications is required the lowest or any tender will not necessarily be accepted. The acceptance of a tender will be contingent upon an acceptable record of ability, experience, and previous performance.
- e) If the Bidder has abandoned, defaulted, or caused the cancellation of, any contract within the last two years with the Owner (s), the bid will be rejected.
- f) If the Bidder is currently involved in litigation with Owner (s) over a tender issue, their Tender may be rejected.

The Owner shall not be responsible for any liabilities, costs, expenses, loss, or damage incurred, sustained, or suffered by any Bidder by reason of the acceptance or the non-acceptance by the Owner of any tender or by reason of any delay in the acceptance of a Tender except as provided in the Tender document.

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Each tender shall be open for acceptance by the Owner for a period of 60 calendar days following the date of Closing.

Where the tender documents do not state a definite delivery/work schedule and a submitted tender is based on an unreasonable delivery/work schedule, the tender may be rejected.

1.16 Tender Selection and Evaluation Criteria

The acceptance of a Tender will be contingent upon, however not limited to, the following considerations:

- Compliance with the Tender process;
- Ability to meet or exceed all specifications and requirements;
- Quoted Price;
- Ability, experience and references

1.17 Tender Award Procedures

Unless stated otherwise the following procedures will apply:

- The Owner will notify the Successful Bidder that their Tender has been accepted, within 60 calendar days of the Tender closing.
- Notice of acceptance of Tender will be by written notice.
- Immediately after acceptance of the Tender by the Owner, the Successful Bidder shall provide the Owner with any required documents within 14 calendar days of the date of notification of award.

1.18 Ability and Experience

It is not the purpose of the Corporation of the Town of Hanover to award this contract to any Bidder who does not furnish satisfactory evidence of possessing the ability and experience in this class of work and sufficient capital and plant resources to ensure acceptable performance and completion of the Tender.

The following criteria will be utilized by the Corporation to determine whether a Bidder is qualified to undertake the award;

- (a) The Bidder's ability and agreement to supply the product
- (b) The Bidder's ability to work effectively with the Corporation staff and other representatives
- (c) The Bidder's history with respect to providing satisfactory results and acceptable cooperation
- (d) The Bidder must have ten years' experience in this class of work

A Bidder is invited to provide any additional information it determines will assist the Corporation in using the aforementioned criteria. The Corporation may reject the lowest

or any submissions if after investigation and consideration, the Corporation concludes, in its opinion, that the Bidder is not able to supply the product in a manner satisfactory to the Corporation.

1.19 Documents Required After Award

Each of the following documents are to be provided to the Town of Hanover within 14 days of award:

- Certificate of Insurance
- Current WSIB Clearance Certificate
- Supervisor's Name and Number

1.20 Performance and Labour & Material Payment Bonds

The Contractor shall, prior to the commencement of the Work, provide to the Owner a performance bond and labour and material payment bond, each in an amount equal to fifty percent (50%) of the Contract Price

1.21 Limited Liabilities

The Owners' liability under this Tender shall be limited to the actual goods/services ordered and provided.

1.22 Bidder Expense

Any expenses incurred by the Bidder in the preparation of the Tender submission are entirely the responsibility of the Bidder and will not be charged to the Owner.

1.23 Accessibility for Ontarians with Disabilities Act, 2005

In accordance with the Accessibility for Ontarians with Disabilities Act, 2005, S.O. 2005, c.11, the Town shall have regard to the accessibility for persons with disabilities in respect to goods and services purchased by the Town as per the Town of Hanover Policy ADM04-09 (Accessible Customer Service Standards – Policies/Practices/Procedures).

1.24 Ontario Regulation 429/07 (Accessible Standards for Customer Service)

In accordance with section 6 of Ontario Regulation 429/07, Accessible Standards for Customer Service, the contractor is responsible to ensure that all of its employees, volunteers and others for which the contractor is responsible are adequately trained.

1.25 Accessible Document

Every effort has been made to ensure this document is accessible in accordance with the *Ontarians with Disabilities Act, 2001* (ODA) and the *Accessibility for Ontarians with Disabilities Act, 2005* (AODA). To request this information in an alternate format, please contact the Manager of Legislative Services/Clerk at civic@hanover.ca or 519-364-2780.

1.26 Negotiation

The Corporation reserves the right to negotiate with the lowest compliant bidder.

1.27 Governing Laws

This Tender and subsequent contract/agreements will be interpreted and governed by the laws of the Province of Ontario.

1.28 Freedom of Information

Any personal information required on the Tender Form is received under the authority of the Municipal Freedom of Information and Protection of Privacy Act, 1989, RSO, 1990. This information will be an integral component of the Tender submission.

All written Tenders received by the Corporation become a public record, once a Tender is accepted by the Owner, all information contained in them is available to the public, including personal information.

Questions about collection of personal information and the Municipal Freedom of Information and Protection of Privacy Act, 1989, R.S.O. 1990, Chapter M.56, as amended, should be directed to:

Town of Hanover
Manager of Legislation/Clerk
341 10th Street, Hanover, ON N4N 1P5
Telephone (519) 364-2780
Email: civic@hanover.ca

The Clerk has been designated by the Corporation of the Town of Hanover Council to carry out the responsibilities of the Act.

Section 2 - Specific Conditions

2.1 Award

All work will be awarded as a whole.

All items must be completed in full. The lowest bid or any Tender may not necessarily be accepted.

2.2 Budget Approval

The award is subject to approved budget. The Town anticipates awarding for the 2026 work following the close of tender.

2.3 Pricing

No alterations, additions or deletions from the accepted Tender price will be permitted without the prior written approval of the Owner.

2.4 Harmonized Sales Tax (HST)

H.S.T. is applicable to the item(s) listed, however, is not to be included in the tendered unit cost. Bidders shall provide all unit pricing as exclusive of "HST".

2.5 Terms of Payment

Unless otherwise stated herein, the Corporation's normal terms of payment will be Net Thirty (30) calendar days from the Receipt of Goods/Services or the Date of Invoice, whichever occurs later. Invoices shall be forwarded to the attention of:

Town of Hanover
Finance Department/Accounts Payable Clerk
341 10th Street, Hanover, ON N4N 1P7
Telephone (519) 364-2780
Email: ap@hanover.ca

A 10% holdback will be applied to work as form of security and will be released after the work has been completed and all deliverables have been submitted to the Town.

2.6 Subcontractors

- (a) Bidders shall submit a list of their proposed Subcontractors containing the names of all of the Subcontractors which the Bidder proposes to use to perform work under the Contract and the division or section of Contract Work to be completed by each Subcontractor.

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- (b) Bidders shall ensure that all Subcontractors selected and named have experience in the Subcontract work described, have submitted their Subcontract prices in strict accordance with the Bid Documents, and that they will execute their work with competence and within the required time frame.
- (c) Bidders shall ensure that all Subcontractors submitting bids shall be actively engaged in work of the type described and shall be able to show proof upon request by the Owner of previous work of similar nature performed by them.
- (d) Bidders shall not show "Own Forces" in their list of proposed Subcontractors, except where the Bidder's intent is to employ the Bidder's own qualified on-staff personnel to perform such work.
- (e) Bidders shall not indicate "TBD" (To Be Determined) or "TBA" (To Be Announced) or similar wording and shall not indicate multiple choices of Subcontractor names for any Subcontractor category in their list of proposed Subcontractors. One Subcontractor name shall be indicated for each Subcontractor category.
- (f) Bidders shall list in their list of proposed Subcontractors, all of the Subcontractors who will perform work on the Project.
- (g) No names, either of Subcontractors or "Own Forces" may be changed after submission of the list of proposed Subcontractors unless prior written approval is received from the Owner. Such approval will only be considered after receipt by the Owner of a written request for the change by the Bidder with a full explanation of the reasons for the requested change and a letter from the previously named Subcontractor agreeing to withdraw its bid with no consequences to the Owner.
- (h) The Owner reserves the right to reject a proposed Subcontractor for reasonable cause. Upon such rejection, the Bidder will be required to propose an alternate Subcontractor and to identify any resulting change to the Bid Price. This change can affect the status of the low Bid and may result in a different Bid becoming low.

2.7 Performance

Any undue delays and/or costs incurred by the Corporation due to inefficiencies in performance shall be deemed to be the responsibility of the successful

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Bidder and as such will be deducted from the payment for work and or the performance deposit.

2.8 Failure to Perform

Failure of the Contractor to perform in accordance within listed specifications will void the contract.

2.9 Indemnification

The successful Bidder shall indemnify, defend and hold harmless the Corporation, the Owner, its officers and employees from and against any and all liabilities, claims, demands, loss, cost, damages, actions, suits or other proceedings by whomsoever made, directly or indirectly arising out of the project attributable to bodily injury, sickness, disease or death or to damage to or destruction of tangible property caused by any acts or omissions of the Bidder, its officers, agents, servants, employees, customers, invitees or licensees, or occurring in or on the premises or any part thereof and, as a result of activities under this Tender. Neither the Owner nor the Successful Bidder shall be obligated to indemnify the other party in any manner whatsoever for the other party's own negligence or for the negligence of anyone other than their own officers, agents, servants, employees, customers, invitees, or licensees.

This indemnity shall survive the expiration or early termination of this Agreement and continue in full force and effect.

Furthermore, the successful Bidder agrees to defend, indemnify and save harmless the Corporation against any and all claims of any nature, actions, causes of action, losses, expenses, fines, costs (including legal costs), interest or damages of every nature and kind whatsoever arising out of or related to the Contractor's status with WSIB. This indemnity shall be in addition to and not in lieu of any proof of WSIB status and compliance to be provided by the Contractor in accordance with this Contract and shall survive this Contract.

2.10 Liability Insurance

The Successful Bidder shall, at its expense, obtain and keep in force during the term of this Agreement, Insurance satisfactory to the Town of Hanover, including the following and underwritten by an insurer licensed to conduct business in the Province of Ontario:

- (a) Commercial General Liability with a limit of liability of not less than \$5,000,000/occurrence, including:
 - i) The Owner named as an additional insured including a provision for cross liability
 - ii) Non-owned automobile coverage
 - iii) Errors and omissions insurance coverage

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- iv) Products and completed operation coverage
- (b) Sudden and Accidental Pollution coverage with a limit of at least \$2,000,000
- (c) Automobile liability insurance under a standard Automobile policy with limits of not less than \$2,000,000 in respect of each owned or leased vehicle
- (d) Crane Operators/Hook Liability. If booms or cranes are involved in moving any materials or installing equipment (example: HVAC), the contractor will require Hook or Crane Operators Liability. The limit for this coverage should equal the cost of the most expensive piece to be moved or installed.
- (e) That 30 days prior notice of an alteration, cancellation or material change in policy terms which reduces coverage's shall be given in writing to the Owner.

2.11 Certificate of Insurance

Within 15 days of Award, the successful Bidder shall provide the Town with a Certificate of Insurance acceptable to the Town and, if requested by the Town, certified copies of the insurance policies. The Certificate of Insurance must comply with the insurance requirements outlined in this Tender. If the Certificate of Insurance is provided in a non-original form (e.g. scanned electronic copy), the Bidder acknowledges and agrees that the Town is fully entitled to treat any such Certificate as an original and that the Bidder will be responsible for the accuracy and validity of the information contained therein.

2.12 Health & Safety and Workplace Safety & Insurance Board (WSIB)

The Successful bidder is responsible for all costs associated with its workplace accidents and all premiums or assessments owing to the Workplace Safety and Insurance Board (WSIB) for its own employees.

The Successful bidder shall, throughout the Term of the Agreement, maintain WSIB Clearance Certificates for itself, its employees, subcontractors and subcontractors' employees under the Workplace Safety and Insurance Act.

The Successful bidder shall comply with the Occupational Health and Safety Act (Ontario), the Workplace Safety and Insurance Act (Ontario), the Human Rights Act, (Ontario), and applicable regulations under such legislation and all other legal obligations with respect to worker health, safety and treatment.

The Successful bidder shall notify the Owner as soon as practical of any workplace injuries.

2.13 Regulation Compliance and Legislation

The Successful Bidder shall ensure all services provided in respect to this Tender are in accordance with, and under authorization of all applicable authorities, Municipal, Provincial and Federal legislation.

2.14 Extra Work

No work shall be regarded as extra work, unless it is ordered in writing by the Owner and with the agreed price for the same specified in said order, provided said price is not otherwise determined by this Tender. A statement of the cost of extra work shall be made within 30 calendar days after the completion of the said extra work.

2.15 Basis for Payment

The Successful Bidder shall submit applications for payment based upon the schedule of values approved by the Consultant. Once the value of the application has been accepted by the Consultant, submit a Progress Invoice for the accepted value.

2.16 Assignment of Contract

The Successful Bidder shall not assign transfer, convey, sublet or otherwise dispose of this contract or his/her right, title or interest therein, or his power to execute such contract, to any other person, company or corporation, without the previous consent, in writing, of the Corporation's officials, which consent shall not be unreasonably withheld.

2.17 Cancellation

The Owner reserves the right to immediately terminate the Contract at its own discretion, including but not limited to such items as non-performance, inferior quality work, pricing issues, etc.

If the Successful Bidder should neglect to execute the work properly or fail to perform any provision of this Award, the Owner, after 3 business days written notice to the successful Bidder, may, without prejudice to any other remedy in existence, make good such deficiencies and may deduct the cost thereof from any payment then and thereafter due to the successful Bidder. Continued failure of the successful Bidder to execute the work properly shall result in a termination of Contract. The Owner shall provide written notice of termination.

The Owner may elect to terminate the Contract if the original terms and conditions are significantly changed, giving 30 calendar day's written notice to the successful Bidder.

Either party may terminate the Contract by giving the other party 60 calendar day's written notice, giving reasons acceptable to the other. A period of less than 60 calendar days to terminate the contract may be negotiable if mutually agreeable among the parties involved in the Contract.

Failure to maintain the required documentation during the term of this contract may result in suspension of the work activities and/or cancellation of the contract.

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2.18 Protection of Work and Property

The Successful Bidder shall provide continuous and adequate protection of all work from damage and shall protect the Owners' property from injury or damage arising from or in connection with this work. The successful Bidder shall make good any such damage or injury.

The Contractor shall not leave any equipment on Town property unattended at any time, unless the Town of Hanover gives prior approval and such equipment is properly protected to the satisfaction of the Town.

2.19 Damage by Contractor

The Contractor shall make financial compensation before the end of this contract at his own expense for any damage caused by his work to any material, equipment, and property located on the project.

2.20 Performance Evaluation

The Owner reserves the right to evaluate the performance of the Contractor a minimum of once per year and/or when the Contract is completed or terminated.

If the Contractor's performance is deemed to be poor the Owner may suspend the Contractor from Bidding on Town Contracts. The length of the bidding suspension will depend on the nature of the unsatisfactory performance.

Section 3 - General Provisions

3.1 Purpose

The Town of Hanover is seeking proposals from qualified professional firms to complete a partial roof replacement project. This roof area is approximately 5,600 square feet located at the Hanover P&H Centre at 269 7th Ave Hanover, ON N4N 2H5.

3.2 Contract

Following successful completion of the pre-contract verification process, the selected bidder will be expected to enter into the contract with the Town of Hanover

The Municipality does not intend to negotiate changes to the terms and conditions and may revoke the selection notice if a bidder insists on making substantive changes. If the selected bidder does not confirm acceptance of the contract within the timeframe specified in the Municipality's selection notice, the Municipality may revoke the selection notice and proceed to the next ranked bidder or cancel the RFT process.

3.3 Background and Planning Context

The roof on this building features a mechanically fastened Ethylene Diene Propylene Monomer (EPDM) system, which is an addition built in 2010/11. The roof replacement area is located over the second floor exercise area and walking track (over the administration offices).

3.4 Scope of Work

Roof replacement of Section 2.2. See specifications at Appendix A & Roof Plan Details at Appendix B

3.5 Qualifications / Experience

The Roofing Contractor must be a member of good standing with the Ontario Industrial Roofing Contractors Association (OIRCA) and the Canadian Roofing Contractors Association (CRCA).

- a)** The Roofing Contractor must be an 'Approved Applicator' by the Roof Membrane Manufacturer.
- b)** The Roofing Contractor must have been in business for a minimum of ten consecutive years and have a minimum of ten years' experience with the general type of roof system and materials specified.
- c)** The Roofing Contractor must provide a written Warranty that assumes responsibility regarding any and all costs related to labour and workmanship for the new roof system(s) for a period of not less than two (2) years in duration; commencing on the date of 'Substantial Performance'.

3.6 Location

The work is to be performed at the Hanover P&H Centre located at 269 7th Avenue, Hanover, Ontario.

3.7 Safety Precautions

The Contractor shall obey all applicable regulations, standards, and operating procedures for this type of work while contracted by the Town.

3.8 Public Relations

The Contractor must ensure that the personnel and equipment on site have a neat appearance and that all employees are polite and courteous under all circumstances. The Contractor must at all times keep the work area in a clean and orderly condition to minimize disturbance to the surrounding area.

3.9 Timelines

The contract shall commence upon execution of the agreement and remain in effect until the work is fully completed. All work must be fully completed no later than December 31, 2026.

Section 4 General Conditions

Drawings and Specifications

- 4.1 Ensure that the Work includes labour, equipment and products required, necessary or normally recognized within respective trade practices, as necessary for the proper and complete execution of work.
- 4.2 All work shall be performed in accordance with the drawings, specifications, Owner and Consultant's directions, Manufacturer's printed instructions, approved samples, mockups and the requirements or regulatory authorities having jurisdiction as applicable
- 4.3 The language of the specifications is, in many cases, written in the imperative mood for brevity. Clauses containing instructions or directions are directed to the Contractor and, in the case of conflicts, such sentences are presumed to include words "the Contractor shall".
- 4.4 The sections of Division 1 of the specifications shall form part of, and be read in conjunction with, the technical sections of the specifications.
- 4.5 Drawings are diagrammatic and are intended to convey the intent of the Work, and as such, show the extent of existing construction and remedial work required as far as practical. Where the drawings do not illustrate specific details for portions of

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- the Work, such portions shall be construed to match the new or existing work as applicable.
- 4.6 Bidders must take their own field measurements; any dimensions noted on the specifications and/or drawings are to serve as a guide only and shall not release the Contractor, any subcontractor or supplier from the responsibility of determining the actual dimensions and required quantities of materials.
 - 4.7 .Bidders shall examine the site and inform themselves fully as to all conditions, contingencies, risks and circumstances, local or otherwise, which might influence or affect the performance or the cost of the Work, including but not limited to: gas line location and/or relocation, location of Work, location of buildings on the site, adjacent properties, Owner occupancy during the Work, topographical conditions, landscaping, weather, access and all other conditions that a competent Contractor experienced in work similar to the Work would consider and take into account.
 - 4.8 .Claims for additional costs will not be considered with respect to existing conditions which could have been reasonably ascertained by a review of the site prior to the bid closing date
 - 4.9 The details shown are included for the purpose of indicating the preferred profiles and dimensions necessary to achieve the design intent. Minor dimension adjustments to that shown may be made in the proposed design in the interest of fabrication or erection methods or techniques, the weather ability factor, or the ability of the design to satisfy the design and performance requirements specified, provided that the design intent is maintained.
 - 4.10 The existing construction, as shown on the drawings, has been determined from available records and may not represent the actual site conditions in all locations. The Contractor may encounter site conditions which may vary slightly from those shown on the drawings and unless such conditions are found to be significantly different by the Owner and Consultant, the Contractor will not be entitled to any change in Contract Price.
 - 4.11 Where job conditions require reasonable adjustments in the indicated locations and extent, make the necessary modifications at no additional cost to the Owner.

Codes, Standards and Regulations

- 4.12 Execute the Work in accordance with applicable bylaws, regulations, and building codes; conform to latest published revisions, addenda, supplementary or appropriate current standards presently recognized and enforced by Standards Council of Canada (SCC) under the Standards Council of Canada Act 1985 and any other authority having jurisdiction. Should conflicts arise between one document or authority and another, obtain clarification from the Owner and

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Consultant before proceeding with Work. Generally, the most stringent regulation will govern.

- 4.13 Except where a reference standard is specifically dated in the specifications, references to standards shall be taken to mean the latest edition in effect at the date of award of the Contract. In the case of standards (dated or not) which appear in the specifications and which are referenced in the applicable building code, the specific edition of the standard referenced in the code shall govern. Where a standard is revised, supplemented or amended after award of the Contract, carry out the Work in accordance with the latest edition of such standards. If the revision to the standard is such that a revision to the Contract Price is necessary, submit claims to the Consultant and Owner for review.
- 4.14 Conform to all standards as specified herein and provide the Consultant with material conformity if requested. Where published trade association standards manuals are called for in sections of the specifications, conform to those standards unless approval to vary from the standard is given by the Consultant.
- 4.15 Conform to Workplace Safety and Insurance Board (WSIB) and other regulations governing safety at the Work.
- 4.16 Provide hoardings and barricades in accordance with requirements of the local authorities having jurisdiction and protection of the Owner, its tenants and the public in the vicinity of the Work
- 4.17 Provide signs and barricades to warn the public of construction activities going on overhead.

Laws, Permits, Notices, Fees, Taxes and Duties

- 4.18 The laws pertaining to the location of the building shall govern the Work. The Contractor shall observe all such laws and shall obtain and/or pay all Permits,

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Notices, Fees, Taxes, Duties, as may be required for the startup, progress and completion of the Project.

- 4.19 Provide Notice of Project documentation as required by the Occupational Health and Safety Act OR the local Ministry of Labour on Projects over \$50,000 in value.

Construction Schedule

- 4.20 Submit a Construction schedule to the Owner and Consultant for review. The schedule shall indicate the sequence of operations proposed for completing the Work within the time stipulated in the Agreement.
- 4.21 The Construction Schedule shall identify the Contractor's proposed phasing for execution of the Work and take into account the Owner's occupancy and the presence of the public during the construction period.
- 4.22 If delays in the work occur as a result of substandard work and additional site visits are required by the Consultant, the Contractor shall be invoiced by the Consultant for the time and expense incurred at no additional cost to the owner.

