



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 615-2014

PROVISION OF ROOF REPLACEMENT AND REPAIR AT WINNIPEG TRANSIT

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 PROVISION OF ROOF REPLACEMENT AND REPAIR AT WINNIPEG TRANSIT

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, July 10, 2014.

B2.2 Bids determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. SITE INVESTIGATION

B3.1 Further to C3.1, a Site meeting will be held at 10:00 AM on July 3, 2014 to provide Bidders access to the Site.

B3.2 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

B5. CONFIDENTIALITY

B5.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Bidder before receipt hereof; or
- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

B6. ADDENDA

- B6.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B6.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B6.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B6.2.2 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B6.2.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B7. SUBSTITUTES

- B7.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B7.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B7.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.

- B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- B7.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B15.
- B7.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B7.10 Notwithstanding B7.2 to B7.9, and in accordance with B8.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B15.1(a).

B8. BID COMPONENTS

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;
- B8.2 Further to B8.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B7.
- B8.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B8.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B8.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg, MB R3B 1J1
- B8.5.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.
- B8.6 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B15.1(a).
- B8.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to 204 949-1178.

B8.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.

B8.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

B9. BID

B9.1 The Bidder shall complete Form A: Bid, making all required entries.

B9.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.

B9.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B9.4 Paragraph 10 of Form A: Bid shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
- (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B9.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B9.4.2 All signatures shall be original.

B9.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B10. PRICES

B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B10.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.

B10.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B11. QUALIFICATION

B11.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B11.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B11.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

B11.4 Further to B11.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractors has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (b) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (c) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>).

B11.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B11.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B12. OPENING OF BIDS AND RELEASE OF INFORMATION

B12.1 Bids will not be opened publicly.

B12.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) will be

available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>

- B12.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>
- B12.4 The Bidder is advised that any information contained in any Bid may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B13. IRREVOCABLE BID

- B13.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.
- B13.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work for the time period specified in Paragraph 9 of Form A: Bid.

B14. WITHDRAWAL OF BIDS

- B14.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B14.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- B14.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B14.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
 - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in B14.1.3(b), declare the Bid withdrawn.
- B14.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B13.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

B15. EVALUATION OF BIDS

- B15.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Bid Opportunity or acceptable deviation there from (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B11 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B7.

- B15.2 Further to B15.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.
- B15.3 Further to B15.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.
- B15.4 Further to B15.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices adjusted, if necessary, as follows:
- (a) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder is within the budgetary provision for the Work, no adjustment will be made to the Total Bid Price; or
 - (b) if the lowest evaluated responsive Bid submitted by a responsible and qualified Bidder exceeds the budgetary provision for the Work, the Total Bid Prices of all responsive Bids submitted by responsible and qualified Bidders will be adjusted by progressively deducting item(s) 4, 3 and 2 in the order listed, until a Total Bid Price within the budgetary provision is achieved.
- B15.4.1 Further to B15.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B16. AWARD OF CONTRACT

- B16.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B16.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.
- B16.2.1 Without limiting the generality of B16.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Work;
 - (b) the prices are materially in excess of the prices received for similar work in the past;
 - (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
 - (d) only one Bid is received; or
 - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- B16.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B15.
- B16.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.
- B16.4 Notwithstanding C4, the City may issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B16.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for Construction*, these Supplemental Conditions are applicable to the Work of the Contract.

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of roof replacement and repairs at Winnipeg Transit Department, 421 Osborne Street as per specifications. Work shall be performed in coordination with the Winnipeg Transit Department activities.

D2.2 The major components of the Work are as follows:

(a) Roof Replacement in Section 1:

Remove existing roof assembly to decking at an approximate 1,168 sq. ft. area and replace with a new Colvent two-ply sbs min. 2.0" Polyiso Colgrip A assembly as per Drawing A1 and Specifications.

Apply a minimum 3" wide tooled bead of Colply Adhesive Trowel Grade or Sopramastic along all completed BUR tie-ins. Replace existing pitch pan details in this area with Soprema Interclips.

Supply and install new sleeper supports for Ventilator. Supply and install new 4' by 4' rubber pad under AC-unit. At adjacent existing SBS to the southeast install new SBS torch grade membrane stripping over two mastic patches.

