



INVITATION TO TENDER

FOR

**RE-ROOFING
Building 34
Project: CEF14 0043**

**CENTRAL EXPERIMENTAL FARM (CEF)
Agriculture and Agri-Food Canada (AAFC)
K.W. Neatby Building
960 Carling Avenue
Ottawa, Ontario K1A 0C6**

SOLICITATION 14-1250

**CLOSING: Tuesday November 25, 2014 at 02:00 p.m.
Eastern Standard Time (EST)**

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SPECIAL INSTRUCTIONS TO BIDDERS

SI01 BID DOCUMENTS

- 1) The following are the bid documents:
 - (a) Special Instructions to Bidders;
 - (b) Instructions to Bidders;
 - (c) General Conditions for Minor Works;
 - (d) Insurance Terms;
 - (e) Drawings and Specifications;
 - (f) Bid and Acceptance Form and related Appendix(s); and
 - (g) Any amendment issued prior to solicitation closing.

Canada reserves the right to revise or amend the Bid Documents prior to the date set for opening bids. Such revisions or amendments, if any, will be announced by an addendum or addenda to the documents.

Submission of a bid constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

SI02 ENQUIRIES DURING THE SOLICITATION PERIOD

- 1) Enquiries regarding this bid must be submitted in writing to the Contracting Officer. The Contracting Officer for the purpose of this bid is:

Jean-Pierre Simard
Senior Contracts Officer
Agriculture and Agri-Food Canada
K.W. Neatby Building, Room 1127
960 Carling Avenue
Ottawa, Ontario K1A 0C6
613-759-6157
Jean-pierre.simard@agr.gc.ca

- 2) Except for the approval of alternative materials as described in IB14 of the INSTRUCTIONS TO BIDDERS, enquiries should be received no later than five (5) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may not result in an answer being provided.
- 3) To ensure consistency and quality of the information provided to Bidders, the Contracting Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.
- 4) All enquiries and other communications related to this bid sent throughout the solicitation period are to be directed ONLY to the Contracting Officer. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a bid.

SI03 OPTIONAL SITE VISIT

- 1) It is recommended that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for a tour of the work site. The site visit will be held on **Thursday November 13, 2014 at 10:00 am** at the CEF Ottawa, **K.W. Neatby building, 960 Carling Avenue**, Ottawa. Bidders who do not attend or send a representative will not be given an alternative appointment but they will not be precluded from submitting a bid. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

SI04 REVISION OF BID

- 1) A bid may be revised by letter in accordance with IB10 of the INSTRUCTIONS TO BIDDERS.

SI05 BID RESULTS

- 1) Following solicitation closing, bidders may ask the results of the bid opening by calling the CEF at Telephone No. (613) 759-6157.

SI06 BID VALIDITY PERIOD

- 1) Canada reserves the right to seek an extension to the bid validity period prescribed in Clause 4 of the BID AND ACCEPTANCE FORM. Upon notification in writing from Canada, Bidders shall have the option to either accept or reject the proposed extension.

SI07 CONSTRUCTION DOCUMENTS

- 1) The successful contractor will be provided with one paper copy of the sealed and signed drawings, the specifications and the amendments upon acceptance of the offer. Additional copies, up to a maximum of (1), will be provided free of charge upon request by the Contractor. Obtaining more copies shall be the responsibility of the Contractor including costs.

SI08 PERSONNEL SECURITY REQUIREMENTS

- 1) This document contains no mandatory security requirements.

INSTRUCTIONS TO BIDDERS

IB01 Completion of Bid

- 1) The bid shall be:
 - (a) submitted on the BID AND ACCEPTANCE FORM provided by AAFC or on a clear and legible reproduced copy of such BID AND ACCEPTANCE FORM that must be identical in content and format to the BID AND ACCEPTANCE FORM provided by AAFC;
 - (b) based on the Bid Documents listed in the SPECIAL INSTRUCTIONS TO BIDDERS;
 - (c) correctly completed in all respects;
 - (d) signed, with an original signature, by a duly authorized representative of the Bidder; and
 - (e) accompanied by any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the bid.

- 2) Subject to paragraph 6) of IB11, any alteration to the pre-printed or pre-typed sections of the BID AND ACCEPTANCE FORM, or any condition or qualification placed upon the bid shall be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the BID AND ACCEPTANCE FORM by the Bidder shall be initialed by the person or persons signing the bid. Initials shall be original(s). Alterations, corrections, changes or erasures that are not initialed shall be deemed void and without effect.

- 3) Unless otherwise noted elsewhere in the Bid Documents, facsimile copies of bids are not acceptable.

IB02 Identity or Legal Capacity of the Bidder

- 1) In order to confirm the authority of the person or persons signing the bid or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by Canada, provide satisfactory proof of:
 - (a) such signing authority; and
 - (b) the legal capacity under which it carries on business; prior to contract award. Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this bid on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership.

IB03 Applicable Taxes

- 1) Bidders are not to include any amounts for Applicable Taxes (Goods and Services Tax (GST), Harmonized Sales Tax (HST) or Quebec Sales Tax (QST), whichever is applicable. Any amount levied in respect of Applicable Taxes shall be billed as a separate item in a progress claim submitted by the Contractor, and shall be paid to the Contractor in addition to the amount approved by Canada for work performed under the Contract. The Contractor shall be required to remit the appropriate amount to the appropriate tax authority in accordance with the applicable legislation.

IB04 Tax to Be Included

- 1) The Contractor is not entitled to use Canada's exemptions from any tax, such as provincial sales taxes, unless otherwise specified by law. The Contractor must pay applicable provincial sales tax, ancillary taxes, and any commodity tax, on taxable goods or services used or consumed in the performance of the Contract (in accordance with applicable legislation), including for material incorporated into real property.

IB05 Capital Development and Redevelopment Charges

- 1) For the purposes of GC1.5 in the General Conditions of the Contract, only fees or charges directly related to the processing and issuing of building permits shall be included. The Bidder shall not include any monies in the bid amount for special municipal development, redevelopment or other fees or charges which a municipal authority may seek as a prerequisite to the issuance of building permits.

IB06 Registry and Pre-qualification of Floating Plant

- 1) Dredges or other floating plant to be used in the performance of the Work must be of Canadian registry. For dredges or other floating plant that are not of Canadian make or manufacture, the Bidder must obtain a certificate of qualification from Industry Canada and this certificate must accompany the bid. Plant so qualified by Industry Canada may be accepted on this project.

IB07 Listing of Subcontractors and Suppliers

- 1) Notwithstanding any list of Subcontractors that the Bidder may be required to submit as part of the bid, the Bidder submitting the lowest acceptable bid shall, within 48 hours of receipt of a notice to do so, submit all information requested in the said notice including the names of Subcontractors and Suppliers for the part or parts of the Work listed. Failure to do so may result in the disqualification of its bid.

IB08 Bid Security Requirements

- 1) **NO** bid security is required for this solicitation notice.

IB09 Submission of Bid

- 1) The BID AND ACCEPTANCE FORM, duly completed, shall be enclosed and sealed in an envelope provided by the Bidder, and shall be addressed and submitted to the office designated on the Front Page of the BID AND ACCEPTANCE FORM for the receipt of bids. The bid must be received on or before the date and time set for solicitation closing.
- 2) Unless otherwise specified in the SPECIAL INSTRUCTIONS TO BIDDERS:
 - (a) the bid shall be in Canadian currency;
 - (b) exchange rate fluctuation protection is not offered; and
 - (c) any request for exchange rate fluctuation protection shall not be considered.
- 3) Prior to submitting the bid, the Bidder shall ensure that the following information is clearly printed or typed on the face of the bid envelope:
 - (a) Solicitation/File Number;
 - (b) Name of Bidder;
 - (c) Return address; and
 - (d) Closing Date and Time.
- 4) Subject to paragraph 6) of IB11, failure to comply with paragraphs 1), 2) and 3) of IB09 shall render the bid liable to disqualification. Timely and correct delivery of bids is the sole responsibility of the Bidder.