Submittals

- 4.23 Provide submittals listed in the specification sections for review in electronic format. Submit with reasonable promptness and in orderly sequence so as to not cause delay in the Work. Work affected by the submittal shall not proceed until review is complete.
- 4.24 Review submittals prior to submission to the Consultant. This review represents the necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinates with requirements of the Work and the Contract Documents. Submittals not stamped, signed, dated and identified as applying specifically to the project will be returned without being examined and shall be resubmitted when completed.
- 4.25 The Contractor's responsibility for deviations in submission from the requirements of the Contract Documents is not relieved by the Consultant's review of submittals, unless a deviation on the submittal is noted as such in writing and has been approved by the Consultant.
- 4.26 If upon review by the Consultant only minor corrections are to be made, shop drawings will be returned, and fabrication and installation of work may proceed. If shop drawings are rejected, a noted copy will be returned and re-submission of

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corrected shop drawings, through the same procedure indicated above shall be performed before fabrication and installation of work may proceed.

- 4.27 Submit samples in sizes and quantities as requested in respective sections. Submit full range of colours where colour samples are called for. The approved sample will serve as the control sample against which all other work will be judged.

Site Documents

- 4.28 Keep a copy of the drawings, specifications, reviewed shop drawings, product data and installation instruction, samples, change notices, change orders, test reports, permits and Construction Schedule on site.

Meetings

- 4.29 Project meetings will be held at the request of the Consultant. The Consultant shall notify all parties to attend. The Consultant shall keep and distribute the minutes of these meetings.
- 4.30 Should meetings be required as a result of substandard work by the Contractor, or to clarify installation procedures, details, scope of work etc., that are included in the drawings and/or specification documents, the Consultant shall invoice the Contractor for time and expense at no additional cost to the Owner.

Temporary Power and Water

- 4.31 The Owner will provide a source of temporary power and water without charge to the Contractor. The power provided by the Owner is limited and shall be used for the operation of small tools and equipment only. The Contractor shall provide and pay for an independent source of temporary power required for tools and equipment demanding excessive loads.
- 4.32 The Contractor is responsible for ensuring that the Owner's electrical circuits are functioning properly at the end of each work shift and that extension cords, tools,

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hoses and equipment have been disconnected. The Contractor shall make good damage caused to the Owner's services.

Temporary Heat and Hoarding

4.33 The Contractor is responsible to provide and pay for temporary heat and hoarding as required to provide and maintain adequate installation and curing temperatures as required by the specifications or Manufacturer's printed installation instructions.

Sanitary Facilities

4.34 The Contractor is responsible to provide and maintain during the Work regularly serviced chemical toilets for use of all personnel employed on the Work.

4.35 The Owner's facilities are available for use by the Contractor only if requested and authorized in writing

Fire Protection

4.36 Maintain access for the fire department to the Work area as well as hydrant and sprinkler connections.

4.37 Keep fully charged fire extinguishers of the correct type on hand at all times. Extinguishers must bear label of certification indicating that they are fully charged and operational. Keep one minimum 20lb Type A, B, C fire extinguisher on the roof for each open flame or torch that is used.

4.38 Perform a two-hour fire watch after the last flame or torch is extinguished, as part of this contract. The person(s) performing the fire watch must be equipped with a cellular telephone and a list of emergency contact numbers such as the Fire Department, Police, Ambulance, etc., at all times.

First Aid

4.39 Provide a worker trained in first aid procedures on the site at all times during the performance of the Work. Provide a first aid station.

4.40 Provide eye wash station.

Signs

4.41 No signs shall be placed on the site without the express written consent of the Owner.

Parking

4.42 Parking in the Owner's parking areas will only be permitted with the express written consent from the Owner.

Construction Noise

4.43 Unless otherwise approved by the Consultant, Work activities, which are disruptive to the normal operation of the Tenant, or dangerous to the occupants shall be carried out during time periods approved by the Owner and the Consultant. The

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use of pneumatic or explosive activated tools will not be permitted on-site, unless authorized by the Consultant.

- 4.44 Comply with the requirements of authorities having jurisdiction, the Owner and Consultant regarding noise abatement and take all necessary steps to ensure that the generation and transmission of noise and vibration due to this Work is kept to a minimum.
- 4.45 Construction methods shall be maintained to ensure a low level of construction noise. Sound enclosures, sound baffles, muffler-equipped equipment and vibration platforms shall be employed to keep all equipment as quiet as practicable and the noise emission as low as possible.

Existing Services

- 4.46 Become familiar with all available information and documents regarding the existing building services and ensure that they are maintained continuously throughout the entire period of construction and alterations. Any temporary interruptions to electrical power, water, fire protection system and other services shall be kept to an absolute minimum and the work performed to have the least impact on operations. Required interruptions to any existing services, including fire protection system, must be by prior arrangement and approval by the Owner and Consultant at least forty-eight (48) hours before interruption. Interruptions to the fire protection system shall be reported to the Fire Department.

Storage and Handling

- 4.47 Conform to the material Manufacturer's directions as a minimum for delivery, storage and handling of products. Store in original containers with all labels and seal intact. Prevent materials from freezing, excessive heat, moisture, soiling and sunlight as directed by the Manufacturer. Store all flammable, corrosive or toxic substances in suitable containers clearly labeled. Store in area away from the main building structure and in strict accordance with the Manufacturer's directions.
- 4.48 Storage area for materials on site is limited and generally restricted to within site areas. Deliver materials to the site consistent with progress schedule and so as to not unreasonably encumber the premises with materials. Be responsible for the security of products and equipment stored on site.
- 4.49 Do not store materials or equipment adjacent to building entrances or exits.
- 4.50 Store materials to avoid damage to landscaped areas. Contractor responsible to repair any damaged landscape areas back to the original at no cost to Owner.

Owner Occupancy

- 4.51 The Owner and its tenants will occupy the premises during the entire construction period. Construct Work in stages to accommodate the Owner's use of premises

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during construction. Construct Work in stages to provide for and maintain continuous public usage.

- 4.52 Free access by the Owner, its tenants and the public to areas not under construction shall be maintained at all times.
- 4.53 Maintain existing entrances and fire exits free from obstruction throughout alteration Work. Provide alternative and additional exits where required by authorities having jurisdiction.
- 4.54 Conduct all construction activities in a manner that respects the continuing activities of the Owner and presence of the public during the Work.
- 4.55 The Owner has complete jurisdiction over the entry of workers to the existing premises and control of construction deliveries to the site.
- 4.56 The Owner reserves the right to suspend construction operations where such operations are disruptive to the Owner or its tenants.

Work Areas

- 4.57 The limit of the Work of the Contract is designated on the drawings. The Consultant, however, will designate the exact boundaries of the working areas in consultation with the Owner and the Contractor in which the Contractor will operate.

Hours of Work

- 4.58 The Work shall be carried out only during weekdays between the hours as approved by the local municipal bylaw and/or building Owner. The Owner may permit a limited amount of work to be carried out during evenings or weekends and such work shall be authorized by the Owner in advance.

Security and Access

- 4.59 Provide ladders or hoists as required for access to Work areas. Access through the building is not permitted, unless prior approval is obtained from the Owner.
- 4.60 .Abide by the Owner's security requirements during the Work. Obtain the Owner's permission prior to commencing any work and ensure workers observe all of the existing security regulations wherever such regulations apply.
- 4.61 Make provision to maintain security in a manner acceptable to the Owner.
- 4.62 The Owner does not provide any security service for the Contractor.
- 4.63 The Contractor shall ensure that all openings to buildings are closed in with secure barricades. Work to roof areas must be scheduled so that the roof can be made secure and watertight at the completion of each workday.

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4.64 Provide the Owner with names and telephone numbers to contact at night or on weekends, in case of emergency

4.65 All keys issued to the Contractor shall be signed out and returned to the Owner upon completion of the Work.

Site Inspection

4.66 Before commencing the Work, visit the site and report to the Consultant any conflicts between existing site conditions and the requirements for the Work.

4.67 Report to the Consultant any defects or conditions in the existing construction which would affect the proper performance of the Work. Commencement of Work shall imply acceptance of existing conditions and substrates.

Existing Conditions

4.68 If while carrying out the Work, conditions are exposed which are in contravention with applicable regulatory codes and requirements of authorities having jurisdiction, unsafe or in any way less than acceptable industry standard for the particular item, immediately notify the Consultant before proceeding with further work. The Consultant will review the condition and issue the appropriate instruction.

4.69 Break into existing utilities, services and other areas of Work as required to make proper connections to existing work. Patch and make good existing work that may be damaged through the Work and reasonably match new to existing in all respects. Use extreme care when breaking into existing work as some services may not be shown or identified

Layout

4.70 Locate all general reference points. Layout own work and be responsible for all lines, elevations and measurements of building services, equipment, fixtures and other work as required. Exercise proper precautions to verify site measurements

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and dimensions shown on the drawings, before laying out work. Be responsible for any error resulting from failure to exercise such precaution

Roof System Samples & Testing

- 4.71 Complete roof system samples as work progresses as directed by the Consultant. It is anticipated that there shall be one sample per 465 square meters (5,000 sq. ft.)
- 4.72 Samples are to be roughly 300 mm x 300 mm (12" x 12") and unless otherwise directed by the Consultant they are to be the whole roof system with all components down to the structural roof deck.
- 4.73 Replace sample areas with new materials the same as that which have been removed. Ensure continuity of materials with a complete watertight seal.
- 4.74 Should the samples prove to be substandard the Contractor shall pay for additional roof system samples to be taken in the presence of the Consultant and tested. The Consultant whose additional time and expense shall be invoiced to the Contractor at no additional cost to the owner.

Wind Uplift Testing

- 4.75 Wind uplift tests shall be conducted on the low slope roofs, if requested by the Consultant.
- 4.76 In the case of mechanical fastening, testing to be conducted at fastened deck overlay board, insulation board or cover board.
- 4.77 Bond uplift testing/negative pressure uplift testing to be conducted over completed roof membrane.

Mockups

- 4.78 Construct mockups of construction as requested by the Consultant. The approved mockup will serve as the standard upon which all other work will be judged. Approved mockups may be used in the finished work.
- 4.79 Work shall not proceed until mockup is approved by the Consultant.
- 4.80 Failure to provide a requested mock-up or a mock-up does not meet the approval of the Consultant, additional site meetings may be required. Should that be the case, the Consultant shall invoice the Contractor for the time and expense incurred at no additional cost to the Owner.

Protection

- 4.81 Protect adjacent private property from construction debris, operations and damages at all times during performance of the Work. All construction activities

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and operations shall contain themselves well within the perimeter of the site property lines. Be responsible for damage incurred.

- 4.82 Protect all temporary openings in the building envelope for the intrusion of wind, water, snow, hail, or rain. Seal all temporary openings at the end of the working day so that the pre-existing condition of all interior building components and finishes are maintained.
- 4.83 Protect landscaped areas from damage. Take adequate measures to prevent damage to plants, shrubs, and trees and grassed areas.
- 4.84 Defective Products, whenever identified prior to completion of the Work, will be rejected, regardless of previous reviews by the Consultant. Reviews by the Consultant do not relieve responsibility but are precaution against oversight or error. Remove and replace defective Products at own expense and be responsible for delays and expenses caused by rejection.
- 4.85 Should any dispute arise as to the quality or fitness of Products, the decision rests strictly with the Consultant based upon requirements of the Contract Documents.
- 4.86 Unless otherwise indicated in the specifications, maintain uniformity of manufacture for any particular item throughout the Work.
- 4.87 Permanent labels, trademarks and nameplates on Products are not acceptable in prominent locations, except where required for operating instructions or when located in mechanical or electrical rooms.
- 4.88 Provide fastenings and accessories in same material, texture, colour and finish as adjacent materials, unless indicated otherwise. Prevent electrolytic action between dissimilar metals and materials. Space anchors within their load limit or shear capacity and ensure they provide positive permanent anchorage. Plastic, wood or any other organic material plugs are not acceptable. Keep exposed fastenings to a minimum, space evenly and install neatly. Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.
- 4.89 The Contractor shall notify the Owner regarding potential damage to vehicles in the vicinity of the Work. The tenant shall arrange for movement of vehicles and shall do so in as prompt a manner as possible

Manufacturer's Instructions

- 4.90 When Work is specified to comply with the Manufacturer's instructions, distribute copies to persons involved, and maintain one (1) set on site.
- 4.91 Perform Work in accordance with details, instructions and specified requirements. Should conflict exist between specifications and instructions, consult the Consultant.
- 4.92 Improper installation or erection of Products, due to failure in complying with these requirements, may result in the Consultant requiring the Work be removed and re-

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installed according to Manufacturer's instructions at no increase to the Contract Price. The Consultant shall invoice the Contractor for the time and expense incurred for additional inspections at no additional cost to the Owner

Workmanship

- 4.93 Workmanship shall be executed by workers experienced and skilled in the respective duties for which they are employed.
- 4.94 Do not employ any unfit person or anyone unskilled in his required duties. The Owner reserves the right to require the dismissal from the site of workers deemed incompetent, careless, insubordinate or otherwise objectionable.
- 4.95 Decisions as to the quality or fitness of workmanship in case of dispute rest solely with the Consultant, whose decision is final.

Patching, Extending and Matching

- 4.96 Work performed, and materials used to patch, extend or match existing construction shall not be less than the standard of quality for the existing building, except where such existing materials are no longer available, are inappropriate for the intended reconstruction or detailed otherwise on the drawings.
- 4.97 Perform patching, extending and matching work so as to return existing construction to original standards of quality and visual appearance.
- 4.98 Replace work damaged in the course of alterations, except at areas approved by the Consultant for repair.
- 4.99 Patch and extend existing work using skilled mechanics that are capable of matching the existing quality of workmanship.
- 4.100 Do not incorporate salvaged or used material in new construction, except where small quantities of finished material which are difficult to match or duplicate are approved for patching or extending purposes by the Consultant.
- 4.101 Provide adequate support or substrate for patching of finishes.
- 4.102 If the imperfect surface was painted or coated, repaint or re-coat the patched portion in such a way that uniform, matching colour and texture over the entire surface results.
- 4.103 If the surrounding surface cannot be matched, repaint or re-coat the entire surface.
- 4.104 The quality of the products that exist in the building, as apparent during the pre-bid visit, shall serve as the specification requirement for strength, appearance and other characteristics.
- 4.105 Where new work abuts or finishes flush with existing Work make the transition as smooth and workmanlike as possible. Patched Work shall match existing adjacent

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Work in texture and appearance so as to make the patch or transition invisible to the eye at a distance of ten feet.

- 4.106 Where wood, metal or other finished surfaces are cut in such a way that a smooth transition with new Work is not possible, terminate the existing surface in a neat fashion along a straight line at a natural line of division and provide trim appropriate to the finished surface.
- 4.107 Restore existing Work that is damaged during construction to a condition equal to its condition at the time of the start of Work.

Cleanup

- 4.108 Keep site clean and free of unsightly collection of waste materials and debris. Provide for collection and temporary storage of waste materials and debris, in metal containers with lids. Dispose of waste materials and debris to the requirements of local authorities having jurisdiction. Do not dispose of waste or volatile materials such as mineral spirits, solvents, oil, or paint thinner into sewer or drainage systems.
- 4.109 Locate garbage containers in locations acceptable to the Owner.
- 4.110 Provide waste disposal slips to the Owner.
- 4.111 Keep loading areas clean of debris. Clean at the end of each workday

Cleaning

- 4.112 Upon completion and prior to Substantial Performance of the Work, perform final cleaning and adjustments.
- 4.113 Remove grease, paint spots, dirt, asphalt, stains, labels, fingerprints and other foreign matter from surfaces.
- 4.114 Repair, patch and touch-up marred surfaces to match adjacent finishes. Replace cracked and broken glass. Ensure that cleansing agents and methods do not remove or damage finishes and permanent protective coatings on surfaces being cleaned.
- 4.115 Leave all surfaces perfectly clean and in unsoiled condition
- 4.116 Clean mechanical, plumbing and electrical fixtures and equipment.
- 4.117 Clean up at the end of each day and keep dust and contamination to a minimum

Contract Closeout

- 4.118 Submit the following prior to and as a condition of issuance of the certificate of Substantial Performance of the Work:
- a) release from Workplace Safety and Insurance Board (WSIB) indicating all assessments due have been paid;
 - b) inspection and approval certificates of all authorities having jurisdiction;

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- c) .written warranties and guarantees;
- d) .reconciliation of change orders; and
- e) list of any construction claims not yet submitted.

End of Section

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Section 5 - Tender Form

For the Provision of: **P&H Centre Partial Roof Replacement**

As Supplied by:

Legal Company Name

Address

City, Province, and Postal Code

Hereinafter Called the Bidder

To: The Corporation of the Town of Hanover
341 10th Street
Hanover, Ontario, N4N 1P5

Hereinafter Called the Corporation

The Bidder Declares

1. No person(s), firm or corporation, other than the Bidder, has any personal interest in this Tender or in the award for which this Tender is made;
2. No member of Council, no officer or employee of the Corporation is or will become interested directly or indirectly as a contracting party, partner, shareholder, surety or in any portion of the profits thereof, or in any of the monies to be derived, therefrom;
3. This Tender is made without any connection, comparison of figures, or arrangements with, or knowledge of any other corporation, firm or person making a Tender for the same and is in all respects without collusion or fraud;
4. By signing this submission, I confirm I have read and understood the content and requirements of this Tender document;
5. **Acknowledgement to receipt of Addenda is completed in Biddingo.com.**

LOWEST OR ANY TENDER NOT NECESSARILY ACCEPTED

Date _____, 2026

Signature of Bidder Authorized Signatory

By my signature, I hereby confirm I am a principal, or have been duly authorized by the principal/board, to sign on behalf of the above named company.

Name and Title of Bidder Authorized Signatory

This Form is to be completed and uploaded to www.biddingo.com/hanover emailed or submitted with hard copy submission(s)

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Section 6 – Bid Table

Bidders must insert prices for all mandatory items. If a Bidder cannot provide any mandatory item, it shall not submit a Bid. If an item is not mandatory and is not being bid on, Bidders may either Opt out by selecting “no Bid” from the “Bid/No Bid Decision” field in the Bid Table, or enter all requested information in the table.

If a Bidder inserts a price of \$0.00 for any item, the Bidder will be required to provide that item at no cost to the Town.

All prices submitted shall be in Canadian funds. Prices shall exclude Harmonized Sales Tax (“HST”), but shall include all other taxes and duties, as well as any Bidder’s operating costs due to rebating of any sales taxes. All payments made under the Contract will be subject to HST only.

Item #	Description	Unit of Measure	Estimated Quantity	Unit Price (excluding HST)
1	Complete roof replacement services for Section 2.2, in accordance with the specifications and defined scope of work.	Lump Sum	1	\$

Unit Pricing

Unit prices for additional work shall include all mark-ups and overhead. Additional work must be authorized in writing by the Town prior to commencement. Where the rates for additional work are unreasonably priced or do not represent the true market cost for that item, the Town reserves the right to negotiate with the bidder a more acceptable and representative price.

Item #	Item Description	Unit	Unit Price (excluding HST)
1	Remove and replace areas of deteriorated and/or damaged steel roof deck as per the instructions in Section 05 01 30: Steel Deck Remediation.	ft ²	
2	Overlay or retrofit existing steel deck as per the instructions in Section 05 01 30: Steel Deck Remediation. Areas of underlying steel deck exhibiting surface corrosion to be painted using one coat of	ft ²	

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	aluminized rust inhibitive paint prior to installing the overlay.		
3	Prepare and paint areas of steel deck exhibiting surface corrosion as per the instructions in Section 05 01 30: Steel Deck Remediation.	ft ²	
4	Cost to remove and replace one (1) concrete 24" x 24" patio stone if the existing is found to be deteriorated and/or damaged. (Unit Rate)	each	
5	Manufacturer's System Warranty covering Workmanship, Labour and Materials for a Period of Ten (10) Years.	Lump Sum	
6	Manufacturer's System Warranty covering Workmanship, Labour and Materials for a Period of Fifteen (15) Years.	Lump Sum	
7	Manufacturer's System Warranty covering Workmanship, Labour and Materials for a Period of Twenty (20) Years.	Lump Sum	

Hourly Rates

1	Hourly premium above straight time for one (1) production crew member for Saturday work	Hourly Rate	
2	Hourly premium above straight time for one (1) production crew member for Sunday work	Hourly Rate	

Subcontractors

Line Item	Type of Work	Name of Subcontractor	Contact
1	Mechanical/Electrical		
2	Interior Protection		

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Addenda

The Bidder has reviewed the following number of addenda:	_____ (to be completed by bidder)
--	--------------------------------------

References

Provide a minimum of two (2) references of similar recent projects similar, recent projects complete with the client (owner) name, contact person, phone number, location, project description, date of completion and project cost. The Municipality may at its discretion may contact references for referrals prior to awarding the project. Attach a separate sheet if necessary.

Reference 1	
Owner	
Contact Person/ Email / Phone Number	
Location	
Project Description	
Date of Completion	
Project Cost	

Reference 2	
Owner	
Contact Person/ Email / Phone Number	
Location	
Project Description	
Date of Completion	
Project Cost	

INSERT Appendix A & B

Appendix A

Specifications

Section 01 56 10 – Interior Protection
Section 01 73 03 – Scope of Work
Section 02 41 19 – Selective Demolition
Section 05 01 30 – Steel Deck Remediation
Section 06 10 10 – Rough Carpentry
Section 07 21 13 – Board Insulation
Section 07 26 13 – Sheet Vapour Retarder
Section 07 53 23 – Waterproofing – Membrane & Flashings
Section 07 62 00 – Sheet Metal Flashing and Trim
Section 07 72 00 – Roof Accessories
Section 07 92 10 – Sealants

Drawings

Roof Plan – 269 7th Avenue, Hanover
Detail 1 – General Layout Detail
Detail 2 – Perimeter Eave Detail
Detail 3 – Insulated Panel Wall Detail
Detail 4 – Joint Detail
Detail 5 – Equipment Curb Adaptor Detail
Detail 6 – Roof Drain Detail
Detail 7 – Pourable Sealer Pocket Detail

Part 1 – General

1.1 Definition

.1 Dust and Debris Control Systems:

- .1 Combination of methods, materials, and procedures designed to catch and contain lightweight, small falling particles such as dust and debris. Typically evident during (re)roofing and construction related to interior renovations.