(b) Roof Replacement in Section 2:

Remove existing roof assembly to decking at an approximate 1,105 sq. ft. area and replace with a new Colvent two-ply sbs min. 2.0" Polyiso Colgrip A along the south side of the expansion joint as per Drawing A1 and Specifications.

Apply minimum 3" wide tooled bead of Colply Adhesive Trowel Grade or Sopramastic along all completed BUR tie-ins.

(c) Roof Replacement in Section 3:

Remove existing roof assembly to decking at an approximate 768 sq. ft. area and replace with a new Colvent two-ply sbs min. 2.0" Polyiso Colgrip A directly north of the expansion joint as per Drawing A1 and Specifications.

Apply minimum 3" wide tooled bead of Colply Adhesive Trowel Grade or Sopramastic along all completed BUR tie-ins.

(d) Roof Control Joint 4:

Install new two-ply SBS stripping on an approximate 145 lineal feet per Drawing A1 and Specifications.

Remove gravel aggregate from the BUR surface to facilitate a minimum 24" tie-in to the field area. Employ compatible primers and install new SBS self-adhesive base stripping. Cap sheet to be thermofusible grade covered in grey granules.

Apply minimum 3" wide tooled bead of Colply Adhesive Trowel Grade or Sopramastic along all completed BUR tie-ins.

(e) Steel deck replacement, if required, as per Specifications E13

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:
Adolfo Laufer, P.Eng., PMP
Facilities Maintenance Project Engineer
Telephone No. 204 986-2380
Facsimile No. 204 453-7385

D3.2 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D3.3 Bids Submissions must be submitted to the address in B8.5.

D4. CONTRACTOR'S SUPERVISOR

D4.1 At the pre-construction meeting, the Contractor shall identify his/her designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

D5.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.

D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

D5.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;

- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
- (b) the Contract, all deliverables produced or developed; and
- (c) any statement of fact or opinion regarding any aspect of the Contract.

D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

D6. NOTICES

D6.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3, D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D3.1.

D6.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:

The City of Winnipeg
Chief Financial Officer
Facsimile No.: 204 949-1174

- D6.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:

The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204 947-9155

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

- D7.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D8. SAFE WORK PLAN

- D8.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D8.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

D9. INSURANCE

- D9.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
 - (c) all risks installation floater, carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.
- D9.2 Deductibles shall be borne by the Contractor.
- D9.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than seven (7) Calendar Days from notification of the award of Contract by Purchase Order.
- D9.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D10. PERFORMANCE SECURITY

- D10.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), the Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:
- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
 - (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
 - (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.
- D10.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.
- D10.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of Purchase Order and prior to the commencement of any Work on the Site.

D11. SUBCONTRACTOR LIST

- D11.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

SCHEDULE OF WORK

D12. COMMENCEMENT

- D12.1 The Contractor shall not commence any Work until he/she is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.
- D12.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D7;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D8;
 - (iv) evidence of the insurance specified in D9;
 - (v) the performance security specified in D10; and
 - (vi) the Subcontractor list specified in D11.
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D12.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.
- D12.4 The City intends to award this Contract by July 30, 2014

D12.4.1 If the actual date of award is later than the intended date, the dates specified for Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D13. SUBSTANTIAL PERFORMANCE

D13.1 The Contractor shall achieve Substantial Performance within thirty (30) consecutive Working Days of the commencement of the Work as specified in D12.

D13.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D13.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

D14. TOTAL PERFORMANCE

D14.1 The Contractor shall achieve Total Performance within fortyfive (45) consecutive Working Days of the commencement of the Work as specified in D12.

D14.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.

D14.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D15. LIQUIDATED DAMAGES

D15.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City One Hundred dollars (\$100) per Working Day for each and every Working Day following the day fixed herein for Total Performance during which such failure continues.

D15.2 The amount specified for liquidated damages in D15.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.

D15.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

CONTROL OF WORK

D16. JOB MEETINGS

D16.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.

D16.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D17. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D17.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

D18. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

D18.1 Further to B11.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B11.4.

MEASUREMENT AND PAYMENT

D19. INVOICES

D19.1 Further to C12, the Contractor shall submit an invoice for each portion of Work performed. to:

The City of Winnipeg
Corporate Finance - Accounts Payable
4th Floor, Administration Building, 510 Main Street
Winnipeg MB R3B 1B9

Facsimile No.: 204-949-0864
Email: CityWpgAP@winnipeg.ca

D19.2 Invoices must clearly indicate, as a minimum:

- (a) the City's purchase order number;
- (b) date of delivery;
- (c) delivery address;
- (d) type and quantity of work performed;
- (e) the amount payable with GST and MRST shown as separate amounts; and
- (f) the Contractor's GST registration number.