IB10 Revision of Bid

- 1) A bid submitted in accordance with these instructions may be revised by letter provided the revision is received at the office designated for the receipt of bids, on or before the date and time set for the closing of the bid. The letter shall:
 - (a) be on the Bidder's letterhead or bear a signature that identifies the Bidder;

- (b) for the lump sum portion of a bid, clearly identify the amount of the current revision. The total aggregate sum of all revisions submitted, including the current revision, shall be shown separately; and
 - (c) for the Price Per Unit portion of a bid, clearly identify the change(s) in the Price(s) per Unit and the specific item(s) to which each change applies. If a revision is to be applied to a specific item that was previously amended then, in addition to the amount of the current revision, the total aggregate sum of all revisions submitted, including the current revision, for that item shall be shown separately.
- 2) A letter submitted to confirm an earlier revision shall be clearly identified as "CONFIRMATION ONLY" for each contemplated change.
 - 3) Failure to comply with any of the above provisions shall result in the rejection of the non-compliant revision(s) only. The bid shall be evaluated based on the original bid submitted and all other compliant revision(s).

IB11 Acceptance of Bid

- 1) Canada may accept any bid, whether it is the lowest or not, or may reject any or all bids.
- 2) Without limiting the generality of paragraph 1) of IB11, Canada may reject a bid if any of the following circumstances is present:
 - (a) the Bidder, or any employee or subcontractor included as part of the bid, has been convicted under section 121 ("Frauds on the government" & "Contractor subscribing to election fund"), 124 ("Selling or purchasing office"), 380 ("Fraud committed against Her Majesty") or 418 ("Selling defective stores to Her Majesty") of the Criminal Code of Canada; or under paragraph 80(1)(d) ("False entry, certificate of return"), subsection 80 (2) ("Fraud against Her Majesty") or Section 154.01 ("Fraud against Her Majesty") of the *Financial Administration Act*;
 - (b) the Bidder's bidding privileges are suspended or are in the process of being suspended;
 - (c) the bidding privileges of any employee or subcontractor included as part of the bid are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to bid on the Work, or the portion of the Work the employee or subcontractor is to perform;
 - (d) with respect to current or prior transactions with Canada:
 - (i) the Bidder is bankrupt or if, for whatever reason, its activities are rendered inoperable for an extended period;
 - (ii) evidence, satisfactory to Canada, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its bid;
 - (iii) Canada has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its bid; or
 - (iv) Canada determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being bid on.

- 3) In assessing the Bidder's performance on other contracts pursuant to subparagraph 2)(d)(iv) of IB11, Canada may consider, but not be limited to, such matters as:
 - (a) the quality of workmanship in performing the Work;
 - (b) the timeliness of completion of the Work;
 - (c) the overall management of the Work and its effect on the level of effort demanded of the department and its representative; and
 - (d) the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
- 4) Without limiting the generality of paragraphs 1), 2) and 3) of IB11, Canada may reject any bid based on an unfavourable assessment of the:
 - (a) adequacy of the bid price to permit the work to be carried out and, in the case of a bid providing prices per unit or a combination of lump sum and prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that price applies;
 - (b) Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
 - (c) Bidder's performance on other contracts.
- 5) If Canada intends to reject a bid pursuant to a provision of paragraphs 1), 2), 3) or 4) of IB11, other than subparagraph 2)(b) of IB11, Canada shall so inform the Bidder and provide the Bidder ten (10) days within which to make representations, prior to making a final decision on the bid rejection.
- 6) Canada may waive informalities and minor irregularities in bids received if Canada determines that the variation of the bid from the exact requirements set out in the Bid Documents can be corrected or waived without being prejudicial to other Bidders.

IB12 Bid Costs

- 1) No payment will be made for costs incurred in the preparation and submission of a bid in response to the bid solicitation. Costs associated with preparing and submitting a bid, as well as any costs incurred by the Bidder associated with the evaluation of the bid, are the sole responsibility of the Bidder.

IB13 Compliance with Applicable Laws

- 1) By submission of a bid, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the bid and entry into any ensuing contract for the performance of the work.
- 2) For the purpose of validating the certification in paragraph 1) of IB13, a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the said request.
- 3) Failure to comply with the requirements of paragraph 2) of IB13 shall result in disqualification of the bid.

IB14 Approval of Alternative Materials

- 1) When materials are specified by trade names or trademarks, or by manufacturers' or suppliers' names, the bid shall be based on use of the named materials. During the bid period, alternative materials may be considered provided full technical data is received in writing by the Contracting Officer at least 10 calendar days prior to the bid closing date.

IB15 Income Tax Requirement

- 1) Payments made under applicable contracts must be reported by Canada for taxation purposes. To comply with this requirement, the successful bidder shall provide to Canada immediately upon award: its legal name; address; and Revenue Canada identifier (SIN, BN, GST/HST, T2N number) as is applicable.

IB16 Contingency Fees

- 1) The Bidder declares that the Bidder has not, directly or indirectly, paid or agreed to pay, and will not, directly or indirectly, pay a contingency fee to any individual for the solicitation, negotiation or obtaining of the contract if the payment of the fee would require the individual to file a return under section 5 of the *Lobbying Act*.

IB17 Status of the Bidder

- 1) The Bidder declares that the Bidder has not been convicted of an offence, other than an offence for which a pardon has been granted, under section 121, 124 or 418 of the *Criminal Code*.

CONTRACT DOCUMENTS (CD)

1. The following are the contract documents:
 - a) Contract Page(s) when signed by Canada;
 - b) Duly completed Bid and Acceptance Form and any Appendices attached thereto;
 - c) Drawings and Specifications;
 - d) General Conditions for Minor Works;
 - e) Insurance Terms;
 - f) Any amendment issued or any allowable bid revision received before the date and time set or solicitation closing;
 - g) Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and
 - h) Any amendment or variation of the contract documents that is made in accordance with the General Conditions.

2. The language of the contract documents is the language of the Bid and Acceptance Form submitted.

GENERAL CONDITIONS FOR MINOR WORKS

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GC1 GENERAL PROVISIONS

GC1.1 Definitions

- "Applicable Taxes" means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013.
- "Canada", "Her Majesty" means Her Majesty, the Queen in right of Canada;
- "Contract" means the contract documents referred to as such therein and every other document specified or referred to in any of them as forming part of the Contract, all as amended by agreement of the parties;
- "Contractor" means a person, with whom Canada enters into a Contract to do the Work;
- "Departmental Representative" means the person designated in the Contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the Departmental Representative to the Contractor;
- "Material" includes all commodities, articles, machinery, equipment, fixtures and things required to be furnished in accordance with the Contract for incorporation into the Work;
- "Person" includes, unless there is an express stipulation in the Contract to the contrary, any partnership, proprietorship, firm, joint venture, consortium or corporation;
- "Plant" includes all tools, implements, machinery, vehicles, structures, equipment, articles and things that are necessary for the performance of the Contract, other than Material and those tools customarily provided by a trades person in practicing a trade;
- "Work" means everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contract in accordance with the Contract Documents;

GC1.2 Contract Documents

1. In interpreting the Contract, in the event of discrepancies or conflicts between anything in the Drawings and Specifications or Scope of Work and the General Conditions, the General Conditions govern.
2. In interpreting the Drawings and Specifications, in the event of discrepancies or conflicts between:
 - (a) the Drawings and Specifications, the Specifications govern;
 - (b) the Drawings, the Drawings with the largest scale govern; and
 - (c) figured dimensions and scaled dimensions, the figured dimensions govern.