.2 Suspended Protection:

- .1 Suspension of barrier material above a work area providing maximum facility use and protection from debris of less than ten (10) pounds per one hundred (100) square feet.

1.2 Codes and Regulations

.1 Comply with all applicable codes and regulations in effect at the time of project construction.

- .1 Compliance with National Building Code of Canada (NBCC) Section 3.1.5.1 & 3.1.13.2 and/or Ontario Fire Code, and/or NFFA 13 and/or applicable codes by authorities having jurisdiction when installed under a sprinkler system.

- .2 Health Canada/Workplace Hazardous Materials Information Systems (WHMIS) - Safety Data Sheets (SDS).

- .3 Ontario's Occupational Health & Safety Act R.S.O. 1990, c. O.1 - Updated 2016, or equivalent health and safety legislation in the province of Work.

- .4 Conform to Canadian Roofing Contractors Association "CRCA" Roofing Specifications Manual.

.2 Provide pre-approved, site-specific Engineering Evaluation Report, stamped by a Professional Engineer in good standing in the Province having jurisdiction, if requested by the Contractor and/or Consultant.

1.3 Submittals

.1 Manufacturer's product data sheet for each type of product and accessory.

.2 Phasing Plan, to be reviewed and approved by Consultant and/or Owner's Representative.

1.4 Pre-Construction Meeting

- .1 Interior Protection Contractor and Roofing Contractor are to attend the pre-construction meeting to examine new or existing site conditions before Work starts.
- .2 Discuss the following, but not limited to:
 - .1 Permissible hours of operation for installation and removal.
 - .2 Scheduling of temporary barriers and enclosures and providing access to work area.
 - .3 Storage of material and equipment.

1.5 Quality Assurance

- .1 Installer (Interior Protection Contractor):
 - .1 Must include workforce specializing in performing specified work of this section with a minimum of five (5) years of documented experience.
 - .2 Provide proof of annual Fall Arrest equipment inspection. Make such proof available upon Consultant's request.
 - .3 Ensure workers on site have valid tickets and/or certifications for required work (e.g. Working at Heights, Elevated Work Platform, Fall Arrest, WHIMIS etc.)
 - .1 Provide updated (yearly) certificates prior to expiry (i.e. WSIB, COI, WHIMIS).
- .2 Interior Protection Contractor and/or Roofing Contractor to employ a Health and Safety Co-ordinator, First Aid Representative, and Designated Safety Officer on staff.

Part 2 – Products

2.1 Tarping Materials

- .1 Low-Density Polyethylene (LDPE) film:
 - .1 General Description: Clear Low Density Polyethylene (LDPE) film for construction usage. Clear Anti-static infused LDPE film shall be used when installation is in or around sensitive electromagnetic environments (EME).
 - .2 Nominal thickness of three (3) mils.

- .3 Thermogravimetric Analysis (TGA) Temperature of 400°C maximum when tested in accordance with ASTM D3418
- .4 Melting Temperature of 110°C when tested in accordance with ASTM D3418.
- .5 Heat Release average shall be less than 3.0 MJ/m² when tested in accordance with CAN/ULC S135.
- .6 Flame Spread of 25 or less when tested in accordance with CAN/ULC S102.2.
- .7 Light Intensity reduction shall be no more than 6%.
- .2 Accessories:
 - .1 Hot dipped galvanized hanger wire, eighteen (18) gauge, zinc coated low carbon steel. ASTM A641-92
 - .2 Tape:
 - .1 “Tuct Tape”, general-purpose (blue) by 3M
 - .2 Alternates not permitted.
 - .3 Approved Installer:
 - .1 Interior Tarp Protection, 1029 King Street East, Oshawa, ON. T: 877-365-1915.

Part 3 – Execution

3.1 Interior Protection Procedures and Practices

- .1 General considerations:
 - .1 Interior protection contractor to coordinate and schedule their operations to minimize the impact of work on the operations of the facility.
 - .2 Control of dust and debris shall be accomplished utilizing a combination of materials, methods, and personnel.
 - .3 The interior protection contractor to coordinate the interior protection schedule with all contractors, sub-contractors, and other entities that are affected by the specified work to ensure that interior protection is completed prior to the start of construction.
- .2 The interior protection contractor shall, to the best of their ability, conduct all work and operations to not:

- .1 Impede or endanger surrounding production area, storage, and or office area.
- .2 Cause, permit or allow falling or blowing particles, material, dust, and or debris that might endanger the safety of persons, equipment and/or product located in the areas designated as “Interior Protected.”
- .3 Interior protection contractor shall adjust their operations and work plan as required to minimize interference with the operations of the facility.
- .3 Qualified installers:
 - .1 Interior protection system shall be installed by personnel proficient in the operation of a variety of scissor lifts, booms, and ladder mechanisms.
 - .2 Personnel must possess a minimum of ten (10) hours OHS certification and be familiar with all OHS regulations (or equivalent in the province of work) pertaining to the safe operation of this equipment.
 - .3 Installers will use appropriate safety glasses, hard hats, hearing protection, foot protection, cuts gloves, and breathing apparatus (if and where required) while adhering to the guidelines relating to fall protection. Installers will also agree to successfully complete customer-maintained safety courses where required prior to start of project.
 - .4 Dress code will be in keeping with Owner’s requirements (if applicable).

3.2 General Installation

- .1 Supply and install all required materials and manpower to complete the work of interior tarp protection.
- .2 Work to be completed after normal hours of operation or as directed by Owner during pre-construction meeting.
 - .1 All work to be coordinated with site personnel and/or Contractor.
- .3 Supply all required equipment to complete the installation while working at heights.
 - .1 Equipment to be battery operated, which includes elevated work platforms and Z-booms.
 - .2 Coordinate all deliveries to the worksite with site personnel and/or Contractor.
- .4 Install protective LDPE film to the underside of sprinkler system.

- .5 Install protective LDPE film to the underside of lighting system(s) when/if necessary.
- .6 Install protective LDPE film with 1220mm (4 feet) clearance around heat-generating appliances. Typical light fixtures are not considered heat-generating appliances.
- .7 During installation and removal, areas of work will be marked off with orange cones to deny access to everyone entering work zones.
- .8 During the installation and removal of interior tarp protection one or more ground guides are to be made available to assist workers working above.
- .9 All site work to be performed by trained and qualified workers.
 - .1 All workers are required to have all necessary health and safety training requirements prior to commencement of work.

3.3 Suspended Cover, Construction Partition, Temporary Enclosure Installation

- .1 Interior tarp installation methods:
 - .1 Site line: Confirm proper site line of installation in work zone over normal operations with least number of penetrations.
 - .2 Securely fasten and support in a manner to positively contain light dust and debris and prevent displacement and/or collapse.
 - .3 Install sheets with least number of seams. Wherever possible allow positioning of seams to happen at high points in non-critical areas.
 - .4 All seams are to be connected by overlapping two (2) protective LDPE films together. The two sheets to be fastened together, and the seam to be secured together by using 18-gauge hanger wire. The maximum spacing between ties from center to center is 900mm (3-feet). The steel tie is to be threaded through both LDPE films to stitch and fasten them together.
 - .5 The LDPE film is to be stitched and tied to the structural component's steel beams or steel joists. The maximum distance to fasten the seam to the structure is maximum 3m (10-feet) on centre.
- .2 Wall connections
 - .1 Attach LDPE film to walls with either tape and/or 12mm (½ -inch) staples.

.3 Penetrations

- .1 Seal penetrations by seaming the LDPE film as close as possible to the penetration and tape with 3M (Blue) Tuct tape.

3.4 Takedown Procedures and Practices

- .1 Remove within thirty (30) days of completion of construction or renovation by interior protection contractor personnel ONLY.

End of Section

1.1 Overview

.1 The **Bid Price** for this project includes the following:

- .1 Complete replacement of Section 2.2, totaling approximately 5,600 square feet, with an Ethylene Propylene Diene Monomer (EPDM) system.
 - .2 Mechanical, electrical and/or plumbing work as required to perform the work specified herein.
 - .3 Suspension of polyethylene plastic below the roof deck in order to prevent particulate from falling into the interior space.
 - .4 Manufacturer's Limited Material Warranty for the maximum period eligible.
- .2 The cost for the **optional** Manufacturer's System Warranty specified shall be **separate** from the Bid Price and is to be provided in **Bid Form – Unit Pricing**.
- .3 All roofing work is to meet or exceed CRCA and OIRCA standards as well as the roof system Manufacturer's requirements.

1.2 Existing Roof System

Cut Test Information:

- .1 The following information was obtained by the Consultant during performance of field review work. The Roofing Contractor is responsible for confirming roof assembly information prior to bid submission, as the Consultant makes no guarantees as to the accuracy of the roof assembly information provided.

Roof assembly information is presented with components listed in order, from top to bottom:

Membrane	45-mil EPDM, mechanically fastened; over
Insulation	4.5-inch (113 mm) polyisocyanurate, mechanically fastened; over
Vapour Retarder	Polyethylene, loose laid; over
Deck	Fluted steel.

1.3 New Roof System

- .1 New roof system to be composed as follows, with components listed in order from top to bottom:

Membrane	60-mil EPDM sheet membrane, fully adhered in adhesive; over
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Insulation	2 layers of 2 ½-inch (63 mm) polyisocyanurate, adhered in adhesive; over
Vapour Retarder	SBS modified bitumen, self-adhered; over
Deck	Fluted steel
Flashings	60-mil EPDM sheet membrane, fully adhered in the Manufacturer's approved bonding adhesive. Securement strip to be utilized at perimeters and projections, or as required by the membrane manufacturer.

1.4 General Scope of Work

1. The Contractor must review all exterior elements (e.g. building, landscape, paving) and identify the existing conditions prior to undertaking any work at the site. The Contractor is to submit a **Property Condition Report** to the Consultant (pdf format) consisting of pictures, including but not limited to the entire building, grounds, landscaping and paving, and location(s) of any pre-existing roof leaks. Any defects discovered after roofing operations have begun which were not previously documented, photographed and submitted to the Consultant will be deemed to be a result of the Contractor's actions. Failure to provide this report prior to mobilizing on site will constitute an explicit acknowledgement that no defects of performance, aesthetic or monetary, are present at or on the site.
2. The Contractor shall cooperate with the on-site personnel and advise them of the area of the building they will be working over prior to performing work upon the rooftop.
3. Hoard all equipment, materials, disposal bin(s) and a port-o-let within the confines of temporary fencing. Utilize appropriate protection for the paving, walkways, and/or grass to prevent damages.
4. Complete the specified interior protection prior to commencing any roofing work.
5. Install overhead protection (scaffolding) at all entrances located within the set-up area or adjacent work areas.
6. Station materials and equipment on the roof on plywood sheathing and/or extruded polystyrene insulation to protect the existing roof membrane from damage.
7. Engage sub-trades (e.g.; mechanical, electrical, plumbing, etc.) as required to ensure all facets of the Work comply with current codes.
8. Raise, temporarily support, and protect existing mechanical equipment, duct housings and mechanical fans as necessary to allow work at curbs and sleepers.

Reset existing equipment on curbs and sleepers upon completion of roof replacement work.

Install a 1-inch wide (25 mm) foam gasket along the top of the curb at HVAC, air handling, air makeup units, etc., prior to resetting equipment.

Coordinate disconnection/reconnection for all services and utilities with the on-site personnel a minimum of 48-hours in advance.

9. Remove and store the existing patio stones for reinstallation upon completion of the new roof system.
10. Remove and dispose of the existing sheet metal flashings, counterflashings, waterproofing system and redundancies (upon approval from the Owner and/or Consultant) to expose the underlying deck. Dispose of all refuse into the dump bin. Use appropriate protection of the building walls by use of a chute and/or tarpaulin.
11. Clean the existing deck to remove all stones, debris and particulate. Carefully inspect the deck condition and report any damage and/or deterioration to the Consultant; provide photos and quantities of the affected areas to the Consultant within 24-hours of observation. No deck repair or replacement shall be performed without the previous written consent of the Consultant/Owner. Perform remediation as per the instructions in Section 05 01 30 – Steel Deck Remediation, as approved, in accordance with the Unit Prices provided in Bid Form.
12. Suspend the split unit supported on a stand while keeping the unit operational. The stand will be re-used and reinstalled following completion of the roofing.
13. Install new wood blocking, plywood and/or mineral fiber rigid insulation at curbs, sleepers, roof transitions, perimeter parapets, eaves, etc., as per the membrane manufacturer's requirements. Prime bare wood and allow solvents to flash-off, if required by the Manufacturer.
14. Install wood blocking to ensure a minimum height above the roof membrane as follows, as per the instructions in Section 06 10 10: Rough Carpentry:
 - .1 Curbs and sleepers – 12-inches (300 mm)
 - .2 Interior parapets/walls – 12-inches (300 mm)
 - .3 Exterior parapets/perimeters – 8-inches (200 mm)
 - .4 Control and expansion joints – 8-inches (200 mm)
15. Install the vapour retarder as per the instructions in Section 07 26 13: Sheet Vapour Retarder.

16. Install the insulation components as per the instructions in Section 07 21 13: Board Insulation.
17. Install tapered polyisocyanurate insulation crickets and saddles between and adjacent all the drains to match the existing profiles.
18. Install the roof membrane and base flashings as per the instructions in Section 07 53 23: Waterproofing – Membrane & Flashings. **NOTE: All inside/outside corner covers, splices, patches, etc., are to have two layers of waterproofing throughout the system.**
19. Replace existing roof drains with new STAINLESS STEEL roof drains with adjustable drain seals. Set pre-primed flange in a full bed of water cut-off sealant. Tighten drain seal. Complete flashings per the membrane manufacturer's recommendations, instructions and/or details. Install clamping ring in a full bed of water cut-off sealant and secure. Install new flow control valve (only in locations where they currently exist or if a new internal drain is being specified) and aluminum dome strainer.
20. Replace existing penetrations with new membrane manufacturer approved details and sealants such as pourable sealers, pre-molded pipe and conduit flashings, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, and other accessories.
21. Reinstall the patio-stone walkway in its previous location(s), supported on new 6" x 24" (150 mm x 610 mm) strips of 1½-inch (38 mm) extruded polystyrene insulation to allow for drainage. Refer to the Roof Plan for walkway location. Replace any damaged and/or deteriorated patio stones with new in accordance with the Unit Prices provided in Bid Form.
22. Install 24" x 24" (610 mm x 610 mm) patio stones supported on new 6" x 24" (150 mm x 610 mm) strips of 1½-inch (38 mm) extruded polystyrene insulation at all roof access points (4 each) and at all service doors for HVAC and mechanical equipment (2 each).
23. Wire brush and paint all vent hoods, exhaust vents, heat stacks, hatch door, etc., with reflective aluminum coating.
24. Elevate all gas piping and tubing, supply lines, electrical conduit, cable trays, etc., off the roof surface utilizing Quick Blocks (or approved equivalent). Support gas piping, tubing, and electrical conduit as per the applicable code(s). Secure utility on top of support with galvanized clamp, fastened on both sides. *Electrical conduit cannot be encircled with a complete ring of ferrous material; use single-sided saddle clamp.* Maintain spacing when multiple electrical conduits span the roof. The stacking of extruded polystyrene insulation is not permitted beneath supports; use applicable extension kits.

The mechanical contractor is responsible for reviewing the securement and spacing of the gas line supports following completion by the roofing contractor.

The electrical contractor is responsible for securing and supporting all electrical conduit.

25. Paint all gas lines with bright yellow rust inhibitive paint.
26. Reinstall split unit on existing stand in same location.
27. Install new 24-gauge galvanized pre-finished sheet metal flashings at all perimeters and 26-gauge galvanized pre-finished sheet metal flashings at all equipment curbs, walls, sleepers, details, etc., in accordance with Detail Drawings.
28. Clean roof surface and grounds of all traces of roof replacement work and replace any damaged landscaping to the Owner's satisfaction.

End of Section

Part 1 – General

1.1 General

- .1 All conditions of the Contract and Division 1, General Requirements apply to this Section.
- .2 All work shall meet current Ontario Building Code requirements.

1.2 Scope of Work

This section of the Specifications includes the selective demolition and removal of existing construction not forming part of the finished work.

- .1 Conform to the requirements of authorities having jurisdiction for regulations governing demolition work.
- .2 Cut out and remove assemblies, materials, items indicated as being removed, abandoned or discarded on the drawings. Cutting, removing and demolition shall be performed so as not to cut or remove more than is necessary or to damage adjacent work. Cut existing construction back to neat straight lines allowing for replacement finishes following.
- .3 Unless unfinished openings are protected from the weather by a means acceptable to the Consultant and Owner, remove only as much construction as can be replaced with finished construction the same day.
- .4 Salvage items indicated for turnover to the Owner and store at a location on the site as directed by the Consultant.
- .5 Relocate items indicated as being reused. Where any material, component, assembly or item is indicated for reuse, removal shall be by a trade which normally provides or installs such an item. Store such items being reused in a protected area until ready to be reinstalled into the new construction. The standard of installation shall not be less than that for the original installation unless otherwise specified or shown on the drawings.
- .6 Provide properly engineered bracing and shoring as needed to maintain the building and its components structurally secure and free of deflection or stress until permanent support is completed. Provide and pay for a Structural Engineer registered in the Province of Ontario to design and inspect bracing, shoring or underpinning required to secure or support parts or assemblies of the existing building or structure. Submit a Letter of Assurance for design and field review signed and sealed by the Engineer, to the Consultant.
- .7 Provide protection to ensure materials, finishes and surfaces to remain will not be damaged, scratched, or marred by demolition work.

- .8 Ensure that affected services and utilities have been identified and disconnected prior to the commencement of work.
- .9 Take all reasonable measures to ensure that dust and dirt generated by the work are fully localized and contained within the demolition area by properly sealing off all openings, louvers, vents, ducts, ceiling spaces, and any other similar potential passageways leading to existing building systems and existing occupied areas still in operation.
- .10 Remove debris promptly from the area of work. Load removed material directly on trucks for removal from site. Keep loading areas clean.
- .11 Do not let piled material endanger the building structure or persons at any time.
- .12 Repair and make good damage to existing construction caused by the work of this section. Use mechanics skilled in the type of work involved to replace such damaged work.
- .13 Continuously during the work of this section, remove all dirt, debris, and discarded material and deposit in waste containers. Keep routes to and from waste containers clear.

Part 2 – Execution

2.1 Preparation

- .1 Post warning signs on electrical lines and equipment that must remain energized to serve other properties during period of demolition.
- .2 Disconnect designated mechanical services in accordance with the requirements of the local authority having jurisdiction.
- .3 Active or energized utilities designated to remain undisturbed shall not be disrupted.

2.2 Demolition and Disposal

- .1 Disposal of all materials shall be in accordance with the requirements of the authorities having jurisdiction, unless otherwise directed in writing by the Consultant.
- .2 Remove and dispose of parts of the existing roofing assembly to permit construction of remedial work as indicated in the Bid Documents that include but is not limited to existing metal flashings and trim, ballast, sleeves, membrane, membrane flashings, securement bars, insulations, vapour retarder and all other items that will not be used as part of the new work.

- .3 Remove only portions of the existing roofing systems that can be replaced with the new specified roofing system, complete with membrane flashing on the same day.
- .4 Make certain that the method of roofing removal will not damage the existing roof decking, other substrates, or adjacent components to remain.
- .5 Alert Consultant of unusual or deteriorated construction found during roof removal operations. Permit Consultant to review conditions before roof replacement.
- .6 At the end of each day's work, ensure that new roofing is watertight. Leave work in a safe condition such that objects do not topple or fall. Protect interior of building from damage at all times.
- .7 Do not use hoists or other equipment in a manner which would overload the structure.
- .8 Provide means to keep dust to a minimum during demolition operations. Keep dusty material wetted.
- .9 Install dust nets on perimeter guardrail system around the entire perimeter of the building, covering the full height of the railing system.
- .10 If the insulation materials are adhered in places and do not lift up as single boards, the material must be soaked to prevent dust from developing during the demolition.
- .11 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces and replace same as work progresses.
- .12 Remove contaminated or dangerous materials from site and dispose in a safe manner to minimize danger at site or during disposal.

2.3 Disposal

- .1 Remove and dispose of debris continuously. Do not stockpile debris in a manner that could overload the structure. Dispose of demolished materials except where noted otherwise.
- .2 Do not sell or burn materials on site. Take measures to control dust during disposal operations.
- .3 Implement a waste management program on this project site wherever feasible. Segregate from debris all materials that presently can be recycled or reused. Transport these materials to a reuse or recycling facility.

- .4 Materials not for reuse or recycling shall be disposed of at an authorized landfill site. Cost(s) to transport to dump site, and for disposal of materials, etc., shall be included in the Bid Price.
- .5 Where debris has to be transported through the building, the debris shall be bagged and sealed in plastic garbage bags a minimum of 3-mil thick and manufactured for the intended purpose.

2.4 Mechanical Equipment

- .1 Use authorized mechanical subcontractor and electrician to remove and reinstate identified mechanical equipment from rooftop to allow new roofing system installation.
- .2 Coordinate all mechanical disconnects with mechanical subcontractor and Owner's Representative to minimize disruption of services within the building.
- .3 Ensure all systems are tested and functional before completion of work.

End of Section

Part 1 – General

1.1 Performance Description

- .1 Read and conform to the requirements detailed in Division 1 which apply to, and form part of, all sections of the work.
- .2 All work shall be carried out in strict accordance with the requirements of all relevant sections of the latest edition of the Ontario Building Code and all relevant standards referenced therein, including all amendments up to project date.

1.2 Submittals

- .1 Submit shop drawings and product data to Consultant as requested by the Consultant.
- .2 Shop Drawings: Indicate decking plan, support locations, projections, openings and reinforcement, pertinent details, and accessories.
- .3 Design deck layout, spans, fastening and joints under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the Province of Ontario.

1.3 Delivery, Storage & Handling

- .1 Cut plastic wrap to encourage ventilation.
- .2 Separate sheets and store decking on dry wood sleepers; slope for positive drainage.