D19.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D19.4 Bids Submissions must be submitted to the address in B8.5.

D20. PAYMENT

D20.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D21. WARRANTY

D21.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D21.2 Notwithstanding C13.2 or D21.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if:

- (a) a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

D21.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

_____ ,
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

_____ dollars (\$_____)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee for

BID OPPORTUNITY NO. 615-2014

PROVISION OF ROOF REPLACEMENT AND REPAIR AT WINNIPEG TRANSIT

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D10)

(Date)

The City of Winnipeg
Legal Services Department
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 615-2014
PROVISION OF ROOF REPLACEMENT AND REPAIR AT WINNIPEG TRANSIT

Pursuant to the request of and for the account of our customer,

(Name of Contractor)

(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding in the aggregate

_____ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (2007 Revision), International Chamber of Commerce Publication Number 600.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
615-2014_Drawing A1-R0	Roof Repairs Building A

E2. MATERIALS

E2.1 DIMENSIONAL LUMBER

- (a) This shall be construction grade spruce of the dimensions as outlined under the Description of Work.

E2.2 PLYWOOD SHEATHING

- (a) This shall be 1/2" construction D Grade spruce plywood.

E2.3 VAPOUR BARRIER

- (a) Description: Standard of acceptance self-adhesive membrane composed of SBS modified bitumen and a tri-laminated woven polyethylene facer. The under face is covered with a silicone release film.

- (b) Specified Product: Soprema Soprapap'r self-adhesive vapour barrier membrane or approved equal in accordance with B7.

E2.4 ROOFING INSULATION

- (a) Expanded polystyrene type II with a minimum slope and thicknesses as indicated on the roof plan shall be as manufactured by Plastifab Ltd of Canada or approved equal in accordance with B7.
- (b) Top-layer Description: Closed-cell polyisocyanurate foam insulation board laminated on both sides to heavy coated glass filament facer. Specified: Soprema Colgrip A, IKO Isotherm 3 or approved equal in accordance with B7. Thickness 2.0"

E2.5 INSULATION ADHESIVE

(a) Description: A highly elastomeric, two components, one step, all purpose, foamable adhesive that contains no solvents and sets in minutes. Adhesive shall be applied to obtain a minimum 90 mile-per-hour wind up with rating or as otherwise indicated within the description of work.

(b) Specified product: Mammouth Duotack, Millennium Adhesive or approved equal in accordance with B7.

E2.6 POURABLE SEALER

(a) This shall be Lexcan 2 part Pourable Sealer or approved equal in accordance with B7. This shall be used to fill all pitch boxes or as otherwise specified.

E2.7 NEW PITCH PAN

(a) Description: Prefabricated curb system assembled on site and filled with fast setting solvent free sealant to create watertight roof detail at technically challenging roof penetrations.

(b) Specified: Soprema Interclip or approved equal in accordance with B7.

E2.8 RECOVERY BOARD

(a) Description: The asphalt support panel, suitable for all types of base sheet installation, compatible with modified and multi-ply bitumen roof membranes and is applied on wooden surfaces, existing membranes and rigid insulation panels.

(b) Specified: Soprema Soprboard, IKO Protecto Board or approved equal in accordance with B7. Thickness shall be 3/16" and maximum board size shall be 4' by 4'.

E2.9 MODIFIED BITUMEN MEMBRANE

(a) This shall be the following:

(i) Membrane:

Two-ply Modified Styrene-Butadiene-Styrene (SBS)

Base Sheet: Semi-independent self-adhesive base sheet. Waterproofing system composed of composite reinforced and SBS modified bitumen membranes of semi-independent, self-adhesive base sheet and a heat welded cap sheet. The top surface of the base sheet is covered with a thermo-fusible plastic film. Specified: Soprema Colvent 810 or approved equal in accordance with B7.

Cap Sheet: The cap sheet under face is covered with a thermo-fusible plastic film and the top surface is protected by grey colored granules. Specified: Soprema Colvent 860

(ii) Stripping:

Soprema Sopraflash Flam Stick self-adhering base sheet with a Sopralene Flam 180 Gr. Cap sheet.