GC1.3 Assignment

1. This Contract shall not be assigned without the written consent of Canada.

GC1.4 Subcontracting

1. The Contractor shall:
 - (a) not subcontract the whole or any part of the Work without the written consent of the Departmental Representative except for subcontracts specified in the Contract; and
 - (b) ensure that all subcontracts entered into at any tier shall incorporate all the terms and conditions of the Contract that can reasonably be applied thereto.

GC1.5 Laws, Permits and Taxes

1. The Contractor shall comply with all legislative and regulatory provisions whether federal, provincial, territorial or municipal applicable to the performance of the Work and shall require compliance therewith by all of its subcontractors and suppliers at any tier as if the Work were being performed for an owner other than Canada.
2. Unless otherwise provided for in the Contract, the Contractor shall obtain all permits and hold all certificates and licenses required for the performance of the Work.
3. Applicable Taxes will be paid by Canada at time when a progress payment is being made. It

is the sole responsibility of the Contractor to charge Applicable Taxes at the correct rate in accordance with applicable legislation. The Contractor agrees to remit to appropriate tax authorities any amounts of Applicable Taxes paid or due.

4. The Contractor is not entitled to use Canada's exemptions from any tax, such as provincial sales taxes, unless otherwise specified by law. The Contractor must pay applicable provincial sales tax, ancillary taxes, and any commodity tax, on taxable goods or services used or consumed in the performance of the Contract (in accordance with applicable legislation), including for material incorporated into real property.

GC1.6 Former Public Office Holders

1. No former public office holder who is not in compliance with the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders shall derive a direct benefit from the Contract.

GC1.7 Status of the Contractor

1. The Contractor is engaged as an independent Contractor for the sole purpose of performing the Work. Neither the Contractor nor any of its personnel is engaged as an employee, servant or agent of Canada. The Contractor is responsible for all deductions and remittances required by law in relation to its employees including those required for Canada or Quebec Pension Plans, employment insurance, workers' compensation, and income tax.
2. The Contractor declares that the Contractor has not been convicted of an offence, other than an offence for which a pardon has been granted, under section 121, 124 or 418 of the Criminal Code.

GC1.8 Contingency Fees

1. The Contractor declares that the Contractor has not, directly or indirectly, paid or agreed to pay, and will not, directly or indirectly, pay a contingency fee to any individual for the solicitation, negotiation or obtaining of the contract if the payment of the fee would require the individual to file a return under section 5 of the *Lobbying Act*.

GC1.9 Disclosure of Basic Information

1. The Contractor consents, in the case of a contract that has a value in excess of \$10,000, to the public disclosure of basic information, other than information described in any of paragraphs 20(1)(a) to (d) of the *Access to Information Act*, relating to the contract.

GC2 ADMINISTRATION OF THE CONTRACT

GC2.1 Departmental Representative's Rights and Obligations

1. The Departmental Representative shall:
 - (a) have access to the Work at all times;
 - (b) decide questions regarding what has been done or what the Contractor is required to do; (c) decide questions regarding the acceptability of the quality or quantity of any Labour, Plant or Material used or consumed in the execution of the Work; and
 - (d) decide questions regarding the timing and scheduling of the Work.

GC2.2 Contractor's Superintendent and Workers

1. The Contractor shall keep a competent superintendent and capable and skilled workers on the site of the Work at all times during the progress of the Work. If, in the opinion of the Departmental Representative, the superintendent or the workers are deemed to be unacceptable because of incompetence, improper conduct or security risk, they shall be removed from the site of the Work and replaced forthwith.

GC2.3 Records to be kept by the Contractor

1. The Contractor shall maintain and keep intact complete records relating to the Work together with all tender calls, quotations, contracts, correspondence, invoices and any payment of fees or other compensation for the solicitation, negotiating or obtaining of the contract until the expiration of two (2) years after the date that a Certificate of Completion is issued or the final invoice is paid if no Certificate of Completion is issued. The Contractor shall, upon request from the Departmental Representative, make said records available for copy, audit or inspection to any person(s) acting on behalf of Canada.
2. The Contractor shall cause all Subcontractors, and all other Persons or entities directly or indirectly involved with the Work, to comply with the requirements of GC 2.3.1.

GC2.4 Notices

1. Any notice shall be in writing and may be delivered by hand, by courier, by registered or regular mail, or by facsimile or other electronic means that provides a paper record of the text of the notice. The notice shall be addressed to the party for whom it is intended at the address in the Contract or at the last address from which the sender has received notice in accordance with this section. Any notice shall be deemed to be effective on the day it is received at that address or four (4) days after being sent, whichever is the earlier.

GC3 EXECUTION OF THE WORK

GC3.1 Material, Plant, and Real Property Become the Property of Canada

1. All Material and Plant used or consumed for the purposes of the Work shall be the property of Canada. The Material and Plant shall be used only for the purposes of the Work, and shall not be removed from the site of the Work until so approved by the Departmental Representative.
2. The Contractor shall be liable for all loss or damage to Material or Plant that is the property of Canada by virtue of this section.

GC3.2 Cooperation with Other Contractors

1. The Contractor shall cooperate fully with other contractors or workers sent onto the site of the Work by the Departmental Representative.
2. If, at the time the Contract was executed: the Contractor could not have reasonably foreseen the sending of other contractors or workers onto the site of the Work; and, the Contractor incurs extra costs in complying with GC 3.2.1; and, the Contractor gives written notice of claim for the extra costs within ten (10) days from the date upon which the other contractors or workers were sent onto the site of the Work; then, Canada shall pay an additional amount to the Contractor, calculated pursuant to GC 5.7.

GC3.3 Use of the Work and Cleanup of Site

1. The Contractor shall maintain the site of the Work in a tidy condition and free from the accumulation of waste material throughout the duration of the Contract.
2. Before the Departmental Representative issues the Certificate of Completion or approves payment of the final invoice, the Contractor shall remove all materials, tools, construction machinery, equipment, waste products and debris from the site of the Work.
3. Where the Work affects occupied portions of a building, the Contractor shall ensure continuity of all building services and shall ensure safe access for all persons requiring access to said building.

GC 3.4 Warranty and Rectification of Defects

1. Without restricting any warranty or guarantee implied or imposed by law or any extended warranty specified in the Contract, the Contractor shall, upon notice from the Departmental Representative and at its own expense, rectify all defects which appear in the Work within twelve (12) months from the date of issuance of the Certificate of Completion pursuant to GC 5.6.1, or from the date of the negotiable instrument issued as final payment if a Certificate of Completion is not issued, whichever is applicable.
2. The notice referred to in GC 3.4.1 shall be in writing and shall include the number of days within which the defect or fault is to be rectified.
3. The Contractor shall transfer and assign, to Canada, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the contract documents covering periods beyond the twelve (12) months stipulated above. Extended warranties or guarantees referred to herein shall not extend the twelve (12) month period whereby the Contractor must rectify and make good any defect or fault that appears in the work or comes to the attention of Canada.