Part 2– Products

2.1 Materials

- .1 Steel roof deck: Galvanized with Z275 zinc coating to ASTM A653/A653M. Thickness to match existing and cannot be thinner. Profile for repairs to match existing. Profile for redundant curb openings to be RD 938 as manufactured by Vic West or an Approved Alternate or to match existing profile or suitably designed steel plate.
- .2 Screw Fasteners: “Tek’s Self-Drilling Screws” as manufactured by Atlas Bolt & Screw Company, or approved alternate. Galvanized finish to CAN/CSA G164-M, galvanized steel screws of required size and type to provide a minimum pull-out of 1300 newtons (300 lbs.).
- .3 Structural Steel: to CAN/CSA S16 and CAN/CSA G40.21, Grade 300. Shapes and sizes as shown on engineering drawing (where required).

- .4 Anchors: “Hilti HSL Heavy Duty Anchors, HSL-B M12/20” as manufactured by Hilti Canada or approved alternate.
- .5 The galvanized coating on the decking can be destroyed at the welded attachment locations, include field primer for touching up the weld blooms.
- .6 Shop coat alkyd primer: to CAN/CGSB 1.40
- .7 Field Primer: Zinc rich coating to ASTM A780. Approved Products: Galvalite Primer or Cold Galvanizing Compound from ZRC Worldwide.
- .8 Steel Plate: to be used to fill in existing openings in the steel deck:
 - .1 Light gauge steel galvanized to Z275 of 33 ksi yield strength or hot dipped galvanized steel of 36 ksi yield strength. up to 6” (150 mm) opening: no reinforcing or 0.045” (1.14 mm) minimum thickness plate.

Part 3– Execution

3.1 Examination

- .1 Verify that field conditions are acceptable and are ready to receive work.
- .2 Examine work of other trades for defects and discrepancies and report them to the Consultant in writing. Do not proceed until surfaces are satisfactory.
- .3 Beginning of installation means installer accepts existing conditions.

3.2 Shop Painting

- .1 Clean surfaces in accordance with primer manufacturer’s recommendations. Apply two (2) coats of primer to all surfaces of the steel components.
- .2 Use primer unadulterated, as prepared by manufacturer. Paint on dry surfaces free from rust, scale, grease or any latent products. Apply paint at temperatures above 45 °F (7° C).
- .3 Clean surfaces to be field welded and keep paint free.

3.3 Steel Deck Re-Securement

- .1 Inspect all welds and securement points between existing steel decking and structural framing members. Notify Consultant of all defective welds or securement locations.
- .2 Mechanically fasten existing steel deck to the existing steel framing at defective weld or securement locations with the specified screw fasteners.

- .3 Install self-tapping screw fasteners in accordance with the manufacturer's instructions. Provide a pilot hole through the structural steel if required to ensure proper thread engagement.

3.4 Openings in Steel Roof Deck

- .1 If openings in the steel deck are less than or equal to 24" x 24" (610 mm x 610 mm), a 20-gauge galvanized steel plate shall be centered over the opening and fastened to the existing deck flutes using self-tapping #10 – 1" (25 mm) corrosion resistant screws secured at each corner of the plate, and 6" (150 mm) on centre at plate perimeters. Plates are to extend 12" (305 mm) beyond openings in all directions.
- .2 If openings in the steel deck are larger than 24" x 24" (610 mm x 610 mm), a new galvanized steel deck section(s) matching the existing deck profile and strength characteristics shall be centered over the opening(s) and fastened to the existing deck flutes using self-tapping #10 x 1" (25 mm) corrosion resistant screws secured 12" (300 mm) on centre at deck perimeters. New deck sections to lap a minimum of 12" (300 mm) on each side of existing deck, and span two (2) joists.

3.5 Installation – New Metal Deck

- .1 Erect steel deck in accordance with CAN/CSA-S136, CSSBI 10M, and manufacturer's written instructions in accordance with reviewed engineered shop drawings.
- .2 Mechanically fasten the new steel deck to the structural supports and existing framing through the low flutes at a maximum spacing of 6" (152 mm) at steel deck edges and 12" (305 mm) on centre in the field.
- .3 Install self-tapping screw fasteners in accordance with the manufacturer's instructions. Provide a pilot hole through the structural steel if required to ensure proper thread engagement.
- .4 Steel plates to be installed to either CSSBI or SDI standards with fasteners at 8" (203 mm) maximum on centre and supported on at least one deck rib on the parallel sides.

3.6 Existing Corroded Metal Deck

- .1 Inspection is to take place for all existing decking by the Contractor who shall immediately advise the Consultant of any suspect deck areas.
- .2 Inspection is to include the examination of decking for surface corrosion and severe corrosion (i.e.: deck perforations) leading to structural damage.
- .3 Structural damage is defined to exist when original nominal deck thickness has been reduced by ten percent (10%) or greater.

- .4 If damage to due to corrosion is not structural, area must be prepared and primed.
- .5 Preparation includes but is not limited to the following:
 - .1 Area is to be hand scraped, removing all loose corroded material; and
 - .2 Area is to be power brushed and cleaned, providing a suitable clean surface for the specified primer.
- .6 The prepared area is to be coated with a 3-3.5 mils (0.07 to 0.09 mm) of steel deck primer or to manufacturer's printed instructions, whichever is more stringent.
- .7 A curing time is to be provided for all coated areas. Proceed with work without damaging the cured galvanized primer.
- .8 The coated areas are to be protected from scuffing or surface damage. Any areas damaged will be recoated.
- .9 **Contractor is to use the services of a professional engineer to review any deck damage or surface corrosion. Engineer to also perform thickness reduction. Engineer to provide direction to contractor in writing on how to address and deck repairs.**

3.7 Structurally Unsound Metal Deck

- .1 If deck damage is classified as structural, not able to support live construction loads, a deck overlay must be provided.
- .2 The overlay deck must be of similar construction, type and material to provide a snug and neat fit with the existing deck profile.
- .3 All obstructions and existing ridges must be bent back in line. Where necessary, cut side and end laps of new deck to satisfaction of Consultant to accommodate existing deck profile.
- .4 The maximum space allowed between the existing and new deck prior to fastening is 0.06" (1.5 mm). If the gap exceeds this, drilling of the new deck is required to allow penetration of the fasteners into the existing deck.
- .5 The new deck is to be fastened to the existing deck with the specified self-drilling screws. Pre-drill where required.
- .6 The new deck overlay must span a minimum of two continuous supports.

- .7 The placing of the new deck overlay is determined by the location of the damaged area. The new deck must be situated so that the mid-span of the new deck overlay is directly over the damaged area.
- .8 The fasteners shall have a spacing of 12" (305 mm) on centre, maximum, along the deck span longitudinally and on crests and in valleys.
- .9 Where required and deemed necessary by the Consultant, provide a continuous cover plate secured at 12" (305 mm) on centre along all edges.
- .10 Upon completion of installation, mechanically brush clean fasteners, rivets, welds and burned or scratched surfaces.
- .11 All new fasteners, cuts, or exposed metal are to be coated with the specified primer to a thickness of 3-3.5 mils (0.07-0.09 mm).

3.8 Cleaning

- .1 Daily as the Work proceeds and upon completion, remove all surplus materials and debris resulting from the foregoing work.
- .2 Remove all stains, primers or other coatings from all affected surfaces.

End of Section

Part 1 – General

1.1 General

- .1 All conditions of the Contract and Division 1 General Requirements apply to this section.
- .2 All work shall meet the requirements of the 2012 Ontario Building Code, and the Canadian Roofing Contractors Association (CRCA), including all amendments up to project date.
- .3 Co-ordinate work under this section with work of related sections.

1.2 Related Work

- .1 Sheet Vapour Retarder Section 07 26 13
- .2 Board Insulation Section 07 21 13
- .3 Waterproofing: Membrane & Flashings Section 07 53 23

1.3 Source Quality Control

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood identification: by grade mark in accordance with applicable Canadian Standards Association (CSA) Standards.

1.4 Delivery and Storage

- .1 Deliver and store materials to manufacturer's instructions.
- .2 Do not store materials on roof in a manner which may overload the structure.
- .3 Store materials under cover on elevated platforms, protected from weather and construction activities.
- .4 Remove and replace damaged or broken materials.
- .5 Store materials away from open flame or ignition sources.
- .6 Do not transport any materials through the building.

Part 2 – Products

2.1 Lumber Material

- .1 Lumber: unless specified otherwise, SPF #2 Grade, S4S, moisture content 19% or less. Allowable design to meet NDS & CSA O86.

.2 Furring, blocking, nailing strips, grounds, rough bucks, curbs, fascia backing and sleepers:

.1 Board sizes: "Standard" or better grade.

.2 Dimension sizes: "Standard" light framing or better grade.

.3 Post and timber sizes: "Standard" or better grade.

.3 Asphalt coated wood fiber cants

.4 Wood fiber, perlite, or other material

2.2 Plywood Sheathing

.1 Exterior sheathing grade, solid one side (G1S) unsanded, meeting CSA 0121-M (Douglas Fir) or CSA 0151-M (Canadian Softwood). Veneer Grade B+. Minimum thickness of ½-inch (13 mm) or as noted on Detail Drawings. **Moisture content of the plywood shall not exceed 19% on a dry weight basis.**

2.3 Fasteners

.1 Fasteners for wood: Galvanized steel wood screws with countersunk heads of size and length to provide minimum 1½-inch (38 mm) penetration into underlying member.

.2 Fasteners for steel substrates: Flat head, self-tapping steel screw with galvanized finish as supplied by Fastening House, or approved equivalent. Fasteners to be of sufficient length to penetrate the top flute of the steel deck ¾-inch +/- ¼-inch (20 mm +/- 5 mm).

.3 Fasteners for masonry and concrete substrates: Tapcon fasteners with "Climaseal" corrosion resistant finish, as manufactured by Buildex/Red Head, or approved equivalent. Length to suit material thickness.

.4 Bolts: Bolts, Washers and Nuts: to ASTM A307. Size as indicated on Drawings. Hot dipped galvanized or approved equivalent corrosion resistant finish, ½-inch (13 mm) diameter unless otherwise noted.

.5 Proprietary fasteners: Toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fiber plugs, recommended for purpose by Manufacturer.

.6 Galvanizing: To CSA G164-M1981, "Hot Dip Galvanizing of Irregularly Shaped Articles", use galvanized fasteners for exterior work and pressure preservative treated lumber.

Part 3 – Execution

3.1 Construction

- .1 Comply with requirements of the applicable Building Code, supplemented with the following paragraphs:
 - .1 Work shall be performed by skilled carpenters.
 - .2 Install continuous plywood sheathing, wood blockings, studs, nailers and continuous shims where required and/or detailed on Drawings. Shims to be of sufficient height to ensure a minimum five percent (5%) positive slope is provided on all parapet walls and under cap flashings.
 - .3 Provide new curbs. Width and length of curbs to match existing. Curbs shall be a minimum of 12-inches (300 mm) above the height of the roofing membrane, unless otherwise specified in the Scope of Work.
 - .4 Provide new equipment wood sleeper supports. Width to be a minimum of 6-inches (150 mm). Length of sleeper to span between two framing members. Supports shall be a minimum of 12-inches (300 mm) above the height of the roofing membrane, unless otherwise specified in the Scope of Work.
 - .5 Install cant strips at the base of perimeters, curbs and sleepers, fully adhered in asphalt or cold-applied adhesive.
 - .6 Securely anchor wood blocking, nailers and shims in-place. Fasten wood blocking, nailers and shims together and to the existing substrate with appropriate screw fasteners.
 - .7 All fasteners to be placed a minimum of ½-inch (13 mm) from any edge. Install fasteners in two rows in the direction of the grain, with each fastener offset from one another not less than 18-inches (450 mm) on centre
 - .8 Reduce the spacing of fasteners to 12-inches (310 mm) on centre for a distance of 10-feet (3 metres) from all inside and outside corners at the roof's perimeter.
 - .9 Stagger fasteners between layers of wood when more than one layer of wood is to be installed. Minimum penetration to be 1-¼-inch (32 mm). Secure top nailers to bottom nailers staggered at not less than 18-inches (450 mm).
 - .10 Offset and countersink all screw fasteners flush with surface of wood blocking being secured.
 - .11 Refasten existing loose wood blockings, plywood, shims, and cants with screw fasteners where permitted to remain, as required and to the satisfaction of the Consultant.

- .12 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .13 Countersink bolts where necessary to provide clearance for other work.
- .14 Co-ordinate work to keep cutting and remedial work to a minimum.
- .15 Treat cut ends of all wood which is saw-cut on site with wood preservative. Apply preservative by dipping or by brush to completely cover all cut surfaces. Maintain wet film on surface for minimum five (5) minute soak on lumber and two (2) minute soak on plywood.
- .16 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.

3.2 Furring and Blocking

- .1 Install furring and blocking as shown on Detail Drawings.
- .2 Align and plumb face of furring and blocking to tolerance of 1:16.
- .3 All lumber is to be installed with butt joints offset 2-inches (50 mm) minimum. Fasten at 18-inches (450 mm) on centre using a 2-1/4-inch (57 mm) galvanized spiral-ardox nails.
- .4 All wood, block, concrete or cementitious substrates to received mopped or torched membrane are to be fully primed prior to membrane application using asphaltic primer. Allow solvents to flash off prior to membrane application.
- .5 Control and expansion joints to maintain existing height above roof deck level, or 8-inches (200 mm) minimum.
- .6 Wood blocking at exterior parapets/perimeters to maintain existing height above membrane level, or 6-inches (150 mm) minimum. Unless otherwise specified in Section 01 73 03 – Scope of Work.
- .7 Wood blocking at interior parapets/walls to maintain existing height above roof deck level, or 12-inch (300 mm) minimum.

3.3 Nailing Strips, Grounds and Rough Bucks

- .1 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.

3.4 Cants, Curbs, Fascia Backing

- .1 Install cants as required, fully adhered in asphalt or cold-applied adhesive or as specified in the Scope of Work.

- .2 Install curbs, fascia backing, nailer and other wood supports as required. Secure using galvanized steel fasteners or as specified in the Scope of Work.
- .3 All are to be box-framed to a minimum height of 12-inches (300 mm) above the finished roof membrane, unless detailed otherwise.
 - .1 This includes all roof top openings except drains, electrical conduit flashings, hot exhaust vent stacks and plumbing vent pipes.
 - .2 1-½-inch (38 mm) thick lumber is to be used. Widths as may be required to achieve design intent.
 - .3 Disconnecting, extending and reconnecting electrical services to fans, HVAC units, etc., is to be performed by a Contractor as specified by the Owner.
 - .4 Extending ducts and vent pipes to new elevations as required, is to be performed as part of this Contract.

3.5 Fasteners

- .1 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .2 Countersink bolts where necessary to provide clearance for other work.

End of Section

Part 1 – General

1.1 Conditions

- .1 All conditions of the contract and Division 1, General Requirements apply to this section.
- .2 All work shall meet the requirements of the applicable Building Code and the Canadian Roofing Contractors Association (CRCA) including all amendments up to project date.

1.2 Related Work

- | | |
|--|------------------|
| .1 Rough Carpentry | Section 06 10 10 |
| .2 Sheet Vapour Retarder | Section 07 26 13 |
| .3 Waterproofing: Membrane & Flashings | Section 07 53 23 |

1.3 Submittals

- .1 Shop Drawings: Submit shop drawings for Consultant's review and approval prior to commencing work, in accordance with Section 01 00 00 – General Requirements.

Part 2 – Products

2.1 Insulation Layers, Tapered Sumps, Crickets and Saddles

- .1 Glass-faced Polyisocyanurate: closed cell foam rigid roof insulation board, pentane blown, HCFC free, manufactured with HC blowing agent bonded to glass fiber reinforced facers on top and bottom surfaces during the manufacturing process, conforming to CAN/ULC S-770 and ASTM C1303 for Long Term Thermal Resistance (LTTR) R-values.

Board size must be 48" x 48" (1220 mm x 1220 mm) and thickness to be 2½-inches (63 mm), **two layers**. Approved Products: Paratherm CG by Siplast, approved substitution.

- .2 Tapered sump to be created for a distance of 16' x 16' (4880 mm x 4880 mm) around all drains and 8' x 16' (2440 mm x 4880 mm) adjacent all perimeter scuppers, with a minimum slope of 1%. Approved Suppliers: Posi-Slope Enterprises, or approved substitution.
- .3 Tapered crickets and saddles to be created between and adjacent drains, with a minimum 1 % slope. Approved Suppliers: Posi-Slope Enterprises, or approved substitution.

2.2 Adhesive

- .1 Two-part adhesive, compatible with asphalt surfaces and fiber faced insulation. Approved products: Parafast by Siplast, or approved substitution.

Part 3 – Execution

3.1 Workmanship

- .1 Install insulation over vapour retarder.
- .2 Install insulation to maintain continuity of thermal protection to building elements and spaces.
- .3 Fit insulation closely around roof penetrations including plumbing vents, drains, electrical conduits, curbs, and other protrusions.
- .4 Cut and trim insulation neatly to fit spaces. Butt joints tightly, offset vertical joints. Use only insulation boards free of damage. Use largest possible dimensions to reduce number of joints.
- .5 Offset both vertical and horizontal joints in multiple layer applications a minimum of 6-inches (150 mm).

3.2 Insulation, Tapered Sump, Cricket and Saddle Installation

- .1 Remove debris from top side of vapour retarder.
- .2 Install first insulation layer over the vapour retarder. Adhere in adhesive using the Manufacturer's specifically designed applicator. Apply adhesive using the manufacturer's specified ½-inch to ¾-inch (13 mm - 19 mm) wide ribbons installed 12-inches (300 mm) o.c.
- .3 Increase application rate 10-feet (3,000 mm) out from perimeter to 1 ribbon spacing equal to 6-inches (150 mm) o.c.
- .4 Increase application rate in a 10' x 10' (3,000 mm x 3,000 mm) area in corners to 1 ribbon spacing equal to 4-inch (100 mm) o.c.
- .5 Check adhesion of insulation boards frequently. Step boards into place to maximize adhesion.
- .6 Immediately following installation of the adhesive, install the insulation boards, to achieve a good adhesive bond. The adhesive must not skin over prior to installation of the boards. Avoid uneven surfaces to ensure proper and full adhesion of the insulation board.

- .7 If the board is repositioned, and the adhesive bond is broken, the board is to be removed, adhesive removed and re-applied as noted herein before re-installing the board.
- .8 Place weight over the boards if required by the manufacturer.
- .9 Keep boards back a minimum of 1-inch (25 mm) from the base of b-vents.
- .10 Ensure insulation is installed in a staggered butt joint configuration and is offset a minimum of 6-inches (150 mm).
- .11 Gaps are to be filled with same insulation.
- .12 Install second layer of insulation over the first layer of insulation then install the tapered cricket and saddles between and adjacent all the drains. Adhere in adhesive using the Manufacturer's specifically designed applicator. Apply adhesive using the manufacturer's specified wide ribbons installed 12-inches (300 mm) o.c.
- .13 Increase application rate 10-feet (3,000 mm) out from perimeter to 1 ribbon spacing equal to 6-inches (150 mm) o.c.
- .14 Omit insulation in a 16' x 16' (4880 mm x 4880 mm) area surrounding all drain locations and in a 8' x 16' (2440 mm x 4880 mm) area adjacent all perimeter scupper locations.
- .15 Install tapered insulation sumps, adhered in adhesive.
- .16 Check adhesion of insulation boards frequently. Step boards into place to maximize adhesion.
- .17 Immediately following installation of the adhesive, install the insulation boards, to achieve a good adhesive bond. The adhesive must not skin over prior to installation of the boards. Avoid uneven surfaces to ensure proper and full adhesion of the insulation board.
- .18 If the board is repositioned, and the adhesive bond is broken, the board is to be removed, adhesive removed and re-applied as noted herein before re-installing the board.
- .19 Place weight over the boards if required by the manufacturer.
- .20 Keep boards back a minimum of 1-inch (25 mm) from the base of b-vents.
- .21 Stagger joints of overlay boards and end joints of the insulation by a minimum of 6-inches (150 mm).
- .22 Offset insulation layers from one another a minimum of 6-inches (150 mm).

.23 Gaps are to be filled with same insulation.

.24 Pack voids between deck and penetrations such as at plumbing vents, hot exhaust stacks, etc., using a non-combustible loose fibrous insulation (Rockwool).

End of Section

Part 1 – General

1.1 Conditions

- .1 All conditions of the Contract and Division 1, General Requirements apply to this section.
- .2 All work shall meet the requirements of the Ontario Building Code and the Contract Documents, including all amendments up to project date.

1.2 Related Work

- | | |
|---------------------------|------------------|
| .1 Steel Deck Remediation | Section 05 01 30 |
| .2 Rough Carpentry | Section 06 10 10 |
| .3 Board Insulation | Section 07 21 13 |

Part 2 – Products

2.1 Vapour Retarder

- .1 Self-adhesive roofing underlayment composed of a tri-laminated polyethylene facer, the underside is covered with a release film, which conforms to ASTM D5147. Approved Products: Siplast SA Vapour Retarder by Siplast; or approved substitution.

Part 3 – Execution

3.1 Deck

- .1 Thoroughly sweep and/or vacuum deck of all stones and debris, and remove any irregularities in the deck to provide a smooth, even, dry surface over which to apply vapour retarder. Remove all grease, residual asphalt, dirt, oil, debris, diesel fuel, water and all other foreign matter from the top surface of the upper roof deck flutes.
- .2 Report any deck damage or deterioration to the Consultant. No repair or replacement may be performed without the previous written consent of the Consultant/Owner. Costs for such repair or replacement shall be performed in accordance with the unit rates provided in Bid Form – Appendix C and shall be invoiced as an extra to the contract. All additional billing shall be delivered to the Owner with a copy submitted to the Consultant, accompanied with an itemized breakdown of costs incurred.
- .3 Perform deck remediation as per the instructions in Section 03 31 01 – Concrete Deck Remediation, Section 05 01 30 – Steel Deck Remediation and/or Section 06 15 00 – Wood Deck Remediation.