E2.10 RUBBERIZED MASTIC

(a) This shall be Polyroof as manufactured by Tremco Ltd. or approved equal in accordance with B7. All exposed rubberized asphalt shall be coated with Gray Soprema.

E2.11 MODIFIED PRIMER

(a). This is to be the compatible primer recommended by the membrane manufacturer employed. *(When applicable environmentally friendly low VOC products shall be applied.)*

E2.12 CAULKING

(a) This shall be Tremco Vulkem 931 or approved equal in accordance with B7.

E2.13 ALUMINUM PAINT

(a) This shall be Tremco Double Duty or approve equal in accordance with B7.

E2.14 VENT STACKS

(a) These shall be Insulated Stack Jack Flashings (with metal cap, not neoprene seal) SJ-20A as manufactured by Thaler.

E2.15 METAL FLASHING

(a) The bays and cap flashing shall be a minimum of 24 gauge in thickness. Finishes shall closely match the painted colour of the existing flashing. This shall be chosen from the range of Stelco 8000 series of colours.

E2.16 ACCESSORIES

(a) All nails, bolts, screws and other fasteners, etc. shall all be as recommended by the manufacturer of the materials for which they are to be used.

E2.17 TRANSITION SEALANT SBS-to-BUR

(a) This shall be Soprema Colply Adhesive Trowel Grade or approved equal in accordance with B7.

E2.18 SPLASH PADS

(a) Splash Pads shall be 51" natural # 45-41001 as manufactured by Barkman Concrete Ltd.

NOTE: Materials used in the roof replacement must be manufactured in Canada. The materials must have a minimum of a ten-year proven field history within the roofing industry in Canada.

E3. EXECUTION PROTECTION OF WORK AREA

E3.1 The Contractor shall be responsible for the removal and reinstallation of any obstructions such as, but not limited to, drains, ducts, conduits, vents, air conditioning units and components at his own expense.

E3.2 Work must be performed during weather conditions that will not adversely affect the performance of the new Work. Surfaces must be clean and dry prior to installation.

E3.3 Cover walls and adjacent Work where materials hoisted or used.

E3.4 Clean off drips and smears of bituminous material.

E3.5 Dispose of rainwater off roof and away from face of building until roof drains or hoppers installed and connected.

E3.6 Prevent traffic over completed roofing except where required by Work above roof level. Comply with precautions deemed necessary by Bid Opportunity. Repair damage caused by non-compliance with Bid Opportunity requirements.

E3.7 At the end of each day's Work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.

E3.8 Examine roof decks and immediately inform Contract Administrator in writing of defects.

E3.9 Prior to commencement of Work ensure:

(a) Decks are firm, straight, smooth, dry, and swept clean of dust and debris.

(b) Curbs have been built.

(c) Roof drains have been installed at proper elevations relative to finished roof surface.

(d) Plywood and lumber nailer plates have been installed to walls and parapets as indicated.

E3.10 Removal of Existing Roofing

(a) Remove existing roofing system, curbs and cant strips as required to properly install new roofing system. Avoid damage to decks, drains, and other components on roofs.

(b) Provide temporary hoarding, other protection as may be required.

(c) Fully protect interior of building from water penetration from any cause.

(d) Prepare remaining surfaces to accept new roofing system.

E4. EXECUTION

E4.1 To selected roofing manufacturer's specifications, recommendations and proven standards.

E5. PREPARATION

E5.1 If required, rooftop equipment, electrical and gas service lines, telephone lines, etc. must be disconnected, relocated and reconnected as required in accordance with all applicable codes and regulations to accommodate the Work without disrupting operations within the garage. Prior arrangement must be made with the Contract Administrator in the event a disruption of building operations is required.

E5.2 Remove and dispose of all metal flashings as required.

E5.3 Remove existing roofing system to the roof deck in the area shown on the attached drawing.

E5.4 Remove and dispose of any equipment as designated by the owner and seal any resulting openings with pre-painted 20 gauge, 1 ½" steel decking.

E5.5 Prepare surface of existing roof 24" wide along the joint between existing and new roof systems. Remove all loose and embedded gravel and ensure that the surface is sound, clean and dry.

E5.6 Inspect and repair any deck deficiencies that would affect the installation and performance of the new roof system.

E5.7 Fill and pack all open joints, cracks, seams, and openings in the deck.