GC 4 PROTECTION, HEALTH AND SAFETY

GC 4.1 Material, Plant and Real Property Supplied by Canada

1. The Contractor, having care, custody and control of the Work and its site, shall be responsible for any loss or damage, excluding reasonable wear and tear, to any property of Canada arising out of the performance of the Work whether or not such loss arises from causes beyond the Contractor's control.

GC 4.2 Construction Safety

1. The Contractor, having care, custody and control of the Work and its site, shall be responsible for any loss or site of the Work and for initiating, maintaining and supervising all safety inspections, precautions and programs in connection with the performance of the Work in accordance with the health and safety legislation in force in the Province where the Work is being performed.

GC5 TERMS OF PAYMENT

GC5.1 Definitions

For the purposes of this section:

- Payment Period means a period of thirty (30) days or such other longer period as may be agreed between the Contractor and the Departmental Representative.
- An amount is Due and Payable when it is due and payable by Canada to the Contractor in accordance with the terms of the Contract.
- An amount is Overdue when it remains unpaid after the day upon which it is due and payable.
- Date of Payment means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada.
- Fixed Price Arrangement means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates.
- Unit Price Arrangement means that part of the Contract that prescribes the product of a Price Per Unit multiplied by a number of Units of Measurement of a Class as payment for performance of the Work to which it relates.
- Price Table means the table set out in the BID AND ACCEPTANCE FORM.
- Bank Rate means the rate of interest established from time to time by the Bank of Canada as the minimum rate at which the Bank of Canada makes short term advances to members of the Canadian Payments Association.

- Average Bank Rate means the simple arithmetic mean of the Bank Rates in effect at 4:00 pm Eastern Time each day during the calendar month which immediately precedes the calendar month in which payment is made.
- Duration of the Work means the number of calendar days required to complete the Work, commencing on the first day following receipt by the Contractor of the fully executed Contract and ending the day on which the Departmental Representative verifies that the Work has been satisfactorily completed.

GC5.2 Payment- General Provisions

1. It is a condition precedent to Canada's obligation under GC 5.3.5 that the Contractor has made and delivered to the Departmental Representative, a statutory declaration as described in GC 5.2.2.
2. A statutory declaration in a form acceptable to Canada shall contain a declaration that the Contractor has complied with all lawful obligations with respect to workers and that all lawful obligations towards Subcontractors and Suppliers in respect of the Work under the Contract have been fully discharged.
3. A payment by Canada pursuant to this section shall not be construed as evidence that the Work is satisfactory or in accordance with the Contract.
4. Delay in making payment by Canada under the Contract shall not constitute a breach of Contract.
5. Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, Canada may retain from amounts payable to the Contractor under the Contract, any amount payable to Canada by the Contractor under the Contract or any other current contract.
6. No additional payment shall be made for delays where the cause of the delay was under the control of the Contractor.
7. Except as provided for in these General Conditions, the amount payable to the Contractor under the Contract shall not be increased or decreased by reason of any increase or decrease in cost of the Work brought about by any increase in the cost of Labour, Plant or Material.
8. In the event of a change, including a new imposition or repeal of any tax, customs or other duty, charge, or any similar imposition that is imposed under sales or excise tax legislation of the Government of Canada or any Provincial or Territorial legislation, affects the cost of the Work to the Contractor, and occurs after the date of submission by the Contractor of the Contractor's bid, the contract amount shall be adjusted by an amount equal to the increased or decreased cost to the Contractor, which amount shall be determined through a detailed examination of the Contractor's records.
9. It is a term of every contract providing for the payment of any money by Her Majesty that payment under that contract is subject to there being an appropriation for the particular service for the fiscal year in which any commitment under that contract would come in course of payment. Section 40, *Financial Administration Act*, R. S., 1985, c. F-11, s. 40.

GC5.3 Progress Payments

1. Where the duration of the Work is greater than thirty (30) days, the Contractor shall be entitled to receive monthly progress payments upon submitting a progress claim in a form approved by the Departmental Representative. Where the duration of the Work is less than thirty (30) days, the Contractor shall submit a progress claim after the Work is complete.
2. On the expiration of a Payment Period, the Contractor shall deliver to the Departmental Representative:

- (a) a written progress claim that fully describes any part of the Work that has been satisfactorily completed and any Material that was delivered to the site of the Work but not incorporated into the Work during the Payment Period for which the progress claim relates;
 - (b) a completed and signed statutory declaration as described in GC 5.2.2; and
 - (c) in the case of the initial progress claim and the request for final payment, satisfactory evidence of compliance with workers compensation legislation that is applicable to the place of the Work.
 3. Not later than ten (10) days after receipt of a progress claim properly submitted in accordance with GC 5.3.2, the Departmental Representative shall issue a progress report, a copy of which shall be given to the Contractor.
 4. A progress report shall indicate the value of the part of the Work and Material described in the progress claim that, in the opinion of Canada:
 - (a) is in accordance with the Contract; and
 - (b) was not included in any other progress report related to the Contract.
 5. Not later than thirty (30) days after the receipt by the Departmental Representative of a properly submitted progress claim and supporting documentation, Canada shall make a progress payment to the Contractor in an amount that is equal to one of the following:
 - (a) 90 percent of the value that is indicated in the progress report; or
 - (b) If the Departmental Representative is satisfied that the Work is substantially complete and is acceptable for use by Canada, 100 percent of the value of the Work and Material that is in accordance with the Contract, less amounts previously paid for under the Contract, less the amount equal to the estimated cost of completing the Work and the estimated cost of rectifying defects and faults in the Work as determined by the Departmental Representative; or
 - (c) If the Departmental Representative is satisfied that the Work is complete, 100 percent of the value of the Work that is in accordance with the Contract less amounts previously paid for under the Contract;
- plus Applicable Taxes and less the aggregate of any amounts payable to or costs and damages claimed by Canada or by a Claimant against the Contractor.
6. The Departmental Representative reserves the right to increase or decrease the quantities submitted by the Contractor if there is a disagreement between the Contractor's invoiced quantities and the quantities shown in the records maintained at the site of the Work.
 7. Subject to GC 5.3.8, GC 5.3.9 and GC 5.3.10, the Departmental Representative and the Contractor may, by an agreement in writing, amend a Price Per Unit as set out in the Price Table for any Class of Labour, Plant or Material provided the Certificate of Measurement shows that the Authorized Quantity of the Class of Labour, Plant or Material actually performed, used or supplied by the Contractor in performing the Work is:
 - (a) less than 85 percent of the Estimated Total Quantity; or
 - (b) in excess of 115 percent of the Estimated Total Quantity.
 8. In no event shall the total amount of an Item set out in the Price Table that has been amended pursuant to GC 5.3.7 (a) exceed the amount that would have been Payable to the Contractor had the Estimated Total Quantity actually been performed, used, or supplied.
 9. An amendment that is made necessary by GC 5.3.7 (b) shall apply only to the quantities that are in excess of 115 percent.
 10. Where the Departmental Representative and the Contractor fail to agree on the amount of any adjustment to a Price Per Unit as contemplated by GC 5.3.7, the amended Price Per Unit shall be determined in accordance with GC 5.7.

GC5.4 Interest on Overdue Accounts

1. Canada shall be liable to pay, to the Contractor, simple interest at the Average Bank Rate plus 3 percent per annum on any amount that is Overdue. The interest shall apply from the date such amount becomes Overdue until the day prior to the Date of Payment inclusively.
2. Interest shall be paid to the Contractor without demand on Overdue payments, except, in respect to amounts which are less than fifteen (15) days Overdue, in which case, no interest shall be paid unless the Contractor so demands.
3. Canada shall not be liable to pay interest where Canada is not responsible for the delay in paying the Contractor.