3.2 Vapour Retarder Installation

- .1 Line up the vapour retarder roll starting at the low point of the area or over drains. Peel back the release paper on the backside of the sheet at the end lap and adhered in place. Once lined up, continue peeling back the release paper while the vapour retarder is rolled out over the area.
- .2 Sides shall be overlapped a minimum of 3-inches (75 mm) with end laps primed and covered a minimum of 6-inches (150 mm). Stagger end laps a minimum of 12-inches (300 mm).
- .3 Keep the vapour retarder back from b-vents a minimum of 1-inch (25 mm).
- .4 At perimeters, joints, curbs, walls, sleepers, etc., apply primer to the vertical portion of the substrate. Vapour retarder to be carried up the substrate to the height of the insulation layer(s). Pass an approximate 5 lbs weighted hand roller over the vapour retarder along vertical surfaces.
- .5 Pass an approximate 75 lbs weighted roller or broom over the completed area, two passes are required.
- .6 Ensure a watertight bond, free of wrinkles, air pockets or tears.
- .7 Pack voids between the deck and penetrations such as at plumbing vents, exhaust stacks, drains, electrical conduits, gas lines, heat stacks, etc., using non-combustible loose fibrous insulation (Rockwool).
- .8 Seal roof deck penetrations first by applying the primer, then pressing pre-cut pieces of the vapour retarder snugly into place, ensuring no gaps or voids in coverage, except b-vents.

End of Section

Part 1 – General

1.1 General

- .1 All conditions of the contract and Division 1 General Requirements apply to this section.
- .2 All work shall meet the requirements of the applicable Building Code and the Canadian Roofing Contractors Association (CRCA) including all amendments up to project date.

1.2 Coordination

- .1 Coordinate work under this section with work of related sections.
- .2 Coordinate mechanical work, electrical work, and plumbing work with the work of this Section where necessary.

1.3 Related Work

- | | | |
|----|-------------------------------|------------------|
| .1 | Rough Carpentry | Section 06 10 10 |
| .2 | Board Insulation | Section 07 21 13 |
| .3 | Sheet Metal Flashing and Trim | Section 07 62 00 |
| .4 | Sealants | Section 07 92 10 |

1.4 Reference Standards

- .1 Perform all roofing work in conformance with standards, materials and methods specified in the Ontario Building Code, 2012 Edition, CRCA standards, and in conformance with the material Manufacturer's printed requirements.

1.5 Climatic Conditions

- .1 Do not perform work during precipitation or fog. Stop work before the onset of inclement weather. Postpone roofing work each day when inclement weather is forecast or appears imminent.
- .2 Apply roof membrane only when ambient temperatures are above -10°C (14°F).
- .3 Proceed with winter work when ambient temperatures are below -10°C (14°F) only when the Owner, Consultant and Manufacturer have mutually agreed that the specified materials and methods can be applied and still successfully achieve an acceptable system in compliance with Guarantee criteria.

1.6 Requirements of Regulatory Agencies

- .1 Ensure that materials, including adhesives and roof anchorage, meet the requirements of jurisdictional authorities and governing Underwriters' Laboratories for the Project.

1.7 Submittals

- .1 The Contractor is to submit with the bid submission, the name of the Membrane Manufacturer and a list of specific materials to be used to the Consultant for review to ensure compliance with specified standards. The Contractor must also submit a letter from the Manufacturer with the bid submission, stating that the project is eligible for the specified Warranty, where applicable.
- .2 No change to the original Contract Price will be allowed for upgrading materials to meet the specified standards.

1.8 Site Reviews and Testing

- .1 The Owner or his representative will regularly review the fieldwork, to verify compliance of the work in accordance with this Specification.
- .2 Such reviews shall in no way absolve the Contractor of his responsibility to perform the work in compliance with this Specification and Guarantee Conditions.
- .3 Provide forty-eight hours' notice to the Owner and the Owner's representative prior to the commencement of roofing and attend a site meeting for discussion of procedure when requested. Notify Owner and Consultant of work delays and re-starts, and provide a minimum of forty-eight hours' notice for commencement of each phase of the work (i.e., re-starts, sheet metal, etc.).
- .4 Co-operate with the Owner and the Owner's representative to permit full review of the work and testing of materials during application. Follow instructions provided by the Owner or his representative. Perform cut tests and repair new system where and when required at no additional cost to the Owner.
- .5 Do not conceal or cover work until after it has been reviewed and approved by the Owner or his representative.

1.9 Warranties

- .1 Provide a standard Contractor's OIRCA/CRCA Warranty covering workmanship and labour for a period of two (2) years from the date of Substantial Performance.
- .2 Provide a standard Manufacturer's Limited Material Warranty the maximum period eligible from the date of Substantial Performance.
- .3 Provide the cost for the **optional** Manufacturer's System Warranties as specified. **The cost of the optional Warranties shall be separate from the Bid Price and provided in Bid Form – Unit Prices.**
- .4 **The Contractor must also submit a letter from the System Manufacturer stating that the project is eligible for the specified warranty, along with a sample of the Manufacturer's warranty(s).**

- .5 Inspections by the System Manufacturer's representative shall only take place upon approval of the Consultant. Request for such site visits shall be provided to the Consultant at least 48-hours prior to requested site visit.

Part 2 – Products

2.1 Request for Substitution

- .1 Membrane manufacturers and/or suppliers are invited to submit test data and application information for use on this project. Request for approved material substitution must be requested in accordance with Instructions to Bidders.
- .2 Compatibility between roofing materials is essential.

2.2 Materials

- .1 **Membrane and Base Flashing:** 60-mil membrane consisting of Ethylene Propylene Diene Terpolymer (EPDM)-based elastomeric homogenous roof coverings that can be used for a variety of waterproofing applications. Approved Products: Sure-Seal EPDM Membrane by Carlisle SynTec, or approved substitution.
- .2 **Bonding Adhesive:** A low-VOC, spray applied aerosol contact adhesive and primer used for a variety of applications, adhering standard TPO and EPDM membranes to horizontal and vertical surfaces. Approved Product: CAV-GRIP III Low-VOC by Carlisle Syntec, or approved substitution.
- .3 **Formable Flashing:** Non-reinforced, flexible, self-curing, composed of non-vulcanized EPDM. Approved Product: Elastoform Flashing by Carlisle SynTec, or approved substitution.
- .4 **Reinforcing Strips:** Pressure sensitive reinforcing strips for use at base of a vertical wall to eliminate a separate wall flashing membrane (where possible). Approved Product: 6" RUSS by Carlisle SynTec, or approved substitution
- .5 **Reinforcing Strip Fasteners:** Type and size as required by the roof membrane manufacturer for roofing system and warranty to be provided. Approved Product: HP Fasteners by Carlisle SynTec, or approved substitution
- .6 **EPDM Primer:** Solvent-based primer to be applied to EPDM surfaces prior to seaming with tapes and adhering to reinforcing strips. Approved Product: HP-250 Primer by Carlisle SynTec, or approved substitution
- .7 **Seam Tapes:** A pressure-sensitive, 6-inch (150 mm) wide black tape with a removable poly-film top surface and removable release paper on the under side. Approved Product: SecurTAPE by Carlisle Syntec or as supplied by membrane manufacturer.

- .8 **Lap Sealant:** EPDM based rubber sealant, formulated for sealing exposed edges of membrane at seams (where applicable), as supplied by membrane manufacturer.
- .9 **Pourable Sealer:** Two-part polyurethane, two-color for reliable mixing, as supplied by membrane manufacturer.
- .10 **Water Block/Cut-off Mastic:** One-part low viscosity butyl-blend mastic for use in membrane terminations on vertical and surfaces with compression seal. Approved Product: Water Cut-Off Mastic by Carlisle SynTec, or approved substitution
- .11 **Membrane Cleaner:** Solvent based wash to remove contamination and prepare splicing areas. Used in conjunction with wiping towels. Approved Product: Weathered Membrane Cleaner by Carlisle SynTec, or approved substitution
- .12 **Single-ply Sealant:** A one-part sealant compatible with EPDM used for general caulking above termination bars, metal counter flashings and at scuppers. Approved Product: Universal Single Ply Sealant by Carlisle SynTec, or approved substitution.
- .13 **Pre-Molded Flashing Accessories:** Unreinforced EPDM membrane pre-molded to suit a variety of flashing details, including pipe boots, inside corners, outside corners, penetration pockets, etc.. Approved Product: Pre-Molded Pipe Seals, Inside / Outside Corners, T-Joint Covers by Carlisle SynTec, or approved substitution.
- .14 **Walkway Pavers:** Concrete Roof Pavers conforming to CSA A231.2, 30 MPa, precast concrete pavers, smooth faced, with non-slip finish and edges chamfered. Size to be 24" x 24" x 1½-inch (610 mm x 610 mm x 38 mm).
- .15 **Walkway Insulation:** Rigid, closed-cell, CFC free Type IV extruded polystyrene insulation with integral high-density skin, meeting the requirements of CAN-ULC 701. Compressive strength minimum 240kpa (35psi) in accordance with ASTM D1621. Maximum water absorption to be less than 0.7% by volume when tested in accordance with ASTM D2842. Insulation must be ULC approved. Board size to be 24" x 24" (610 mm x 610 mm), and minimum thickness of 1½-inch (38 mm) – cut into 6" x 24" strips. Approved Product: Roofmate by Dow Chemical Canada Inc.; Foamular 350 by Owens Corning-Celfortec, or approved substitution.

Part 3 – Execution

3.1 General

- .1 Apply roofing in accordance with the Drawings, Specifications and requirements of jurisdictional authorities.

- .2 Follow all Manufacturer's printed recommendations and specifications as a minimum requirement for materials, methods and workmanship not otherwise specified herein.
- .3 Maintain all equipment in good working order in order to ensure proper application rates of adhesives during installation of materials.
- .4 Store all materials in accordance with manufacturer's printed instructions.
- .5 All materials stored outside to be kept dry and covered with breathable tarpaulins at all times when stored on site.
- .6 Only remove from protective storage wrappers those materials which can be installed that same day.
- .7 All membrane plies and flashings must be laid the same day and adjustments to the application methods due to weather must be approved by the Consultant or it shall be replaced.
- .8 Where possible, during cooler weather store materials in a heated area immediately prior to use, such that application temperature is in compliance with the Manufacturer's recommendations.
- .9 It is recommended to store materials in a secure structure or trailer when on site and not in use.
- .10 Do not overload the roof structure with materials. Do not stockpile, membrane rolls, primer pails, plastic cement pails, insulation bundles, or other materials on the roof surface. Disperse materials evenly on the roof, atop skids and/or plywood sheathing, supported on polystyrene.
- .11 Co-ordinate disconnection, extension, relocation and reinstallation, etc., of mechanical and electrical systems as required to perform the work specified herein, as part of this contract.
- .12 Ensure that penetrations through the roof such as drains, vents, ducts, utility lines, fixtures, conduits, and other items are sealed and are watertight.
- .13 Minimize service traffic over membrane that was laid less than 24 hours before, where avoidable.

3.2 Roof Edge System (where applicable)

- .1 Position and secure metal roof edge system true and straight. Space metal lengths ¼-inch (6 mm). Secure roof edge to wood blocks along both the vertical and horizontal flanges with specification insulation screws 12-inch (300 mm) O.C.

3.3 Securement Strip Installation (where applicable)

- .1 Position 6-inch (150 mm) pressure sensitive securement strip at all perimeter and projections for installation. Ready the strip in the position of the angle change with the adhesive strip lying in a horizontal position, facing upward.
- .2 Position the seam plates ½-inch (13 mm) from the angle change and secure with the fastener 12-inches (300 mm) O.C. Do not remove the release film until the membrane has been positioned into place and both surfaces have been primed and readied for permanent installation.

3.4 Membrane Installation

- .1 Remove debris from the top side of the insulation layer.
- .2 Unroll membrane sheets, overlapping sides and ends a minimum of 4-inches (100 mm). Let the sheets relax 20 – 30 minutes before bonding. When the roll is properly positioned, roll one-half of the sheets back over top of the other.
- .3 Apply the bonding adhesive in accordance with the manufacturer's published instructions and coverage rates, to both the underside of the membrane and the substrate. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
- .4 Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded half of the membrane sheet with a soft bristle push broom to achieve maximum contact.
- .5 Fold back the unbonded half of the membrane sheet and repeat the bonding procedure.
- .6 Ensure the splice area of the EPDM membrane is clean and free from dirt, grease, asphalt or other contaminants.
- .7 Fold back the top sheet of the overlap and clean the splice area, 4-inches (100 mm), with membrane cleaner and a natural fiber rag. Clean the bottom seam overlap in the same manner.
- .8 Apply seam primer to the splice area with a bristle brush to both sides of the seam overlap. Allow solvents to flash off.
- .9 Remove the release paper and install the seam tape on the prepared underside of the top sheet of the seam overlap. Install tape with no wrinkles or 'fishmouths.'
- .10 Allow the top sheet to fall freely onto the exposed primed surface of the bottom membrane sheet of the seam overlap. Remove the plastic release film, pulling on a diagonal to the seam.

- .11 Press the top sheet onto the bottom sheet using firm hand pressure across the splice towards the splice edge.
- .12 For end laps, apply 3” or 6” lap tape to the primed membrane surface in accordance with the manufacturer’s specifications. Remove the poly backing and roll the top sheet onto the mating surface.
- .13 Tape splices must be a minimum of 2-1/2” wide using 3” wide (Butyl/EPDM) lap tape that is a minimum 25-mil thick. Lap tape must extend 1/8” minimum to 1/2” maximum beyond the splice edge. Field splices at roof drains must be located outside the drain sump.
- .14 At all membrane splice intersections and ‘fishmouths’, apply primer and install either a pressure sensitive T-Joint cover or a 6-inch (150 mm) wide section of uncured pressure sensitive flashing membrane.
- .15 Immediately roll the splice using positive pressure when using a 2-inch (50 mm) wide steel or rubber hand roller. Roll across the splice edge not parallel to it.
- .16 Apply a bead of lap sealant along the edge of the membrane seam to cover the seam tape at least 2-inches (50 mm) from each side of the EPDM patch.
- .17 Lap sealant to be applied to all side lap and end lap seams and patches if required by the membrane manufacturer.
- .18 Apply Pressure Sensitive EPDM Corner/T-joint covers to all seam tape splices, seam 'T' junctions, horizontal/vertical transitions and inside/outside corners, as required by the membrane manufacturer. Apply in the manner as described above, ensuring a hand roller is used to assure complete contact without air bubbles or voids.
- .19 When completion of the flashings and terminations is not completed the same day, a daily seal must be completed to temporarily close the membrane to prevent water infiltration into the occupied space below.

3.5 Base Flashing Installation

- .1 Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.
- .2 Wall and curb flashings shall be cured EPDM membrane. Continue the membrane as wall flashing where practicable. Follow manufacturer’s typical flashing procedures for walls and curbs.
- .3 Position the membrane at the perimeter and roll back 4-inches (100-mm) with the backside of the membrane facing up.

- .4 Peel the release film from the securement strip and prime both the strip and the membrane then roll the membrane onto the horizontal portion of the securement strip strip, pressing the membrane firmly into place, ensuring there are no voids or air pockets.
- .5 Using a medium nap, synthetic paint roller, or synthetic brush, apply bonding adhesive evenly, without globs or puddles, to the underside of the membrane and the substrate (insulation) where the membrane flashing is to be positioned. Avoid applying the bonding adhesive to seam area of membrane. Allow the adhesive to flash off until it is tacky but does not 'string' to the touch.
- .6 Roll the membrane upward to the top of the projection and press the membrane firmly onto the substrate, ensuring there are no wrinkles or voids.
- .7 Perimeter and projection flashings must be fully adhered to the horizontal termination. Perimeter flashings are to extend a minimum of 3-inches (75 mm) past the outside perimeter. Face nail the EPDM, on the outer perimeter, into the wood blocking with 1-inch (25 mm) diameter round top roofing nails, 12-inches (300 mm) O.C. Projection flashings, such as curbs, to extend a minimum of 1 ½-inches (38 mm) past the inside perimeter, fully adhered.
- .8 If terminating membrane partway up a wall or parapet, apply termination sealer tape, or equivalent, or 1-inch (25 mm) wide bead of water cut-off cement to backside of membrane edge. Press membrane against wall and roll with a steel hand roller. Position Termination Bar over the upper edge of the membrane and fasten into the wall with approved termination bar anchors. Separation between termination bars should be ¾-inches (18 mm). Apply lap sealant along upper edge of termination bar and overtop of all fastener heads.
- .9 **Roof Drains:** Ensure no seams and/or joints intersect at the drain opening. Apply the manufacturer's water cut-off mastic around the perimeter of the drain body. Embed the membrane into the mastic. Install the clamping ring and strainer using the bolts provided for the drain. Do not over tighten the bolts.
- .10 Replace existing penetrations with new membrane manufacturer approved details and sealants, such as, pourable sealers, pre-moulded pipe and conduit flashings, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, and other accessories. Install all accessories per the membrane manufacturer's written instructions and/or details.

3.6 Roof Drains

- .1 Position membrane, then cut a hole for roof drain to allow 1/2" to ¾" (13 to 19 mm) of membrane to extend inside clamping ring past drain bolts.
- .2 Make round holes in membrane to align with clamping bolts; do not cut membrane back to bolt holes.

- .3 Install a minimum 39" x 39" (1 metre x 1 metre) target patch centered over the drain and cut a hole the diameter of pipe in the center of the patch.
- .4 Apply sealant on top of drain bowl where clamping ring seats below the membrane
- .5 Install roof drain clamping ring and clamping bolts; tighten clamping bolts to achieve constant compression
- .6 Tighten drain seas, if applicable.

3.7 EPDM Penetrations

- .1 Self-adhesive Pipe Boots are to be supplied by the membrane manufacture for roof compatibility. Install according to manufactures requirements.
- .2 Alternatively Pipe penetration can to be covered with EPDM bonding adhesive and unsupported EPDM flashing is to be applied a minimum of 8-inches (200 mm) up the pipe penetration. The bottom of this flashing is to overlap the previously installed EPDM flashing strip by 1/2" to 3/4" (13 mm - 19 mm) and adhered at splice connections.
- .3 Pipe penetration flashing is to be secured with a stainless steel hose clamp and sealed with adequate single-ply sealant. Cover clamp and sealant with a storm collar to prevent direct moisture penetration on gas lines.

3.8 Walkways

- .1 Before re-installing the existing walkway, inspect the completed membrane and all splice joints to ensure that the system is watertight. Repair defects before proceeding.
- .2 Install walkway in the same locations as previously.
- .3 Patio stones to be supported by two approximate 6" x 24" (150 mm x 610 mm) strips of insulation to allow for drainage. Strips to be positioned to allow water to flow to drains.
- .4 Gaps greater than 1/4-inch (6 mm) between patio stones are not allowed.
- .5 Walkway should divert around equipment to ensure that pedestrian traffic remains on the designated walkway.

End of Section

Part 1 – General

1.1 General

- .1 All conditions of the contract and Division 1 General Requirements apply to this section.
- .2 All work shall meet the requirements of the current applicable Building Code, the Canadian Roofing Contractors Association (CRCA), CGSB 93-GP-3M Standard, and the CSSBI Bulletin SSF-03- 2006, including all amendments up to project date.

1.2 Related Work

- .1 Rough Carpentry Section 06 10 10
- .2 Waterproofing: Membrane & Flashings Section 07 53 23
- .3 Sealants Section 07 92 10

1.3 Mock-up

- .1 Construct full size mock-ups of the prefinished sheet metal cap and counter flashings for typical parapet and roof edge conditions. Mock-ups to include all typical components, and specified colour.
- .2 Locate mock-ups at specific areas designated by the Consultant.
- .3 Mock-up will serve for initial review purposes by the Consultant and Owner and, when accepted, shall represent the minimum standard for work.
- .4 All materials used for mock-up must be in complete accordance with this Specification.

1.4 Samples

- .1 Submit duplicate 2" x 2" (50 mm x 50 mm) samples of each sheet metal material, colour and finish in accordance with Section 01 00 00 – General Requirements.
- .2 Sample of the overflow scupper- if required
- .3 Samples shall meet specification requirements.

1.5 Protection

- .1 Protect the work of this section from damage. Damaged work which cannot be satisfactorily repaired, restored or cleaned, shall be replaced at no cost to the Owner.

1.6 Delivery and Storage

- .1 Deliver and store materials to manufacturer's instructions and CSSBI guidelines.
- .2 Do not store material on roof.
- .3 Store materials under cover on elevated platforms, protected from weather and construction activities.
- .4 Remove and replaced damaged material.

1.7 Warranty

- .1 The Contractor will provide a written and signed document to the Owner certifying that the Work executed will remain in place and free of defects for a minimum period of one (1) year from the date of acceptance.
- .2 Provide all applicable material and material/labour warranties offered by the material manufacturers.
- .3 Defective sheet metal installation covered under the warranty shall include but not be limited to, loss of securement, corrosion, fading of finish, change of colour and staining of adjoining or adjacent materials or surfaces.
- .4 Carry out all replacement and repair work during the warranty period as directed by the Consultant and at no additional cost to the Owner.
- .5 Inspect the sheet metal work 60 days before expiry of warranty and correct defects within 15 days of inspection. This inspection shall be performed at no additional cost to the Owner.

Part 2 – Products

2.1 Metal Materials

- .1 **Pre-Painted Galvanized Sheet Metal:** 24- and 26-gauge base metal thickness, Z275 designation conforming to ASTM Designation A 653/A 653M, with ArcelorMittal 8000 series coating. Colour as selected by the Owner/Consultant from Manufacturer's standard colour range. Gauge depends on location of metal flashing (perimeter versus interior) as directed in the Scope of Work.
- .2 **Prefinished Aluminum:** to CGSB 93-GP-2M, 0.60 mm (22 ga) core nominal thickness. Finish to be Stelco's 8,000 series or an approved equivalent. Colour to be approved by the Owner/Consultant, if required.
- .3 **Starter Strips (Cleats):** Galvanized steel, 0.87 mm (22-gauge) core nominal thickness, Z275 zinc coating to ASTM A653M. 4-inch (100 mm) wide. Finish and colour to match prefinished sheet metal where exposed. Starter strips to be continuous.