E5.8 Construct edge, expansion joint, projection, and all equipment curb blocking and nailers to accommodate insulation thickness. Extend all curbs to a minimum height of 203 mm (8") above the finished roof surface.

E5.9 All blocking to be pressure treated wood.

E6. VAPOUR RETARDER

E6.1 Install self-adhesive membrane composed of SBS modified bitumen and tri-laminated woven polyethylene facer. Carry vapour retarder up all blocking and projections leaving sufficient materials to envelop the insulation a minimum of 12". Ensure proper hand rolling of membrane to encourage proper adhesion.

E6.2 Seal vapour retarder at all laps, projections, penetrations, and existing vapour retarders to ensure an airtight and vapour-tight seal.

E6.3 At all junctions with existing roof assemblies, install water/vapour retarder cut-offs consisting of self-adhesive vapour retarder. Seal to new vapour retarder and carry it vertically between existing and new insulations, sealing it to the prepared surface of the existing roof membrane. Apply compatible sealants as required at laps and joints to ensure water ingress protection of the new assembly.

E7. INSULATION

- E7.1 Replace any area of damaged or deteriorated existing insulation. Fill all voids and cracks with specified insulation material.
- E7.2 The insulation must be installed to ensure that water cannot pool in the newly replaced area.
- E7.3 Tightly butt all insulation panels in half lap fashion. Offset the pattern between layers so that no insulation joints are coincidental.
- E7.4 Adhered the layers of insulation using the specified adhesives. The application of the adhesive must be done in strict accordance to manufactures guidelines so as to obtain a minimum uplift equal to 90 mile-per-hour. Stagger the layers of insulation from one another to prevent jointing.
- E7.5 Leave no openings or gaps at projections or perimeters.
- E7.6 Complete vapour retarder envelope wrap by sealing ends of vapour retarder to the top on the insulation.
- E7.7 At drains and scuppers, taper insulation for 24" in all directions to ensure positive drainage.
- E7.8 Install protection layer of ½" Sopraboard as required including fire protection tape as required.

E8. MODIFIED BITUMEN SBS ROOF MEMBRANE

- E8.1 Always start at the lowest point of the roof
- E8.2 Unless otherwise indicated side laps must be between 3 inches and 4 inches. End laps must be at least 6 inches. At the end laps, angle cut the corner that is being covered by the next roll. To prevent overly thick membranes, stagger end laps a minimum of 12 inches relative to those of the base sheet. Cap sheet end laps must be staggered a minimum of 12 inches.
- E8.3 The roof must slope evenly and continuously toward the drains.
- E8.4 All base sheet and cap sheet membrane roles are to be relaxed in an unrolled position a minimum of four hours prior to installation to reduce buckling and or ridging.
- E8.5 Unroll and position the roll on a surface already coated with primer. Peel off a corner of the silicone paper to allow the membrane to adhere to the surface. Then peel off the silicone paper at a 45° angle to avoid any wrinkles in the membrane. While one worker peels off the silicone paper from the under face of the membrane, the other should pull on the free end to prevent creating any wrinkles in the membrane.
- E8.6 Apply pressure over the whole surface using a membrane roller to ensure good contact. Seal side laps with a torch and trowel or a granule embedder.
- E8.7 Because of the specific properties of these membranes, we recommend that you align all the joints (do not stagger) to facilitate installing the reinforcement strip.
- E8.8 Ensure cap sheet field and stripping installation and workmanship follows manufacturers installation guide. Granule embedment, preparing the cap sheet's selvedge strip (end lap) where it will lap the granulated part, is MANDATORY. This operation will guarantee good adhesion at these critical areas.
- E8.9 Adhesive tape must be removed from all membranes before they are installed. Otherwise, it may interfere with adhesion and cause blistering; adhesive tape also emits toxic fumes if exposed to a torch flame.

E9. TIE-INS

- E9.1 Carry each tier of the new membranes approximately 12" farther onto the prepared surface of the existing SBS membrane and/or BUR. Spud gravel aggregate and apply primers as required.
- E9.2 Remove all unbonded gravel within a 20" radius of the tie-in area. Take care not to delaminate BUR felts. Where wrinkles or blisters are present, cut them and remove the unbonded area of membrane.
- E9.3 Apply compatible primer and/or adhesive services as required by roofing membrane manufacturer.