GC5.5 Payment in the Event of Termination

1. If the Contract is terminated pursuant to GC 7.4, Canada shall pay the Contractor:
 - (a) an amount, as agreed upon by the Contractor and the Departmental Representative, for all Labour, Plant and Material performed, used or supplied by the Contractor as at the date of termination plus:
 - (i) any fully supported termination costs incurred by the Contractor, less
 - (ii) any amounts payable to or costs and damages claimed by Canada or by a Claimant, against the Contractor; or
 - (b) failing such an agreement, an amount calculated in accordance with GC 5.7.2.

GC5.6 Final Completion

1. A Certificate of Completion shall be issued to the Contractor on the date on which the Work has been completed and the Contractor has complied with the Contract and all orders and directions made pursuant thereto, all to the satisfaction of the Departmental Representative.
2. Where the Contract is, in whole or in part, a Unit Price Arrangement, the Departmental Representative shall, at the same time as the issuance of the Certificate of Completion, issue a Certificate of Measurement setting out the Authorized Quantities used or employed in respect of the classes and units set out in the Price Table under the BID AND ACCEPTANCE FORM and any subsequent amendments thereto, such certificate to be binding upon the Contractor and Canada.

GC5.7 Determination of Price

1. By mutual agreement:
 - (a) where a Lump Sum Arrangement applies to the Contract or a part thereof, the price of any change shall be the aggregate estimated cost of Labour, Plant and Material that is required for the change as agreed upon in writing by the Contractor and Canada, and include an allowance for overhead, margin and the risk of undertaking the work within the stipulated amount;
 - (b) where a Unit Price Arrangement applies to the Contract or a part thereof, the Contractor and Canada may, by agreement in writing, add Items, Units of Measurement, Estimated Total Quantities and Price Per Units to the Price Table;
 - (c) a Price Per Unit referred to in GC 5.7.1 (b) shall be determined on the basis of the aggregate estimated cost of Labour, Plant and Material that is required for the additional Item as agreed upon by the Contractor and Canada, and include an allowance for overhead, margin and the risk of undertaking the work;
 - (d) to facilitate approval of the price of the additional Item, the Contractor shall submit a cost estimate breakdown identifying, as a minimum, the estimated cost of Labour, Plant, Material, each subcontract amount, and the amount of the appropriate percentage allowance;
 - (e) if no agreement can be reached as contemplated in GC5.7.1 (a), the price shall be determined in accordance with GC 5.7.2; and

- (f) if no agreement can be reached as contemplated in GC 5.7.1 (b) and GC 5.7.1 (c), the Departmental Representative shall determine the Class and the Unit of Measurement of the Item of Labour, Plant or Material and the Price Per Unit shall be determined in accordance with GC 5.7.2.
2. Following Completion of the Additional Work
- (a) Where it is not possible to predetermine, or where there is failure to agree upon the price of a change in the Work, the price of the change shall be equal to the aggregate of:
- (i) all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the Labour, Plant and Material that fall within one of the classes of expenditure described in GC 5.7.2(b), that are directly attributable to the performance of the Contract; plus
 - (ii) an allowance for profit and all other expenditures or costs equal to 10 percent of the sum of the amounts referred to in GC 5.7.2 (a)(i); plus
 - (iii) interest, if any, paid by the Contractor on the amounts determined under GC 5.7.2 (a)(i) and (ii), calculated in accordance with GC 5.4.
- (b) The cost of Labour, Plant and Material referred to in GC 5.7.2 (a) shall be limited to the following categories of expenditure:
- (i) payments to Subcontractors and suppliers;
 - (ii) wages, salaries and traveling expenses of employees of the Contractor located at the site of the Work and that portion of wages, salaries, bonuses, living and traveling expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor provided they are actually and properly engaged on the Work under the Contract;
 - (iii) assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and GST/HST collection costs;
 - (iv) rent that is paid for Plant, or an amount equivalent to the said rent if the Plant is owned by the Contractor, that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that Plant had been approved by the Departmental Representative;
 - (v) payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of the Departmental Representative, are necessary for the proper performance of the Contract, other than payments for any repairs to the Plant arising out of defects existing before its allocation to the Work;
 - (vi) payments for Material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
 - (vii) payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the Plant and Material necessary for and used in the performance of the Contract; and
 - (viii) any other payments made by the Contractor with the approval of the Departmental Representative that are necessary for the performance of the Contract in accordance with the Contract Documents.

GC5.8 Claims Against and Obligations of the Contractor or Subcontractor

1. The Contractor shall ensure that all its lawful obligations arising out of the performance of the Work are discharged and satisfied at least as often as the Contract requires Canada to pay the Contractor. The Contractor shall provide the Departmental Representative with a Statutory Declaration, as referred to in GC 5.2.2. If any third party claims and outstanding obligations exist under the Contract, a Statutory Declaration shall also be accompanied by letter documentation that clearly identifies the existence and condition of any third party disputed claims and outstanding obligations.

2. In order to discharge lawful obligations of and satisfy lawful claims against the Contractor or a Subcontractor arising out of the performance of the Work, Canada may:
 - (a) pay an amount from money that is due and payable to the Contractor pursuant to the Contract directly to the claimant against the Contractor or the Subcontractor; or
 - (b) withhold from any amount that is due and payable to the Contractor pursuant to the Contract the full amount of the claim or any portion thereof. Monies withheld for this purpose shall not be subject to any interest payment in the event such claims are rejected.
3. The amount referred to in GC 5.8.2 (a) shall be that amount which the Contractor would have been obliged to pay to such claimant had the provisions of the Provincial or Territorial lien legislation, or in the province of Quebec, the law relating to mortgage, been applicable to the Work. Any such claimant need not comply with the provisions of such legislation setting out the steps by way of notice, registration, or otherwise as might have been necessary to preserve or perfect any claim for lien or mortgage which the claimant might have had.
4. For the purposes of GC 5.8, a claim shall be considered lawful when it is so determined:
 - (a) by a court of competent jurisdiction;
 - (b) by an arbitrator duly appointed to arbitrate the said claim; or
 - (c) by written notice delivered to the Departmental Representative and signed by the Contractor authorizing payment of the said claim(s).
5. A payment made pursuant to GC 5.8.2 is, to the extent of the payment, a discharge of Canada's liability to the Contractor under the Contract and may be deducted from any amount payable to the Contractor under the Contract.
6. GC 5.8.2 shall only apply to claims and obligations where:
 - (a) the notification of which has set forth the amount claimed to be owing and the person who by Contract is primarily liable;
 - (b) the notification or a copy of the notification was received by the Departmental Representative in writing before final payment is made to the Contractor and within one hundred and twenty (120) days of the date on which the claimant:
 - (i) should have been paid in full under the claimant's Contract with the Contractor or Subcontractor where the claim is for money that was lawfully required to be held back from the claimant; or
 - (ii) performed the last of the labour or furnished the last of the Plant or Material pursuant to the claimant's Contract with the Contractor or Subcontractor where the claim is not for money referred to in GC 5.8.6 (b)(i); and
 - (c) the proceedings to determine the right to payment for the claim shall have commenced within one year from the date that the notice referred to in GC 5.8.6 (b) was received by the Department Representative.
7. The Departmental Representative shall inform the Contractor in writing of receipt of any notification of claim and of the intention of Canada to withhold funds pursuant to GC 5.8.2. The Contractor may, at any time thereafter and until payment is made to the claimant, post with Canada, security in the form of a Claimant's Payment Bond acceptable to Canada and in an amount equal to the value of the said claim. Upon receipt of such security Canada shall release to the Contractor any funds which would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of GC 5.8.2.