- .4 **Copper (Sleeve Flashing):** 0.8 mm (16 oz.) cold rolled copper to ASTM B370.

2.2 Fabrication

- .1 Fabricate metal flashings and other sheet metal work in accordance with specifications.
- .2 Form pieces in 8-foot (2440 mm) maximum lengths. Make allowance for expansion and contraction at the joint.
- .3 Hem exposed edges on underside ½-inch (13 mm). Miter and seal corners with sealant.
- .4 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.

2.3 Accessories

- .1 **Sealant:** High performance, low modulus, moisture curing, asbestos free, modified polyurethane sealant. Approved Products: TREMseal GP by Tremco Canada, or approved substitution.
- .2 **Concealed Fasteners:** Of same material as sheet metal to CSA B111, ring thread, flat head roofing nails of length and thickness suitable for metal flashing application.
- .3 **Exposed Fasteners:** Hex-headed, stainless-steel, screw fasteners with 0.04-inches (1 mm) thick metal washer with rubber backings.
- .4 **Fasteners for Masonry and Concrete:** Tapcon fasteners with "Climaseal" corrosion resistant finish, or an approved equivalent, of sufficient length to provide a minimum 1½-inch (38 mm) penetration into substrate.
- .5 **Expansion Fasteners:** A tamper-proof nail drive anchor which has a body formed from Zamac alloy. Zamac Nail-in.
- .6 **Split Storm Collar:** 1/16-inch (1.6 mm) thick two-piece aluminum storm collar complete with neoprene gasket, stainless steel nuts and bolts as manufactured by Thaler Metal Industries or an approved equivalent. Diameter to suit application. Storm collar to be of sufficient size to extend a minimum of 1-inch (25 mm) below the top of copper sleeve flashing, if required
- .7 **Flux:** Rosin, cut hydrochloric acid or commercial preparation suitable for materials to be soldered.
- .8 **Solder:** to ASTM B32, 50% tin and 50% lead.
- .9 **Wedges:** Rolled plumber sheet lead.

.10 **Isolation coating:** Asphalt primer to 37-GP-9M / ASTM D41.

.11 **Touch-up Paint:** as recommended by metal flashing and trim Manufacturer.

2.4 Sheet Metal Underlayment

.1 Self-adhesive, heat resistant modified bitumen asphalt sheet with glass fiber reinforcement mat or polyethylene sheet, conforming to ASTM D1970. Approved Products: Blueskin PE 200 H/T by Henry/Bakor, Ice & Watershield Ultra by W.R.Grace, Lastobond Shield HT by Soprema or approved substitution.

.2 **Membrane underlayment primer:** as supplied or recommended by the membrane underlayment manufacturer.

.3 **Membrane underlayment sealant:** as supplied or recommended by the membrane underlayment manufacturer.

2.5 Perimeter and Overflow Scuppers

.1 0.56 mm (16 oz.) thick copper or galvanized, shop fabricated open-box type with fully soldered corners, and throat 3-inches (75 mm) in diameter and 4-inches (100 mm) in length, or approved substitution.

2.6 Termination Bar

.1 Light-weight flexible 1-inch (25 mm) 14-gauge aluminum, 6063 T-5 grade and corrosion resistant. Pre-drilled every 6-inches (150 mm) and in 10-foot (3 metre) lengths with a 1/8-inch (3 mm) lip sealant edge for secure seal. Approved Products: Platinum Technologies Ltd., no substitution.

Part 3 – Execution

3.1 Inspection

.1 Verify membrane terminations and base flashings are in place, sealed and secure.

.2 Beginning of installation means acceptance of existing conditions.

3.2 Metal Fabrication – General

.1 Fabricate cap flashings, counterflashings, roof edge flashings, drip flashings, closures, starter strips, and other miscellaneous sheet metal work with prefinished sheet metal in general accordance with applicable CRCA 'FL' series specifications and/or as indicated on Drawings.

Use competent mechanics and work accurately to details indicated and as herein specified.

- .2 Fabricate cap flashings, starter strips, and base counter flashings less than 12-inches (300 mm) in height in 8-feet (2400 mm) maximum lengths. Form counterflashings between 12-inches (300 mm) and 24-inches (610 mm) in height in 4-feet (1200 mm) maximum lengths.
- .3 Provide a counter flashing and an intermediate vertical flashing where the cap flashing is greater than 24-inches (600 mm) above the top of the roofing membrane. Form vertical flashings in 4-feet (1200 mm) maximum lengths.
- .4 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 base counter flashing.
- .5 Mitre and form standing seams at all corners. Make allowance for movement at joints.
- .6 Hem all exposed edges at least ½-inches (13 mm) for appearance and stiffness.
- .7 Install cross-brakes in the vertical surface of flat stock metal counterflashing pieces that have a dimension greater than 12-inches (300 mm) in height.
- .8 Form teepee breaks in the vertical surface of exterior cap metal counterflashing pieces that have a dimension of 5 ½" (138 mm) or greater.
- .9 Form sections square, true, and accurate to size, free from distortion, oil canning and other defects detrimental to appearance or performance.
- .10 Apply isolation coating to metal surfaces to be embedded in concrete, masonry, mortar or dissimilar materials.
- .11 Install cross-brakes in the vertical surface of flat stock metal counterflashing pieces that have a dimension greater than 12-inches (300 mm) in height.
- .12 Form teepee breaks in the vertical surface of exterior cap metal counterflashing pieces that have a dimension of 5 ½-inches (138 mm) or greater.

3.3 Scupper Fabrication (If Required)

- .1 Fabricate scuppers from copper or stainless steel. Fabricate scuppers to suit a 4-inch (102 mm) diameter downspout 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.
- .2 Fabricate deck flange to provide a 6-inch (150 mm) 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 Provide copper or stainless-steel basket strainers for outlet.

- .4 Fabricate a prefinished sheet metal cover for all exposed areas of the scupper in accordance with Paragraph 3.1.

3.4 Copper Sleeve Flashing Fabrication (If Required)

- .1 Fabricate sleeve flashing for existing penetrations from copper or stainless steel.
- .2 Provide a two piece or split sleeve with a minimum height of 12-inches (300 mm).
- .3 Fabricate deck flange to provide a 6-inches (150 mm) wide apron. Ensure flange is continuous by filling in outside corners. Apply isolation coating on deck flange.
- .4 Fabricate sleeve and flange with flat lock joints suitable for field soldering.

3.5 Downspout Fabrication (If Required)

- .1 Fabricate seamless downspouts from prefinished aluminum. Thickness to be (26-gauge) core nominal thickness.
- .2 Downspouts to be a corrugated rectangular shape sized to match existing and to suit existing rainwater leaders. Open face design for bottom 8-foot (2.4 metres) of downspout, if requested by the Consultant.
- .3 Provide purpose made end caps, outside mitre corners, inside mitre corners, outlets, elbows and metal support brackets. Material type, thickness and colour to match the eavestroughs and downspouts.
- .4 Provide purpose made galvanized metal support brackets. Bracket shall be of a size and thickness required to provide secure anchorage of the eavestrough. Sample to be reviewed by the Consultant.
- .5 Provide basket strainers for outlets.
- .6 If the kick-out spills onto an adjacent roof area, place two (2) 24" x 24" (600 mm x 600 mm) high-density patio stones, set on 1½-inch (38 mm) extruded polystyrene insulation, beneath. If the kick-out spills onto the ground surrounding the building, place one (1) 24" x 24" (600 mm x 600 mm) high-density patio stone beneath.

3.6 Sheet Metal Underlayment (If Required)

- .1 Install self-adhesive bituminous membrane as per the Detail Drawings, according to Manufacturer's instructions.
- .2 Provide membrane underlayment beneath sheet metal flashings at all locations, except where membrane flashings are present.
- .3 Ensure all surface areas are free from frost, dust, grease, oil, loose or spalled material.

- .4 Apply primer as per Manufacturer's printed instructions. Allow the primer to dry and install underlayment membrane on the same day as priming.
- .5 Proceed only when weather is favourable. Should installation be undertaken at temperature below +4°C (40°F), consult manufacturer regarding special procedures.
- .6 Maintain the recommended minimum sidelap and endlap as per the manufacturer's printed instructions.
- .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.
- .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.
- .9 Do not cover the membrane underlayment until it is reviewed and approved by the Consultant.

3.7 Reglet (If Required)

- .1 Saw-cut new or clean out existing masonry reglet with diamond-bladed saw to a depth of 1½-inch (38 mm) and a width of ½-inch (13 mm) in accordance with Details.
- .2 Reglet is to be continuous, true and level, a minimum of 12-inches (300 mm) above the finished roof surface.
- .3 Fasten sheet metal in the reglet joint with nail-in fasteners sized to allow the installation of a continuous uninterrupted bead of sealant.

3.8 Termination Bar

- .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.
- .2 Install the termination bar ⅛-inches (8 mm) below the top edge of the base flashing membrane and mechanically secure to the masonry wall using 1½-inch (38 mm) 'Tapcon' fasteners, or Zamac Nail-ins at minimum 8-inches (200 mm) o.c.
- .3 Seal the top of the termination bar with rubberized mastic or polyurethane based sealant.

3.9 Sheet Metal Installation

- .1 Install all flashings to base, wall, cap, etc., and other sheet metal work in accordance with applicable CRCA 'FL' series specifications and as specified and drawn.
- .2 Provide continuous starter strips where indicated or required to present a true, non-waving, leading edge. Fasten starter strips to substrate at a minimum of 12-inches (300 mm) o.c., in a Z- pattern using roofing nails of at least 1-inch (25 mm) in length.
- .3 Install cross-brakes in the vertical surface of flat stock metal counterflashing pieces that have a dimension greater than 12-inches (300 mm) in height.
- .4 Form teepee breaks in the vertical surface of exterior cap metal counterflashing pieces that have a dimension of 5 ½" (138 mm) or greater.
- .5 Use concealed fastenings except where approved before installation.
- .6 Exposed fasters are to be installed along the drip edge of metal copings at perimeters, 24-inches (610 mm) O.C. Use colour match hex-head fasteners with grommets. Do not use exposed fasteners on horizontal surfaces.
- .7 Ensure fasteners are located a minimum of 6-inches (150 mm) above the surface of the roofing membrane, unless otherwise indicated on Drawings.
- .8 Counter-flashing bituminous/waterproof membrane flashings 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 miters.
- .9 End joints where adjacent lengths of metal flashing meet shall be made using an "S-lock" joint. This shall be executed by inserting the end of one length in a 1-inch (25 mm) deep "S" lock formed in the end of the adjacent length. Provide a full bead of sealant within the "S-lock" joint. Concealed portion of the "S" lock shall extend 1-inch (25 mm) outwards and shall be nailed to substrate. Face nailing of joints will not be permitted.
- .10 Provide fully caulked standing seams at all cap flashing joints 8-inches (200 mm) or wider.
- .11 Install flashings to profiles indicated on Details and accurate to size, 8-foot (2440 mm) maximum lengths. For corners, each piece extending out from the corner can be a maximum of 4-feet (1220) long.
- .12 Hem all exposed edges ½-inches (13 mm) to form a drip edge.
- .13 Allow for expansion and contraction in all metal fabrications.

- .14 Turn top edge of flashing into recessed reglet or mortar joint a minimum of 1-inch (25 mm) and return the metal back a minimum of ½-inch (13 mm) to form a V-shape. Fasten the metal flashing into the reglet joint with zamac nail-in pins (minimum 4 per 8-foot length). Insert top edge of sheet metal flashing under cap flashing to form weathertight junction, where applicable. Run a bead of sealant along the leading edge with a minimum ½-inch (13 mm) bite, and tool to a concave profile.
- .15 Insert metal flashing under cap flashing and behind other claddings a minimum of 1½-inches (38 mm) to form weathertight junction.
- .16 Securely fasten metal to masonry, concrete, or stucco using 7/8" x 3/16" (22 mm x 5 mm) diameter zamac nail-in pins. Fully caulk metal/grout interfaces.
- .17 All outside perimeter cap flashings are to completely cover all fascia.
- .18 All sheet metal flashings at vertical surfaces are to be installed with metal flashings terminated 1-inch (25 mm) above the finished roof surface.

3.10 Perimeter Scuppers (If Required)

- .1 Install new copper scuppers at existing and/or new scupper locations. Set pre-primed flange in a full bed of rubberized mastic.
- .2 Clad the exposed profile of the scupper with pre-painted sheet metal to match the perimeter sheet metal counterflashing.
- .3 Install scuppers in general accordance with CRCA standard flashing detail FL. 9.
- .4 Secure new downpipe with kick-out, to throat, with two (2) metal screws. Install metal screen over the top side of the throat to prevent leaves from entering the downpipe.
- .5 Secure down spout to wall with "U" clamps at 1220 mm (4 ft.) on centre; minimum 3 clamps per down spout section.
- .6 If the kick-out spills onto an adjacent roof area, place two (2) 610 mm x 610 mm (24" x 24") high-density patio stones, set on 38 mm (1-1/2") extruded polystyrene insulation, beneath. If the kick-out spills onto the ground surrounding the building, place one (1) 610 mm x 610 mm (24" x 24") high-density patio stone beneath.

3.11 Metal Drip Edge Installation and Flashing (If Required)

- .1 Install new pre-painted galvanized sheet metal drip edge along eaves at area of work.
- .2 Metal is to extend onto perimeter wood substrate 2-inches (50 mm) minimum. Fasten metal to wood substrate with roofing nails installed every 6-inches (150

mm) o.c., along edge. Nails are to be set in 1-inch (25 mm) and parallel from edge of metal.

- .3 Metal drip flashings to be fabricated up to 10-foot (3000 mm) lengths and overlapped at joints 3-inches (75 mm) minimum. Apply sealant within joints prior to securement.

3.12 Fascia & Eavestrough (If Required)

- .1 Fascia: New pre-painted aluminum fascia to cover all wood fascia. Colour to match eavestrough.
- .2 Eavestrough: Install new bracketed 5-inch (125 mm) pre-painted seamless aluminum, K-style eavestrough at areas of roof replacement upon completion of the roof installation. Achieve positive slope to the downpipes with no dead spots.
- .3 Clean all eavestroughs and seal joints with caulking upon completion of installation.

3.13 Copper Sleeve Flashing (If Required)

- .1 Apply isolation coating on surface of penetration.
- .2 Install copper sleeve flashing around penetrations.
- .3 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.
- .4 Wipe and wash clean all traces of acid from the flux immediately after the joints are made.
- .5 Install split storm collar in strict accordance with manufacturer's recommendations. Apply silicone sealant, as specified in Section 07 92 10, at joint between storm collar and gas line penetration.

End of Section

Part 1 – General

1.1 General

- .1 **All roof accessories are based on Platinum Roofing Products Inc. PLUS Product line. Contact: Jim Formenton at 416-845-9668, email – jim@platinumroofingproducts.com.**
- .2 All conditions of the contract and Division 1 General Requirements apply to this section.
- .3 All work shall meet the requirements of the 2012 Ontario Building Code and the Canadian Roofing Contractors Association (CRCA) including all amendments up to project date.
- .4 Install all roofing accessories in accordance with drawings, accepted practices, membrane manufacturer's recommendations or other authorities of jurisdiction, whichever is more stringent.
- .5 Control flow weirs to be installed on roof drains if required by the building code, authorities of jurisdiction (national, provincial, regional, municipal, township, etc.) or other governing bodies. Verify with authorities if 3-inch (75 mm) drains require control flow weirs.
- .6 Mechanical and Structural Engineer to verify if plumbing lines and structure is designed for hydraulic loading on plumbing lines and dead load on structure due to ponding, respectively.

1.2 Related Work

- | | |
|--|------------------|
| .1 Rough Carpentry | Section 06 10 10 |
| .2 Scope of Work | Section 01 73 03 |
| .3 Waterproofing: Membrane & Flashings | Section 07 53 23 |
| .4 Sealants | Section 07 92 10 |

1.3 Submittals

- .1 If requested by the Consultant, submit Technical Data Sheets for each product in accordance with Section 01 00 00 – General Requirements.
- .2 Samples shall meet specification requirements.

1.4 Protection

- .1 Protect the work of this section from damage. Damaged work which cannot be satisfactorily repaired, restored or cleaned, shall be replaced at no cost to the Owner.

1.5 Delivery and Storage

- .1 Deliver and store materials to manufacturer's instructions.
- .2 Store materials under cover on elevated platforms, protected from weather and construction activities.
- .3 Remove and replaced damaged material.

Part 2 – Products

2.1 Roof Accessories

- .1 All roof accessories are based on Platinum Roofing Products Inc. **PLUS Product line.** Contact: Jim Formenton at 416-845-9668, email – jim@platinumroofingproducts.com.
- .2 Roof drains must be **Platinum PLUS STAINLESS STEEL** drains, no substitutions.
- .3 Membrane manufacturer and/or warranty provider approved accessories are an approved substitute if required for issuance of a warranty or as approved by the Consultant.

2.2 Soil Stack Flashings

- .1 Spun aluminum [insulated] [non-insulated] plumbing vents with removable aluminum cap and 6-inch (150 mm) wide bituminous coated flange.
- .2 Insulated and fabricated from seamless heavy grade aluminum. Height without cap is approximately 12½-inches (313 mm). Stack opening is 4.88-inches (124 mm) with telescoping cap or tapered vandal-proof cap, either 3-inch (75 mm) or 4-inch (100 mm) opening. Approved Product: **Platinum PLUS line as supplied by Platinum Roofing Products Inc.**
- .3 Non-insulated and fabricated from seamless heavy grade aluminum. Height without cap is approximately 12½-inches (313 mm). Stack opening is 4.88-inches (124 mm) with telescoping cap or tapered vandal-proof cap, either 3-inch (75 mm) or 4-inch (100 mm) opening. Approved Product: **Platinum PLUS line as supplied by Platinum Roofing Products Inc.**
- .4 Non-insulated and fabricated from seamless heavy grade aluminum. Height without cap is approximately 12½-inches (313 mm). Stack opening is 5.75-inch” (146 mm) with telescoping cap or tapered vandal-proof cap, either 3-inch (75 mm) or 4-inch (100 mm) opening. Approved Product: **Platinum PLUS line as supplied by Platinum Roofing Products Inc.**

2.3 Pitch Pan

- .1 16 oz. (0.56 mm) thick copper or galvanized, shop fabricated open-box type with fully soldered corners meeting to ASTM B32-76, 1 ½-inch (38 mm) larger on both side of projection and a minimum 4-inches (100 mm) in height. Approved Product: **Platinum PLUS** line as supplied by Platinum Roofing Products Inc.

2.4 Pitch Pan Fillers

- .1 **Approved Products:** MS Detail by IKO Industries Ltd.; Alsan Flashing, Pitch Pan Filler, Sopramastic PF, Sopramastic Alu or Mammouth Sopramastic by Soprema Inc.; TremSEAL Pitch Pocket Sealer, Polyroof LV or Polyroof SF by Tremco Inc.; Millennium Hurricane Force Universal Sealer Extreme by Royal Adhesives & Sealants; 1-Part Pourable Roofing Sealant by Chem Link; AquaBarrier Mastic by IKO Industries Ltd, or approved substitution.

2.5 Tall Cones

- .1 Fabricated from a seamless heavy duty [0.6" (15mm)] [0.8" (20mm)] aluminum depending on pipe size opening. Flange diameter varies from 10-inches to 25.2-inches (254-643 mm) depending on opening size. Opening in tall cone [1.5" (37mm)] [2" (52mm)] [3" (76mm)] [4" (102mm)] [5" (121mm)] [6" (152mm)] [7" (178mm)] [8" (203mm)] [9" (229mm)] [10" (254mm)] [12" (305mm)]. Height of tall cone varies dependent on opening size from 8-inches (200mm) to 12.5" (320 mm). Used for B-Vent stacks (Hot stacks) and other mechanical pipe penetrations in conjunction with a Storm or Rain Collar. Approved Product: **Platinum PLUS** line as supplied by Platinum Roofing Products Inc.

2.6 Storm Collar

- .1 Fabricated from heavy duty 1.8 mm thick aluminum. Adjustable with 2 galvanized steel M6 x 65 or M6 x 130 bolts with nuts. Riveted adjustment bracket (0.8 mm aluminum) to allow for a 360-degree seal. Size is [2" (52mm)] [3" (76mm)] [4" (102mm)] [5" (121mm)] [6" (152mm)] [7" (178mm)] [8" (203mm)] [10" (254mm)] [12" (305mm)]. Adjustable to 1" (25mm) over pipe diameter. Approved Product: **Platinum PLUS** line as supplied by Platinum Roofing Products Inc.

2.7 Rain Collar

- .1 Economical rain collar made from 25- or 26-gauge galvanized metal. Adjustable with 1 galvanized steel M6 x 45 bolt with nut. Overlapping inner plate of 2" (52mm) allows for adjustment of 1" (25mm) over pipe size. Size is [2" (52mm)] [3" (76mm)] [4" (102mm)] [5" (121mm)] [6" (152mm)] [7" (178mm)] [8" (203mm)] [9" (229mm)] [10" (254mm)] [12" (305mm)]. Design suited for sealant application at pipe / collar junction. Approved Product: **Platinum PLUS** line as supplied by Platinum Roofing Products Inc.