E10. PLUMBING VENTS

- E10.1 Install Thaler roof flashings embedded into a generous bed of adhesive ensuring that coverage extends beyond the edge of stack extension flashing.
- E10.2 Place stack extension over vent and over-trowel with adhesive extending a minimum of 4" beyond the edge of the flange.
- E10.3 Strip in entire flange edge with 6" reinforcing membrane embedded in and top-dressed with adhesive.
- E10.4 Fit and seal PVC pipe section to the plumbing vent hub and insulate in accordance with the manufacturer's instructions.

E11. FLASHING ROOF DRAINS

- E11.1 Carry roofing membranes down into sump to edge of drain fitting.
- E11.2 Embed flashing flange into 3 mm thickness of sealing compound on top of roofing membrane.
- E11.3 Embed membrane flashings into heavy coatings on hot asphalt, sealant, extend plies onto roof beyond outer edge of flange in accordance with manufacturer direction.

E12. METAL FLASHINGS

- E12.1 Cap flashings are to be 24 ga. galvanized sheet metal. The flashings are to conform to C.S.A.
- E12.2 The inside and outside faces are to extend down a minimum of 76 mm (3"). Fasten the cap flashing using weatherproof screws spaced not more than 610 mm (24") on centre.
- E12.3 Hem all free edges and seal all butts, joints and reglets with sealant.

E13. STEEL ROOF DECKING

- E13.1 The Contractor shall assess the condition of the steel deck while doing the roof repairs. Based on the assessment, the Contractor will estimate the requirement and square footage of the steel deck replacement if any.
- E13.2 The Contractor will inform the Contract Administrator and submit the requirement with the plan and drawings designed by a registered Structural Engineer.
- E13.3 The Contract Administrator will inspect and approve, reject, reduce or increase the area of the steel deck to be replaced.
- E13.4 This work will not start until the Contract Administrator approves it.
- E13.5 Design Requirements

- (a) The steel roof decking replacement plan must be designed and the drawings stamped by a Structural Engineer registered with the APEGM.
- (b) Design steel deck using limit states design in accordance with CSA-S136 and CSSBI 10M.
- (c) Steel deck and connections to steel framing to carry dead, live and other loads including lateral loads, diaphragm action, composite deck action, and uplift as indicated. The design shall rely on SDI or CSSBI design procedures.
- (d) Deflection under specified live load not to exceed 1/300 of span for roof, 1/360 of span for floor and 1/180 of span for wall.
- (e) Design replacement sections to same as existing deck sections.

E13.6 Fastening

- (a) Fasten roof deck replacement sections in similar manner as existing decking.
- (b) If applicable, the installer that will be using the tools to attach the deck fasteners shall be trained & certified by fastener manufacturer's representative on the general use of powder actuated technology and fastening guidelines for the attachment of steel deck.
- (c) Locate fasteners so that clearances to edge of steel, end of decking panels, and the side of deck troughs meet fastener and deck manufacturer's installation guidelines.
- (d) Ensure nail head standoffs measurements meet fastener manufacturer's recommendations.

E13.7 Products

- (a) Materials
Materials to match existing deck
- (b) Deck Types
Metal deck to match existing deck

E13.8 Execution

- (a) General
Structural steel work: in accordance with CAN/CSA S136 and CSSBI 10M.
- (b) Erection
 - (i) Erect steel deck as indicated and in accordance with CSA S136, CSSBI 10M, the SDI Manual of Construction MOC2, and in accordance with approved erection drawings
 - (ii) Unless otherwise noted, fasteners shall be attached to the supporting steel at 300 mm on centre, and 150 mm on centre at the ends of the deck.
 - (iii) Attach the roof deck perimeter that is parallel to the deck flutes at the identical spacing as the sidelap connectors.
 - (iv) All sidelaps shall be attached with similar fasteners as used on existing deck.
 - (v) Lap ends: to 100 mm minimum.
- (c) Closures
 - (i) Install closures in accordance with approved details.
- (d) Openings and Areas of Concentrated Loads
 - (i) No reinforcement required for openings cut in deck which are smaller than 150 mm square.
Frame deck openings with any one dimension between 150 to 300 mm as recommended by deck manufacturer, except as otherwise indicated.

E14. HAZARDOUS MATERIALS

If asbestos or other hazardous materials are encountered during the Work of the Contract, the Contractor shall stop all work and notify the Contract Administrator immediately. Removal of hazardous materials shall be dealt with by the City and the Contractor shall await further instruction by the Contract Administrator.