GC6 CHANGES IN THE WORK

GC6.1 Changes in the Work

1. Canada shall have the right to order additional Work, dispense with, or change the whole or any part of the Work described in the Drawings and Specifications or Scope of the Work.

2. The Departmental Representative shall decide whether anything done or not done as a result of directions given under GC 6.1.1 has increased or decreased the cost of the Work to the Contractor and where the cost of the Work has increased or decreased, the amount payable under the Contract shall be increased or decreased by an amount calculated in accordance with GC5.7.
3. Any change in the terms of the Contract, other than changes that may be ordered by Canada or the Departmental Representative pursuant to GC 6.1.1, may be made only by agreement in writing between Canada and the Contractor.

GC6.2 Changes in Subsurface Conditions and Delays by Canada

1. No extra payment shall be made to the Contractor for any extra expense, loss or damage for any reason unless Canada shall certify that such extra expense, loss or damage is directly attributable to:
 - (a) a substantial difference between the subsurface conditions as indicated in the Drawings and Specifications or Scope of Work and the actual conditions found at the site of the Work; or
 - (b) the neglect or delay by Canada, occurring after the date of award of the Contract:
 - (i) in providing any information or the doing of any act which Canada is required expressly by the Contract to do or as required by a known custom of the trade; or
 - (ii) in suspending the Work pursuant to GC 7.3.
2. The Contractor shall, within ten (10) days immediately after encountering such subsurface conditions or such neglect or delay, give written notice to the Departmental Representative of a claim for such extra expense, loss or damage. Failure to provide such written notice shall render the claim null and void.
3. The amount of any extra payment made under this section shall be calculated in accordance with GC5.7.
4. If, in the opinion of the Departmental Representative, any difference in subsurface conditions referred to in GC 6.2.1 results in a savings to the Contractor, the amount of said savings shall be deducted from the Contract Amount owing to the Contractor.

GC6.3 Extension of Time

1. Upon written application by the Contractor made before the date fixed for the completion of the Work, Canada may extend the time for completion of the Work if, in the opinion of Canada causes beyond the control of the Contractor have delayed its completion.
2. If the Contractor does not complete the Work by the day fixed for its completion, but completes it thereafter, the Contractor shall:
 - (a) pay all Canada's inspection costs relating to the Work incurred after the stipulated completion date; and
 - (b) compensate Canada for any loss or damage resulting from the failure by the Contractor to complete the Work by the completion date fixed by the Contract.

Unless, in the opinion of Canada, such delay was due to causes beyond the control of the Contractor or it is in the public interest to waive the whole or any part of the payment.

GC7 DEFAULT, SUSPENSION OR TERMINATION OF CONTRACT

GC7.1 Taking the Work Out of the Contractor's Hands

1. By giving notice in writing to the Contractor, Canada may take all or any part of the Work out of the Contractor's hands, and may employ such means as Canada sees fit to have the Work completed if the Contractor:

- (a) fails to remedy any delay in the commencement or default in the execution of the Work to the satisfaction of the Departmental Representative within six (6) days of Canada giving written notice to the Contractor to do so;
 - (b) defaults in the completion of any part of the Work within the time fixed by the Contract for its completion;
 - (c) becomes insolvent or commits an act of bankruptcy and has neither made a proposal to its creditors nor filed a notice of intention to make such a proposal pursuant to the Bankruptcy and Insolvency Act;
 - (d) abandons the Work;
 - (e) makes an assignment contrary to GC 1.3; and or
 - (f) otherwise fails to observe or perform any of the provisions of the Contract.
2. If the whole or any part of the Work is taken out of the Contractor's hands, the Contractor's right to any further payment that is due or accruing due under the Contract is extinguished.
 3. The Contractor shall be liable to pay Canada, upon demand, an amount that is equal to the sum of all losses and damages incurred or sustained by Canada in respect of the Contractor's failure to complete the Work.
 4. If the whole or any part of the Work that is taken out of the Contractor's hands pursuant to GC 7.1.1 is completed by Canada, the Departmental Representative shall calculate the amount, if any, of the holdback or progress claims that had accrued and was due prior to the date on which the Work was taken out of the Contractor's hands.
 5. If it is determined that there is an amount that is not required for the purposes of having the Work performed or of compensating Canada for any other loss or damage incurred or sustained by reason of the Contractor's default, Canada may then pay the Contractor the amount determined not to be required pursuant to GC 7.1.4.

GC7.2 Effect of Taking the Work Out of the Contractor's Hands

1. The taking of the Work or part thereof out of the Contractor's hands pursuant to GC 7.1.1 does not operate so as to relieve or discharge the Contractor from any obligations under the Contract or imposed upon the Contractor by law except the obligation to complete the performance of that part of the Work that was taken out of the Contractor's hands.
2. All Plant and Material and the interest of the Contractor in all real property, licenses, powers and privileges acquired, used, provided or consumed by the Contractor under the Contract shall continue to be the property of Canada without compensation to the Contractor.
3. When the Departmental Representative certifies that any Plant, Material or any interest of the Contractor referred to in GC 7.2, is no longer required for the purpose of the Work, or that it is not in the interests of Canada to retain that Plant, Material or interest, it shall revert to the Contractor.

GC7.3 Suspension of the Contract

1. Canada may, upon giving notice in writing to the Contractor, suspend the performance of the Work at any time. The Contractor shall comply with such notice immediately, subject to any conditions that may be stipulated in the notice.
2. If Canada suspends the Work for thirty (30) days or less the Contractor shall, subject to its remedy under GC 5.7, complete the Work when called upon to do so. If Canada suspends the Work for a period in excess of thirty (30) days, the Contractor may request that Canada terminate the Contract pursuant to GC 7.4.
3. It is the responsibility of the Contractor to mitigate all costs during the suspension period.

GC7.4 Termination of the Contract

1. Canada may terminate the Contract at any time by giving notice of termination in writing to the Contractor and upon receipt of such notice the Contractor shall cease all operations in performance of the Contract, subject to any conditions that may be stipulated in the notice.
2. Termination under GC 7.4.1 shall not relieve the Contractor of any legal or contractual obligations other than that portion of Work that remains to be completed at the time of the termination.
3. Payment, in event of termination under this subsection, shall be made pursuant to the provision of GC5.5.

GC8 DISPUTE RESOLUTION

1. The Contractor may, within 10 days after the communication to the Contractor of any decision or direction referred to in GC2.1 (b) and GC6.1, protest that decision or direction.
2. A protest referred to in GC8.1 shall be in writing, contain full reasons for the protest, be signed by the Contractor and be given to Canada.
3. If the Contractor gives a protest pursuant to GC8.2, any compliance by the Contractor with the decision or direction that was protested shall not be construed as an admission by the Contractor of the correctness of that decision or direction, or prevent the Contractor from taking whatever action the Contractor considers appropriate in the circumstances.
4. The giving of a protest by the Contractor pursuant to GC8.2 shall not relieve the Contractor from complying with the decision or direction that is the subject of the protest.
5. Subject to GC8.6, the Contractor shall take any action referred to in GC8.3 within 3 months after the date of the Certificate of Completion referred to in GC5.6 and not afterwards, except where it is otherwise provided by law.
6. The Contractor shall take any action referred to in GC8.3 resulting from a direction under GC3.4, within 3 months after the expiry of a warranty or guarantee period and not afterwards, except where it is otherwise provided by law.
7. Subject to GC8.8, if Canada determines that the Contractor's protest is justified, Canada shall pay the Contractor the cost of the additional labour, Plant and Material necessarily incurred by the Contractor in carrying out the protested decision or direction.
8. Costs referred to in GC8.7 shall be calculated in accordance with GC5.7.