2.8 Mechanical / Electrical Accessories

- .1 **Electrical Flashing:** Fabricated from seamless heavy grade aluminum, insulated. Removable weather resistant, durable, electrical insulator, ABS plastic head with 4 knockouts. Height is approximately 18-inches (450 mm). Approved Product: Approved Product: **Platinum PLUS** line as supplied by **Platinum Roofing Products Inc.**
- .2 **Electrical Flashing:** Fabricated with a seamless heavy-duty grade aluminum base. Un-insulated. Stainless steel gooseneck for a single wire feed. Height is approximately 20-inches (500 mm). Approved Product: **Platinum PLUS** line as supplied by **Platinum Roofing Products Inc.**
- .3 **Multiple Electrical Flashing:** Fabricated with a seamless heavy-duty grade aluminum base approximately 6-inches (150 mm) high and 14-inches (350 mm) in diameter, with a double groove. Un-insulated. EPDM/TVP Boot top with 4 variable diameter cut outs. Height is approximately 9-inches (225 mm). Approved Product: **Platinum PLUS** line as supplied by **Platinum Roofing Products Inc.**

2.9 Roof Drains

- .1 **Stainless Steel Drains and Drain Inserts by Platinum Roofing Products Inc.**

2.10 Drain Accessories

- .1 **Control Flow Weir:** Fabricated from 1.8 mm heavy duty spun aluminum. Drainage slots placed on two sides. Top opening will activate when head of water rises above 4-inches (100 mm). Universal fit for all Platinum roof drains. Approved Supplier: **Platinum PLUS Roofing Products Inc.**
- .2 **Drain Seal:** Manufactured with durable compressible rubber seals, stainless-steel tightening screws, an adjustable nylon casing. Available in sizes of 3" (75 mm), 4" (100 mm), 5" (125 mm), and 6" (150mm). Fits all retrofit roof drains. Approved Supplier: **Platinum PLUS Roofing Products Inc.**
- .3 **Ballast Guard:** Perforated 0.25" (6 mm) holes representing 28% of surface area. Premium 304 Grade stainless steel screen with folded edges. Unique "Clip-Secure" design with three (3) integral clips for flexible size adjustment. Fits roof dome sizes from 10.5" (267 mm) to 12.5" (318 mm) for use in Protected Roof Membrane Assemblies (PRMA). Approved Supplier: **Platinum PLUS Roofing Products Inc.**
- .4 **Drain Dome Marker:** 5/16" (8 mm) thick orange-coloured 48' (1219 mm) fiberglass flexible pole with a cast aluminum bracket. Approved Product: Drain Dome Marker.

2.11 Mastic at Accessories

- .1 **Rubberized Mastic:** Asphalt cutback mastic reinforced with non-asbestos fibers, containing synthetic rubbers, used as a base for setting metal flanges and conforming to ASTM D4586 Type 1 requirements. Approved Products: Mammouth Sopramastic by Soprema; Polyroof LV or SF by Tremco, or approved substitution.
- .2 As supplied by the roof system manufacturer and/or warranty provider.

2.12 Patio Stones & Insulation

- .1 **Patio Stones:** High-density concrete, 24" x 24" x 1½-inch (600 mm x 600 mm x 38 mm) or 12" x 12" x 1½-inch (300 mm x 300 mm x 38 mm).
- .2 **Patio Stone Insulation:** Rigid, closed-cell, CFC free Type IV extruded polystyrene insulation with integral high-density skin, ship-lapped edges on four sides, 5-year aged thermal value minimum R5.0 per inch in accordance with CAN-ULC 701. Compressive strength minimum 240kpa (35psi) in accordance with ASTM D1621-73. Maximum water absorption to be less than 0.7% by volume when tested in accordance with ASTM D2842-90. Insulation must be ULC approved. Board thickness to be a minimum of 1½-inch (38 mm). Approved Product: Roofmate by Dow Chemical Company, or Foamular 350 as manufactured by Owens Corning-Celcor, or approved substitution.

2.13 Monolithic Membrane Sealant

- .1 A solvent-free high-build, liquid-applied waterproofing coating that once cured, the **coating** becomes a tough, monolithic waterproof membrane. Approved Products: MS Detail by IKO Industries Ltd.; ALSAN FLASHING by Soprema Inc., or approved substitution.
- .2 As supplied by the roof system manufacturer and/or warranty provider.

2.14 Monolithic Membrane Reinforcement

- .1 As supplied by roof system manufacturer, manufacturer and/or warranty provider.

2.15 Aluminum Paint

- .1 **Paint products:** Asphalt based, fibrated aluminum roof coating formulated with a blend of rust inhibiting oils, aluminum flakes, asbestos free, and complies with ASTM Standard D-2824 and CAN/CGSB-37.42. Approved Products: One-Coat Aluminum by Tremco Inc., or approved substitution.

2.16 Gas Line Supports

- .1 Strong heavy-duty with adjustable height of 4-12-inches (102-610 mm) and head sizes of 2.5-6.5-inches (64-165 mm).

- .2 Fabricated from recycled Modified Polypropylene plastic with a 10" x 10" (250 x 250 mm) base fitted with 1-inch (25 mm) XPS insulation. Approved Product: Smart Bloxx, or approved substitution.

2.17 Gas Line Accessories

- .1 **Gas Line Marker:** 5/16-inch (8 mm) thick yellow-coloured 48' (1219 mm) fiberglass flexible pole with a cast aluminum bracket. Approved Product: Gas Line Marker.
- .2 **Paint:** Rust inhibiting paint, colour to conform to gas line identification requirements. Approved products: TremClad Yellow by Tremco or Corrostop Paint by SICO.

Part 3 – Execution

3.1 General

- .1 Execute the work in strict accordance with the roofing membrane manufacturer's instructions and reviewed shop drawings, if applicable.
- .2 The roofing contractor is to coordinate the installation of the roofing accessories with the roofing installation.

3.2 Examination

- .1 Verify dimensions and locations of all roof top accessories.
- .2 Examine areas and conditions under which the work is to be performed and notify the Owner's representative in writing of conditions detrimental to the proper and timely completion of the Work.
- .3 Commencement of the installation will be construed as acceptance of the site conditions and thereafter, the Contractor shall be fully responsible for satisfactory work as specified herein.

3.3 Installation

- .1 Install the roofing accessories in accordance with the roofing materials printed instructions and/or recommendations.
- .2 Install the roofing accessories in accordance with the manufacturer's and/or warranty provider's printed instructions and/or recommendations.
- .3 Coordinate with the other mechanical trades and install progressively with the roof installation.
- .4 Install level, plumb and in true alignment and fasten securely in place, where required.

3.4 Gas Line Supports

- .1 Piping shall be installed with individual supports of sufficient strength and quality. Supports shall be spaced in accordance with CSA B149.1, Table 6.2.
- .2 Wire brush and paint gas lines with two coats of safety yellow paint. Protect roof membrane from paint splatter.

3.5 Drain/ Gas Line Markers

- .1 Install as per manufacturer's printed instructions or recommendations.

End of Section

Part 1 – General

1.1 General

- .1 All conditions of the contract and Division 1 General Requirements apply to this section.
- .2 All work shall meet the requirements of the 2012 Ontario Building Code, including all amendments up to project date.
- .3 Execute work to the highest standards of workmanship in the industry, by fully trained applicators in strict accordance with the written application instructions from the manufacturer.

1.2 Related Work

- | | |
|--|------------------|
| .1 Rough Carpentry | Section 06 10 10 |
| .2 Waterproofing: Membrane & Flashings | Section 07 53 23 |
| .3 Sheet Metal Flashing & Trim | Section 07 62 00 |

1.3 Samples

- .1 Submit duplicate samples of each type of material and colour to be used in accordance with Section 01 00 00 – General Requirements.

1.4 Environmental Conditions

- .1 Ensure all surfaces to receive primer or sealant are clean and dry.
- .2 Do not apply sealants when either sealant and/or substrate temperature is less than -5°C (+23°F). Perform sealant work in accordance with sealant Manufacturer's printed recommendations.

1.5 Protection

- .1 Protect surrounding areas and surfaces from damage during work of this section.
- .2 Prevent precipitation and debris from entering openings during work

1.6 Delivery & Storage

- .1 Deliver and store materials to manufacturer's instructions.
- .2 Store materials under cover on elevated platforms, protected from weather and construction activities at a location(s) approved by the Owner and Consultant.
- .3 Protect materials from freezing. Materials suspected of having been subjected to freezing are not to be used unless the Manufacturer verifies in writing the material has not been damaged.

- .4 Deliver and store materials in original packages with labels intact.
- .5 Remove and replace damaged, wet or broken materials.
- .6 Store materials away from open flame or ignition sources.
- .7 Do not transport any materials through the building.

Part 2 – Products

2.1 Materials

- .1 **Compatibility:** All materials in a sealant system shall be compatible with each other and with the substrate.
- .2 **Primers:** Type recommended by sealant Manufacturer to assure adhesion of compound and to prevent staining of substrate materials.
- .3 **Joint filler:**
 - .1 **General:** Compatible with primers and sealants. Circular shape with diameter 25 percent greater than joint width before installation.
 - .2 **Polyethylene, urethane, neoprene or vinyl:** Extruded closed cell foam, Shore A hardness 20, tensile strength 140 to 200 kpa as recommended by sealant manufacturer.
- .4 **Bond Breaker:** Pressure sensitive plastic tape which will not bond to sealants, as supplied or recommended by the sealant manufacturer.
- .5 **Void Filler:** Non-combustible loose fibrous insulation (Rockwool).
- .6 **Sealants:**
 - .1 Sealants for vertical and horizontal non-traffic bearing joints, to Table 1, CGSB 19-GP-23, "Guide for Selection of Sealants on a Use Basis":
 - .1 Low temperature range, wet conditions, movement range to 25%: CAN2-19.13-M82, "Sealing Compound, One Component, Elastomeric, Chemical Curing".
 - .2 Colour or colours of sealants shall be selected to match the substrate and shall be approved by the Consultant.
 - .3 Approved Products: Tremco Dymonic 100 or FC, or approved substitution.
 - .7 **Joint Cleaner:** methylethylketone (MEK) or non-corrosive type recommended by sealant Manufacturer and compatible with joint forming materials.

Part 3 – Execution

3.1 Examination

- .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.
- .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 Defective work resulting from application to unsatisfactory joint conditions will be considered the responsibility of those performing the work of this Section.

3.2 Removal and Preparation

- .1 Remove existing sealant and backing material by cutting, brushing, scrubbing, scraping, and/or grinding. Use method of surface preparation suitable for substrate as recommended by sealant manufacturer and which does not damage the adjacent surfaces.
- .2 Rake out joints, cracks and crevices to receive sealant to a depth required by the sealants manufacturer.
- .3 Remove dust, paint, loose mortar and other foreign matter. Dry joint surfaces.
- .4 Remove rust, oxidation, mill scale and coatings from ferrous metals by wire brush or grinding.
- .5 Remove oil, grease and other coatings from non-ferrous metals with joint cleaner.
- .6 Examine joint sizes and correct to achieve width to depth ratios required by the sealants manufacturer.
- .7 Install joint filler to achieve correct joint depth.
- .8 Clean surfaces to be caulked with clean cellulose sponges or rags soaked in solvent recommended by the sealant manufacturer and wipe dry with clean cloth. Ensure that the solvent does not damage the painted surfaces.
- .9 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .10 Apply bond breaker tape where required to Manufacturer's printed instructions.

- .11 Prime sides of joints in accordance with sealant Manufacturer's printed instructions, immediately prior to installing the sealants.

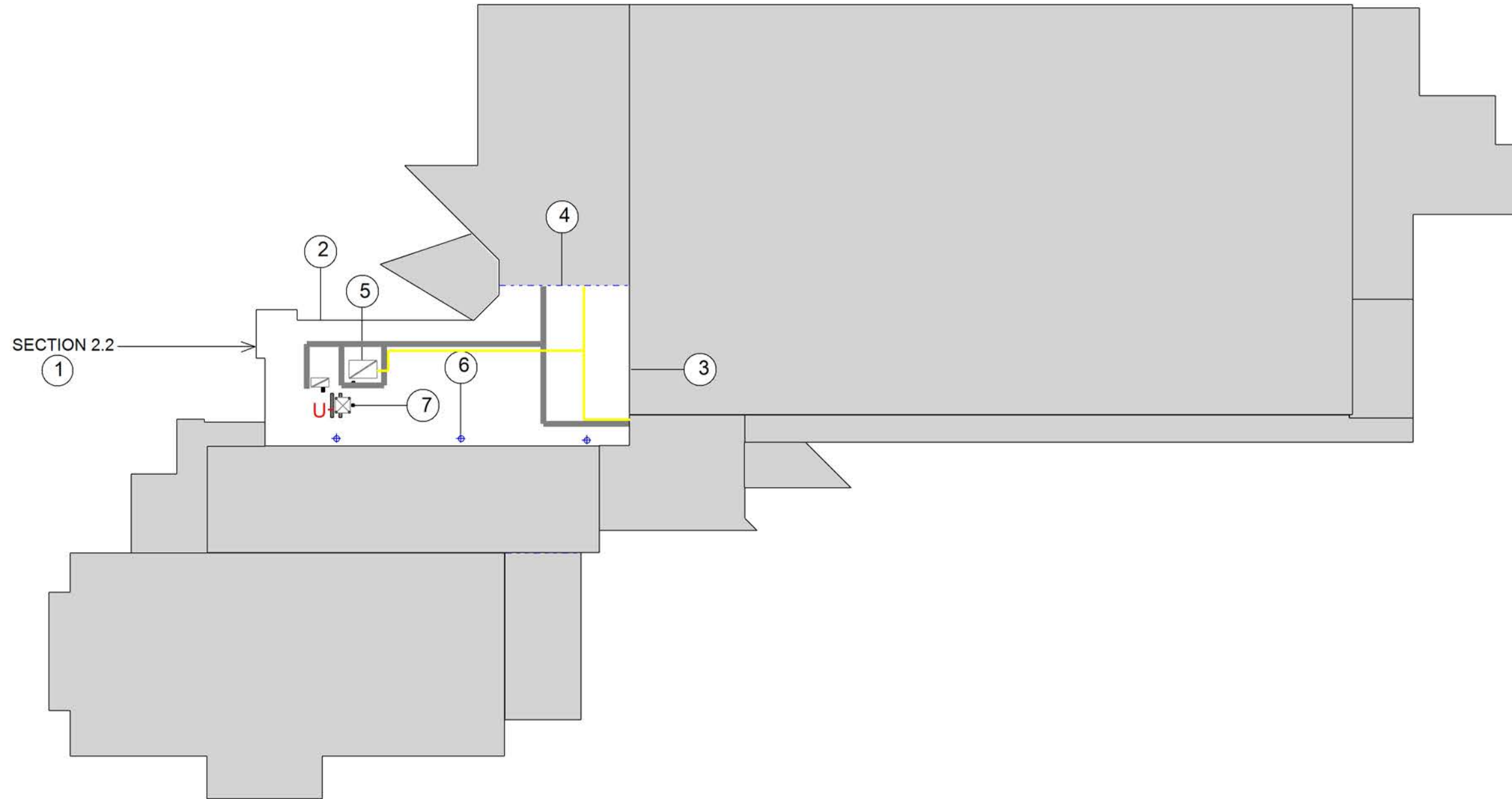
3.3 Application

- .1 Prime surfaces to receive sealants as required by sealant manufacturer's recommendations to provide a positive and permanent adhesion and to prevent staining. Prime surfaces prior to installing backing material or bond breaking tape. Apply primers per manufacturer's directions and test substrates for adhesion.
- .2 Install backing material in all joints prior to applying sealants. Diameter of the backing material shall be 25 percent more than the width of the joint.
- .3 Install backing material to provide a caulked joint meeting the depth requirements as set out in the sealant manufacturer's specifications.
- .4 Maintain minimum width to depth ratio for sealant per the sealant manufacturer's requirements.
- .5 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.
- .6 Mask with masking tape all surfaces adjacent to joints which are likely to become coated with sealant during sealant application.
- .7 Apply sealant with a minimum ½-inch (13 mm) bite on each surface or in compliance with manufacturer's recommendations.
- .8 Apply sealant using gun dispenser with proper size nozzle for joint to be sealed to leave a weathertight, airtight installation.
- .9 Fill joints completely to required depths with sealant compound. Use sufficient pressure to fill all voids and make joints solid. Sealant shall bond to both sides of the joints but not to backing material. Superficial tooling with skin bead is not acceptable.
- .10 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.
- .11 Slope sealant surface at top of surface reglet flashings to create positive water shed.
- .12 Cure sealant in accordance with the manufacturer's requirements. Do not cover up sealants until proper curing has taken place.

End of Section

ROOF PLAN

REFER TO DETAIL DRAWINGS



LEGEND

PERIMETER DETAIL

- CONTROL JOINT
- FIREWALL
- EAVE
- RIDGE
- HIP
- ▭ RIDGE VENT
- EXPANSION JOINT
- SOFFIT
- GUTTER
- VALLEY
- RAKE

ROOFTOP UNITS

- ▣ HVAC ON CURB
- ▣ ROOF HATCH
- ▣ UNIT ON SLEEPERS
- ▣ CONDENSER UNIT
- ▣ KITCHEN EXHAUST
- ▣ FAN CURB
- ▣ SKYLIGHT
- ▣ CURB
- ▣ MASONRY CHIMNEY
- ▣ AHU / EVAPORATOR
- ▣ A/C UNIT ON PAVERS
- ▣ DUCTWORK

PROJECTIONS

- PLUMBING VENT
- GALVANIZED TALL CONE
- HEAT STACK
- PITCH PAN
- ┌ GOOSE NECK PENETRATION
- ⊙ STATIC VENT

DRAINAGE

- ▯ OVERFLOW SCUPPER
- ◆ ROOF DRAIN
- ⊕ ROOF DRAIN WITH FLOW CONTROL
- ▣ SCUPPER
- ✕ DOWNSPOUT

MISCELLANEOUS

- GAS LINE
- REFRIG. LINE
- ▯ SNOW GUARD
- ▯ LADDER
- ▴ ANTENNA
- CONDUIT
- HEAT TRACE
- ▯ MODESTY SCREEN
- ♀ ROOF ANCHOR
- SATELLITE DISH

-U - INDICATES REDUNDANT INVENTORY

CLIENT TOWN OF HANOVER

ADDRESS 269 7TH AVENUE
HANOVER, ON

DWG. BY DYCON PROJECT 32224

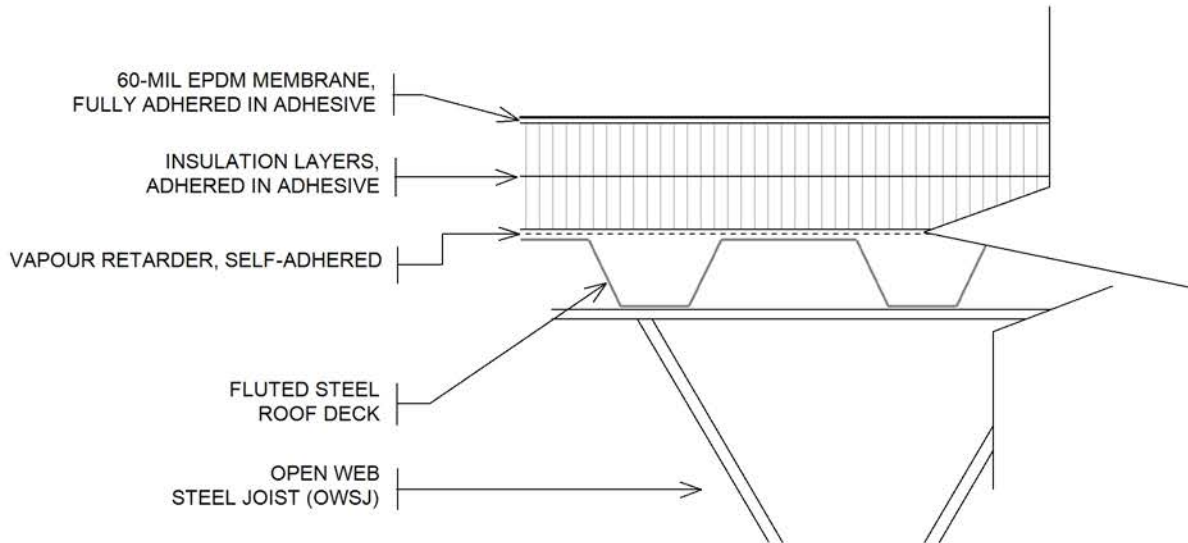
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DYCON 518 BRANT STREET
BURLINGTON, ON L7R 2G7
ROOF & BUILDING CONSULTANTS T (905) 639-4956
F (905) 639-6162

THIS DRAWING IS THE PROPERTY OF DYCON ROOF CONSULTANTS INC. AND MAY NOT BE USED WITHOUT CONSENT.

SYSTEM MATERIALS
LISTED IN ORDER TOP TO BOTTOM

- MEMBRANE - 60-MIL EPDM
- INSULATION - 2.5-INCH POLYISOCYANURATE
- INSULATION - 2.5-INCH POLYISOCYANURATE
- VAPOUR RETARDER - SBS MODIFIED BITUMEN
- DECK TYPE - FLUTED STEEL
- BASE FLASHING - 1-PLY EPDM, FULLY ADHERED IN ADHESIVE, WITH SECUREMENT STRIP



GENERAL ROOF DESIGN LAYOUT

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MAY 2026

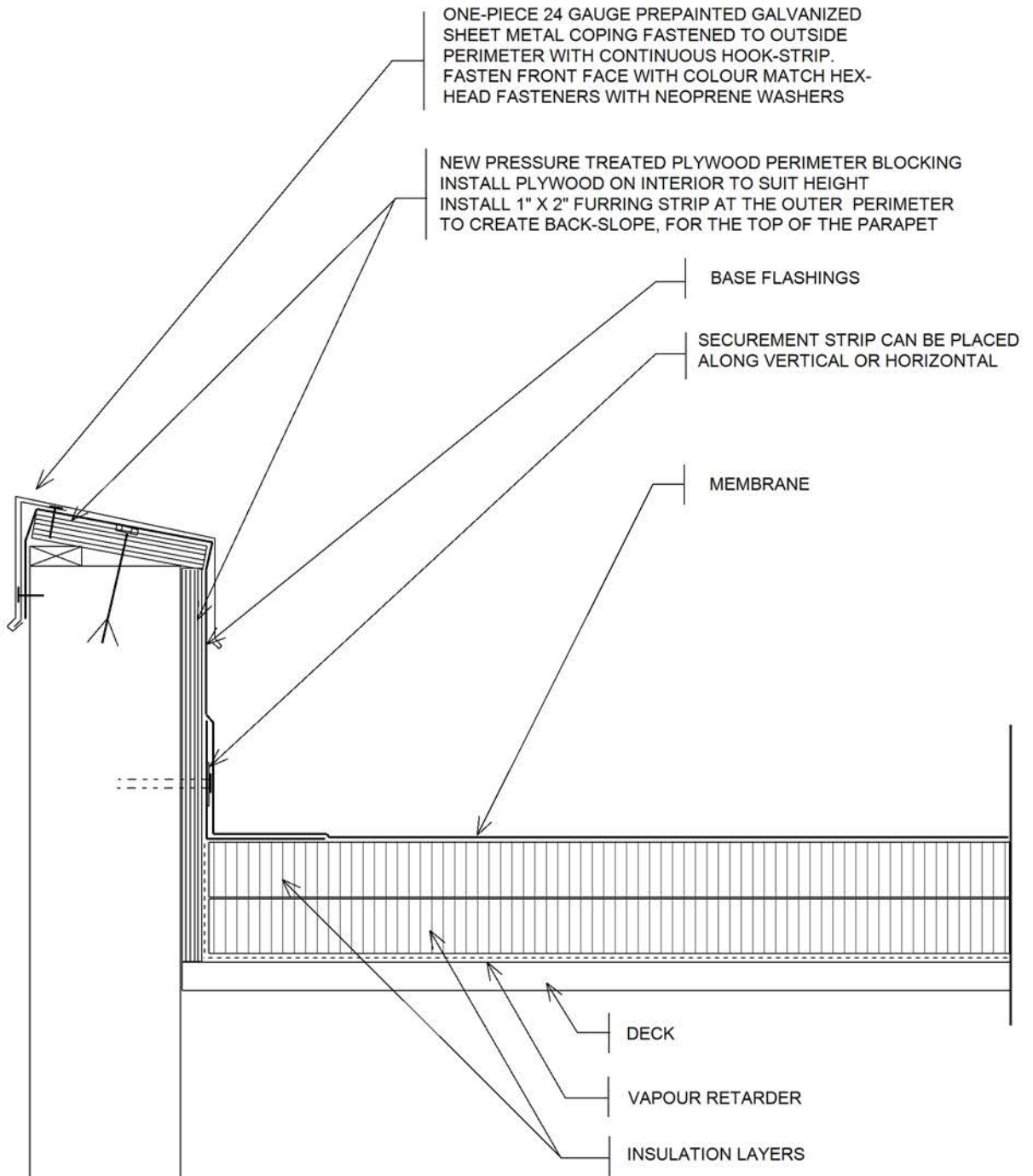
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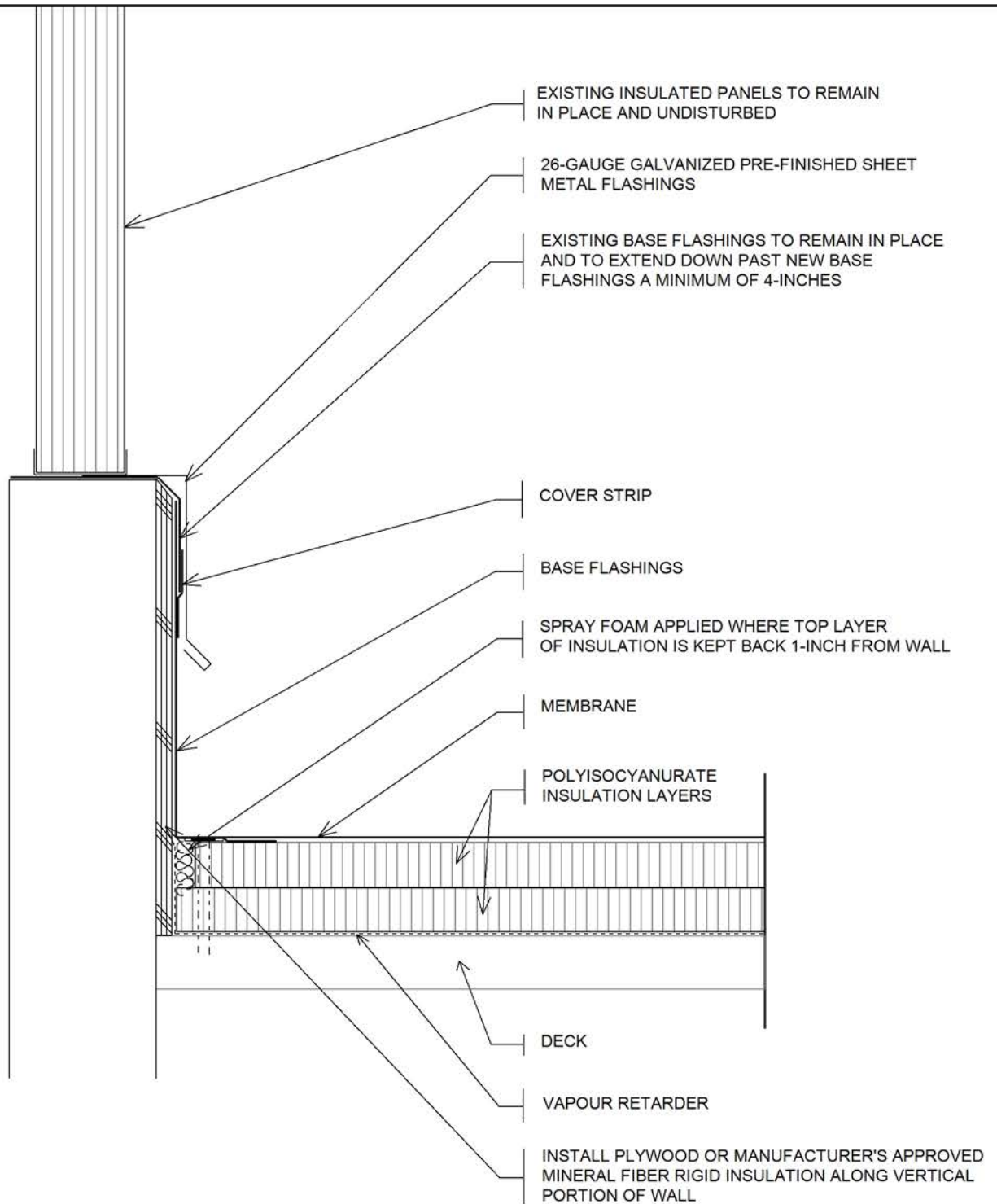
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INSULATED PANEL WALL DETAIL

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DYCON

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26-GAUGE GALVANIZED PRE-FINISHED SHEET METAL COPING, FASTENED ON BOTH SIDES WITH HEX-HEAD GROMMETTED FASTENERS SECURED 24-INCHES O.C. INSTALL STAGGERED FROM OTHER SIDE OF JOINT

WOOD BLOCKING TO REMAIN IN PLACE AND UNDISTURBED

SECUREMENT STRIP

MEMBRANE

INSULATION LAYERS

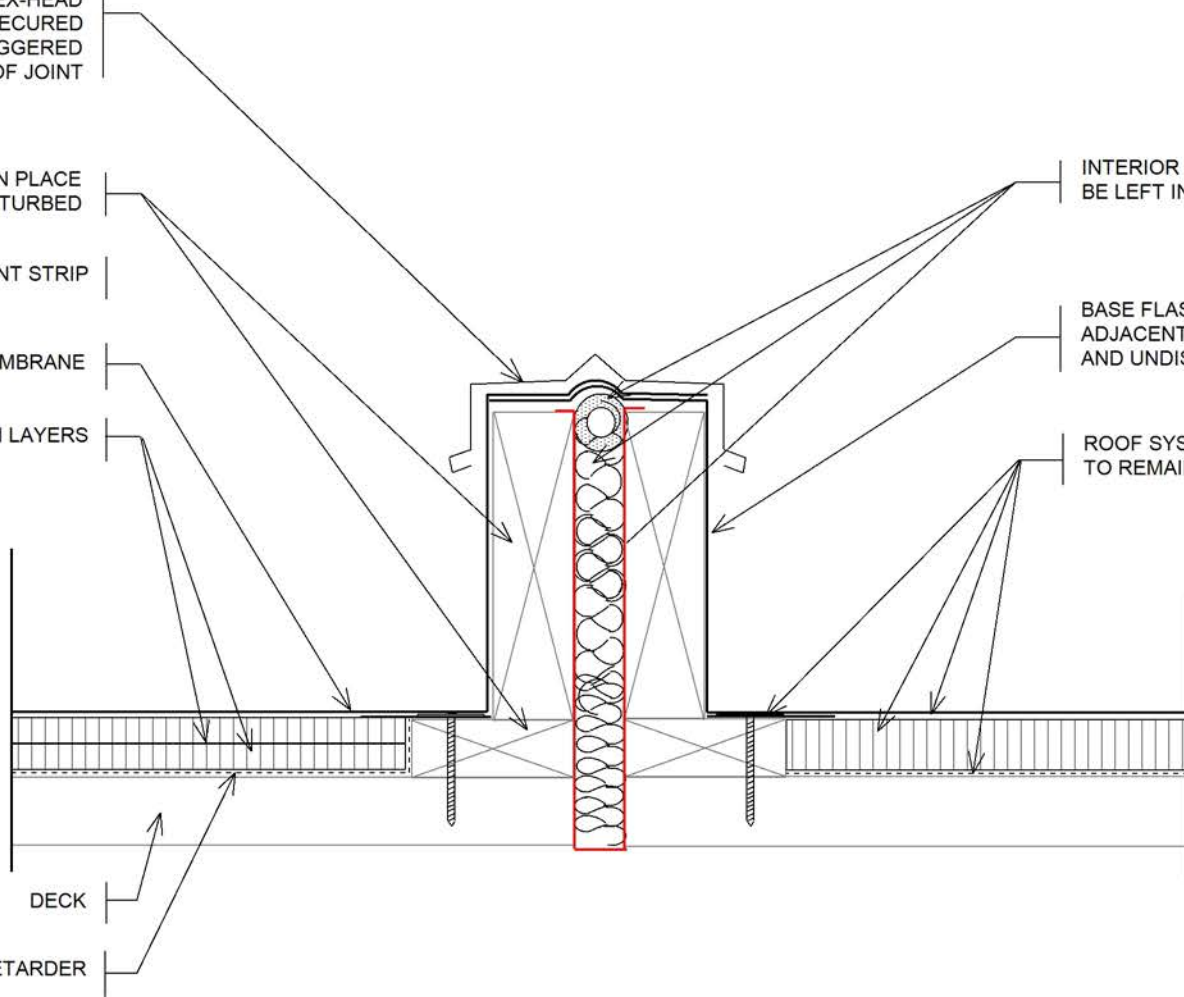
DECK

VAPOUR RETARDER

INTERIOR CONSTRUCTION OF JOINT TO BE LEFT IN PLACE AND UNDISTURBED

BASE FLASHINGS TOP OF JOINT AND ON ADJACENT SIDE TO BE LEFT IN PLACE AND UNDISTURBED

ROOF SYSTEM ON ADJACENT SECTION TO REMAIN IN PLACE AND UNDISTURBED



JOINT DETAIL

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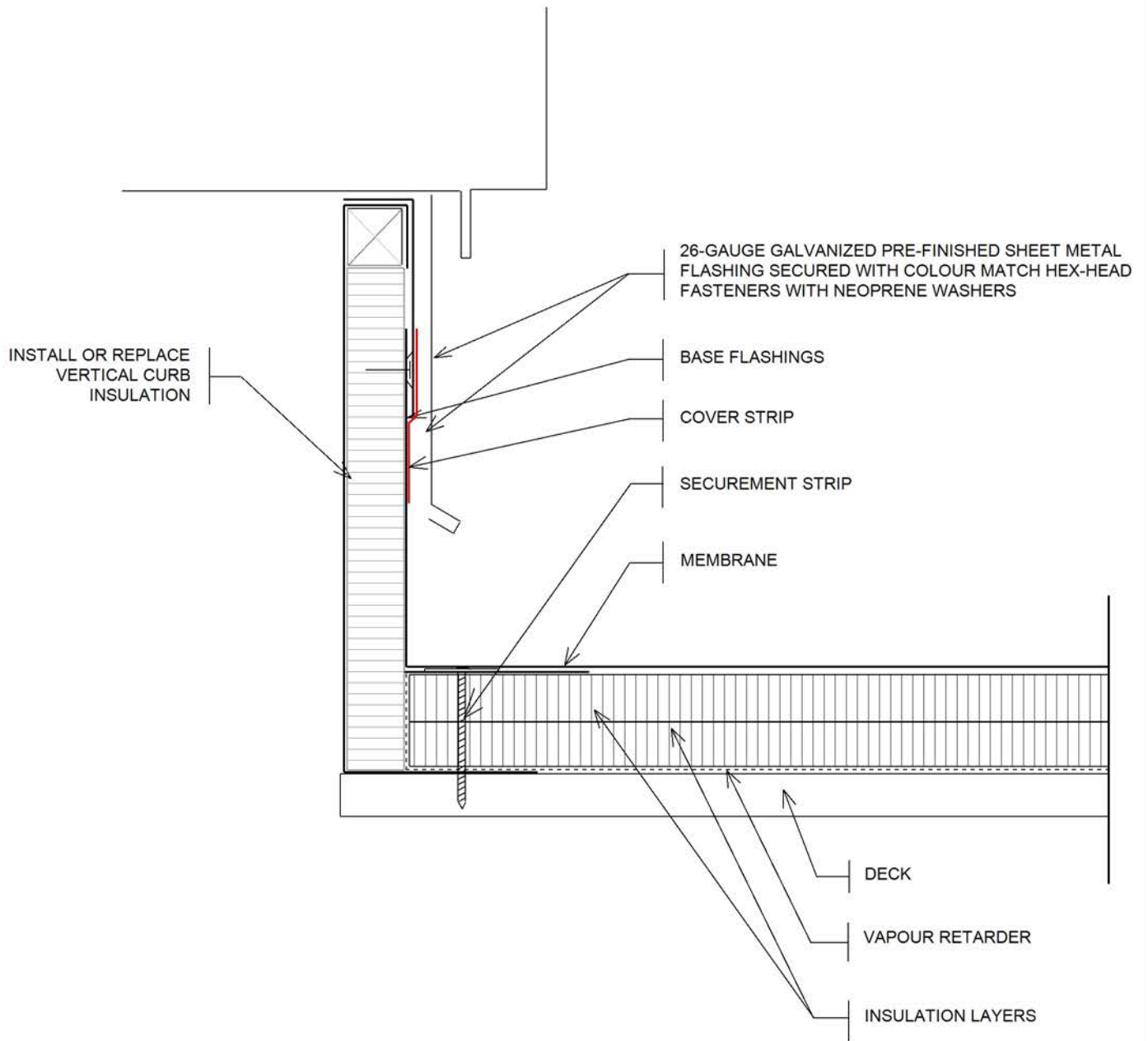
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EQUIPMENT CURB ADAPTOR DETAIL

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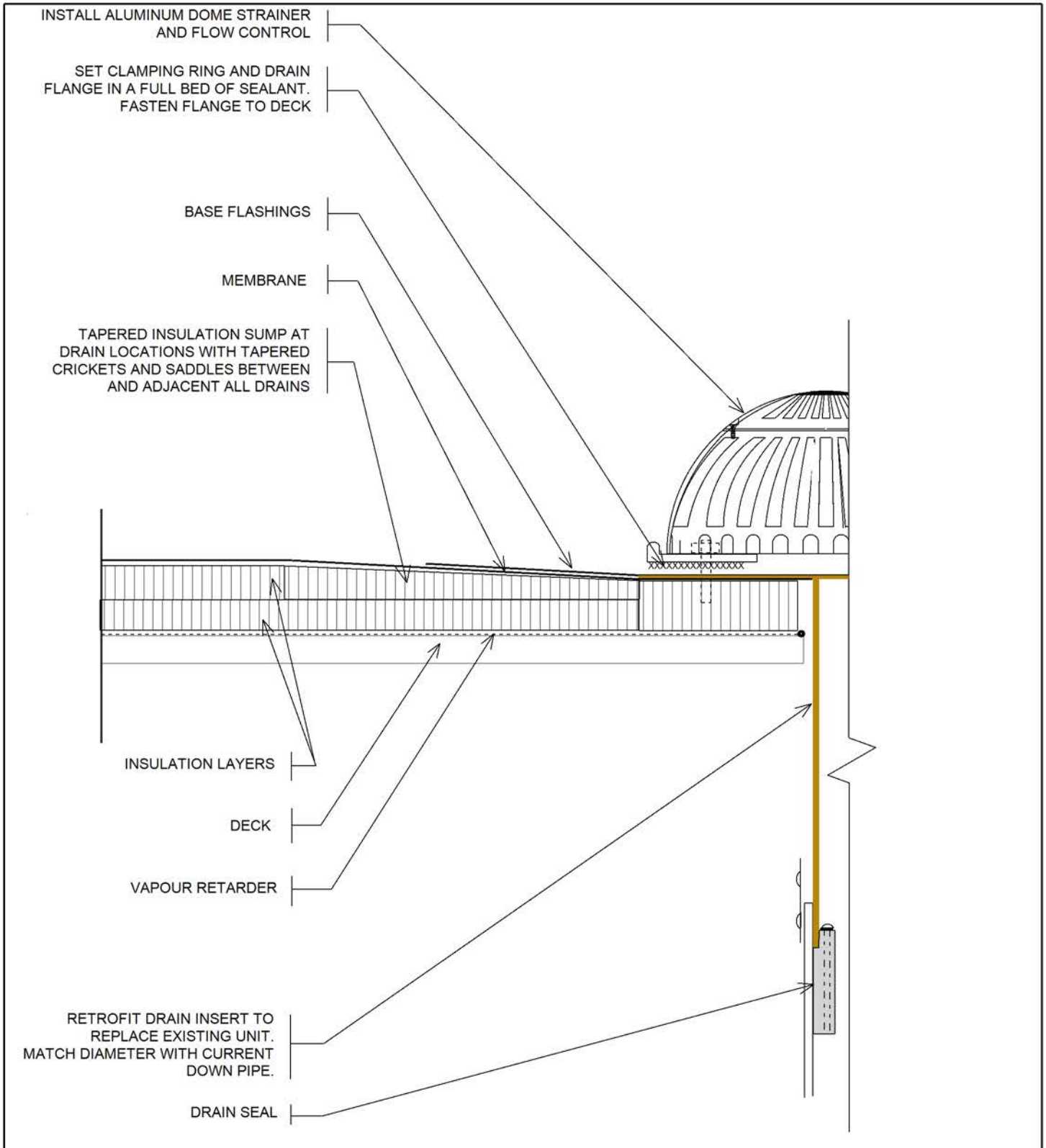
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ROOF DRAIN DETAIL

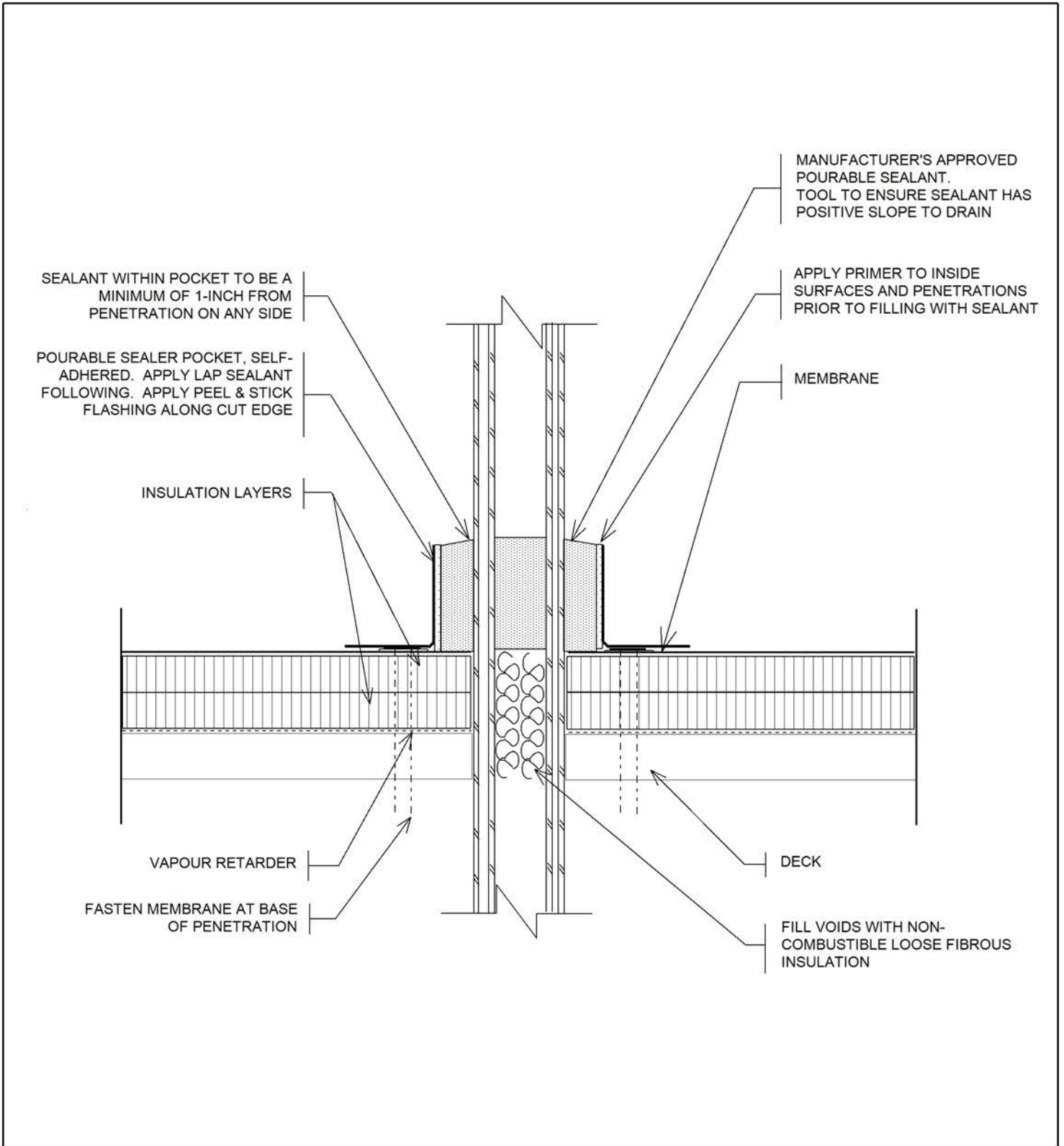
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POURABLE SEALER POCKET DETAIL

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