GC9 INDEMNIFICATION AND INSURANCE

GC9.1 Indemnification

1. The Contractor shall indemnify and save harmless Canada, its servants, agents and all those for whom Canada may be, in law, responsible, from and against all claims, demands, losses, damages, costs and legal proceedings by whomever made, sustained, brought or prosecuted, and in any manner based upon, occasioned by or attributed to the activities of the Contractor, the Contractor's employees, agents or persons for whom the Contractor is, in law, responsible for the performance or purported performance of the Contract, including an infringement or alleged infringement of a patent of invention or any other kind of intellectual property.
2. For the purpose of GC 9.1.1, activities include any act improperly carried out and any omission or delay in carrying out an act.
3. The Contractor's liability to indemnify or reimburse Canada under the Contract shall not affect or prejudice Canada from exercising any rights available to Canada at law or in equity.

GC9.2 Insurance Contracts

1. The Contractor shall, at the Contractor's expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to Canada in accordance with the requirements of the INSURANCE TERMS.
2. The insurance contracts referred to in GC 9.2.1 shall:
 - (a) be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in INSURANCE TERMS; and
 - (b) provide for the payment of claims under such insurance contracts in accordance with GC9.3.

GC9.3 Insurance Proceeds

1. In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the Contractor pursuant to GC 9.2, the proceeds of the claim shall be paid directly to Canada, and
 - (a) the monies so paid shall be held by Canada for the purposes of the Contract, or
 - (b) if Canada elects, shall be retained by Canada, in which event they vest in Canada absolutely.
2. In the case of a claim payable under a General Liability insurance contract maintained by the Contractor pursuant to GC 9.2, the proceeds of the claim shall be paid by the insurer directly to the claimant.
3. If an election is made pursuant to GC 9.3.1, Canada may cause an audit to be made of the accounts of the Contractor and of Canada in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between:
 - (a) the aggregate of the amount of the loss or damage suffered or sustained by Canada, including any costs incurred in respect of the clearing and cleaning of the Work and its site and any other amount that is payable by the Contractor to Canada under the Contract, minus any monies retained pursuant to GC 9.3.1 (b); and
 - (b) the aggregate of the amounts payable by Canada to the Contractor pursuant to the Contract up to the date of the loss or damage.
4. A difference that is established pursuant to GC 9.3.3 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the creditor.
5. When payment of a deficiency has been made pursuant to GC 9.3.4, all rights and obligations of Canada and the Contractor under the Contract shall, with respect only to the part of the work that was the subject of the audit referred to in GC 9.3.3, be deemed to have been expended and discharged.
6. If an election is not made pursuant to GC 9.3.1 (b), the Contractor shall, subject to GC 9.3.7, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at the Contractor's expense as if that part of the work had not yet been performed.
7. When the Contractor clears and cleans the Work and its site and restores and replaces the work referred to in GC 9.3.6, Canada shall pay the Contractor out of the monies referred to in GC 9.3.1 so far as they will thereon to extend.
8. Subject to GC 9.3.7, payment by Canada pursuant to GC 9.3.7 shall be made in accordance with the Contract but the amount of each payment shall be 100 percent of the amount claimed notwithstanding GC 5.3 a) and b).

INSURANCE TERMS

IN1 GENERAL

- IN1.1 Worker's Compensation
- IN1.2 Indemnification
- IN1.3 Proof of Insurance
- IN1.4 Insured
- IN1.5 Payment of Deductible

IN2 COMMERCIAL GENERAL LIABILITY

- IN2.1 Scope of Policy
- IN2.2 Period of Insurance

IN3 AUTOMOBILE INSURANCE

- IN3.1 Scope of Policy

IN1 GENERAL

IN1.1 Worker's Compensation

- 1) The Contractor shall provide and maintain Worker's Compensation Insurance in accordance with the legal requirements of the Province or Territory where the work is being carried out.

IN1.2 Indemnification

- 1) The insurance required by the provisions of these Insurance Terms shall in no way limit the Contractor's responsibility under the Indemnification clause of the General Conditions of the contract. Any additional coverage the Contractor may deem necessary to fulfill his obligations under the aforesaid clause shall be at his own discretion and expense.

IN1.3 Proof of Insurance

- 1) Before commencement of the Work, and within thirty (30) days after acceptance of its bid, the Contractor shall deposit with Canada a CERTIFICATE OF INSURANCE (form AAFC I AAC5314) available upon request.
- 2) Upon request by Canada, the Contractor shall provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the provisions contained herein.

IN1.4 Insured

- 1) Each policy shall insure the Contractor and shall include Her Majesty the Queen in right of Canada, represented by the Minister of Agriculture & Agri-Food Canada as an additional Insured, with respect to liability arising out of the operations of the contractor with regard to the work.

IN1.5 Payment of Deductible

- 1) The payment of monies up to the deductible amount made in satisfaction of a claim shall be borne by the Contractor.

IN2 COMMERCIAL GENERAL LIABILITY

IN2.1 Scope of Policy

- 1) The insurance coverage provided shall not be less than that provided by IBC Form 2100, as amended from time to time, and shall have:
 - (a) an Each Occurrence Limit of not less than \$1,000,000.00 ;

- (b) a Products/Completed Operations Aggregate Limit of not less than \$1,000,000.00; and
 - (c) a General Aggregate Limit of not less than \$2,000,000.00 Per policy year, if the policy is subject to such a limit.
- 2) The policy shall either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:
- (a) Blasting.
 - (b) Pile driving and caisson work.
 - (c) Underpinning.
 - (d) Removal or weakening of support of any building or land whether such support be natural or otherwise if the work is performed by the insured contractor.
 - (e) Asbestos.
 - (f) Non-owned Automobile Policy.

IN2.2 Period of Insurance

- 1) Unless otherwise directed in writing by Canada, or, otherwise stipulated elsewhere herein, the policy required herein shall be in force and be maintained from the date of contract award until the day of issue of the Certificate of Completion except that the coverage for Completed Operations Liability shall, in any event, be maintained for a period of at least six (6) years beyond the date of the CERTIFICATE OF COMPLETION.

IN3 AUTOMOBILE INSURANCE

IN3.1 Scope of Policy

- 1) Automobile Liability Insurance in respect of licensed vehicles shall have limits of not less than one million dollars inclusive per occurrence for bodily injury, death, and damage to property.



BID AND ACCEPTANCE FORM (BA)

BA01 IDENTIFICATION

Re-Roofing, Building 34
CEF Ottawa
Solicitation # 14-1250
Project: CEF14 0043

BA02 BUSINESS NAME AND ADDRESS OF BIDDER

Name: _____

Address: _____

Telephone: _____

Email: _____

Fax: _____

PBN: _____

BA03 THE OFFER

The Bidder offers to Her Majesty the Queen in right of Canada to perform and complete the Work for the above named project in accordance with the Bid Documents for the **Total Bid Amount** of \$ _____ excluding Applicable Taxes.
(amount in numbers)

BA04 BID VALIDITY PERIOD

The bid shall not be withdrawn for a period of 30 days following the date of solicitation closing.

BA05 ACCEPTANCE AND CONTRACT

Upon acceptance of the Contractor's offer by Canada, a binding Contract shall be formed between Canada and the Contractor. The documents forming the Contract shall be the contract documents identified in Contract Documents (CD).

BA06 CONSTRUCTION TIME

The Contractor shall perform and complete the Work within six (6) weeks from the date of notification of acceptance of the offer.

BA07 SIGNATURE

Name and title of person authorized to sign on behalf of Bidder (Type or print)

Signature

Date



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

DRAWINGS AND SPECIFICATIONS

#14-1250

FOR

RE-ROOFING

Building 34

Project: CEF14 0043

CENTRAL EXPERIMENTAL FARM (CEF)

Agriculture and Agri-Food Canada (AAFC)

960 Carling Avenue

Ottawa, Ontario K1A 0C6

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PART 1 - GENERAL

1.1 MINIMUM STANDARDS

- .1 Materials shall be new and work shall conform to the minimum applicable standards of the Canadian General Standards Board, the Canadian Standards Association, the National Building Code of Canada 2005 (NBC) and all applicable Provincial and Municipal codes. In the case of conflict or discrepancy the most stringent requirement shall apply.

1.2 SHOP DRAWINGS

- .1 Submit for the Project Manager's review, two copies of each shop drawing.
- .2 The review is for the sole purpose of ascertaining conformance with the general design concept, and does not mean approval of the design details inherent in the shop drawings, responsibility for which shall remain with the Contractor. Such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents.
- .3 Do not commence manufacture or order materials before shop drawings are reviewed by Project Officer.
- .4 The Contractor to review and sign the shop drawings prior to sending them to the Project Officer for review.

1.3 SAMPLES

- .1 Samples: examples of materials, equipment, quality, finishes, workmanship.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.
- .3 Reviewed and accepted samples will become standard of workmanship and material against which installed work will be verified.

1.4 PRODUCT DATA

- .1 Product data: manufacturers catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products.
- .2 Submit two copies of product data.
- .3 Delete information not applicable to project.
- .4 Cross-reference product data information to applicable portions of Contract Documents.

1.5 TAXES

- .1 Pay all taxes properly levied by law (including Federal, Provincial and Municipal).

1.6 FEES, PERMITS AND CERTIFICATES

- .1 Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.

1.7 FIRE SAFETY REQUIREMENTS

- .1 Comply with the National Building Code of Canada 2005 (NBC) for fire safety in construction and the National Fire Code of Canada 2005 (NFC) for fire prevention, fire fighting and life safety in building in use.
- .2 Comply with Human Resources Development Canada (HRDC), Fire Commissioner of Canada (FCC) standards:
 - .1 No. 301: Standard for Construction / Operations
 - .2 No. 302: Standard for Welding and Cutting
 - .3 No. 374: Fire Protection Standard for General Storage (Indoor and Outdoor)
 - .4 Retain all fire safety documents and standards on site.
- .3 Welding and cutting:
 - .1 At least 48 hours prior to commencing cutting, welding or soldering procedure, provide to the Project Officer:
 - .1 Notice "of intent, "indicating devices affected, time and duration of isolation or bypass.
 - .2 Completed welding permit as defined in FC 302.
 - .1 Return welding permit to Project Officer immediately upon completion of procedures for which permit was issued.
 - .3 A fire watcher as described in FC 302 shall be assigned when welding or cutting operations are carried out in areas where combustible materials within 10m may be ignited by conduction or radiation.
 - .2
 - .3
- .4 Where work requires interruption of fire alarms or fire suppression, extinguishing or protection systems:
 - .1 Provide watchman ,service as described in FC 301; In general, watchman service is defined as an individual conversant with Fire Emergency Procedures, performing fire picket duty within an unprotected and unoccupied (no workers) area once per hour.

- .2 Retain services of manufacturer for fire protection systems on daily basis or as approved by FCC, to isolate and protect all devices relating to:
- .3 modification of fire alarms, fire suppression, extinguishing or protection systems; and/or
- .4 cutting, welding, soldering or other construction activities which might activate fire protection systems.
- .5 Immediately upon completion of work, restore fire protection systems to normal operation and verify that all devices are fully operational.
- .6 Inform fire alarm system monitoring agency and local Fire Department immediately prior to isolation and immediately upon restoration of normal operation.

1.8 HAZARDOUS MATERIALS

- .1 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and the provision of Material Safety Data Sheets (MSDS) acceptable to Human Resources Development Canada, Labour Program.
- .2 For work in occupied buildings give the Project Officer 48 hours notice for work involving designated substances (Ontario Bill 208), hazardous substances (Canada Labour Code Part II Section 10), and before painting, caulking, installing carpet or using adhesives.

1.9 TEMPORARY UTILITIES

- .1 Existing services required for the work, excluding power required for space heating, may be used by the Contractor without charge. Ensure capacity is adequate prior to imposing additional loads. Connect and disconnect at own expense and responsibility.
- .2 Connect to existing power supply in accordance with Canadian Electrical Code and provide meters and switching.
- .3 Notify the Project Officer and utility companies of intended interruption of services, obtain requisite permission.
- .4 Give the Project Officer 48 hours notice related to each necessary interruption of any mechanical or electrical service throughout the course of the work. Keep duration of these interruptions to a minimum. Carry out all interruptions after normal working hours of the occupants, preferably on weekends.

1.10 REMOVED MATERIALS

- .1 Unless otherwise specified, materials for removal become the Contractor's property and shall be taken from site.

1.11 PROTECTION

- .1 Protect finished work against damage until take-over.
- .2 Protect adjacent work against the spread of dust and dirt beyond the work areas.
- .3 Protect operatives and other users of site from all hazards.

1.12 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to the normal use of premises. Make arrangements with the Project Officer to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Where elevators, dumbwaiters, conveyors or escalators exist Contractor may use these at the Project Officer's discretion. Protect from damage, safety hazards and overloading of existing equipment.
- .5 Sanitary facilities will be assigned for Contractor's personnel. Others shall not be used. Keep facilities clean.
- .6 Closures: Protect work temporarily until permanent enclosures completed.

1.13 SITE STORAGE

- .1 The Project Manager will assign storage space which shall be equipped and maintained by the Contractor.
- .2 Do not unreasonably encumber site with materials or equipment.
- .3 Move stored products or equipment which interfere with operations of the Project Officer or other contractors.
- .4 Obtain and pay for use of additional storage or work areas needed for operations.

1.14 CUT, PATCH AND MAKE GOOD

- .1 Cut existing surfaces as required to accommodate new work.
- .2 Remove all items so shown or specified.
- .3 Patch and make good surfaces cut, damaged or disturbed, to the Project Officer's approval. Match existing material, colour, finish and texture.

- .4 Install fire stops and smoke seals in accordance with ULC-SI15-1995 around pipe, ductwork, cables, and other objects penetrating fire separations to provide fire resistance not less than the fire resistance rating of surrounding floor, ceiling, and wall assembly.

1.15 SLEEVES, HANGERS AND INSERTS

- .1 Co-ordinate setting and packing of sleeves and supply and installation of hangers and inserts. Obtain the Project Officer's approval before cutting into structure.

1.16 SIGNS

- .1 Provide common-use signs related to traffic control, information, instruction, use of equipment, public safety devices, etc. in both official languages or by the use of commonly-understood graphic symbols to the Project Officer's approval.
- .2 No advertising will be permitted on this project.

1.17 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary access to and egress from work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

1.18 SCAFFOLDS AND WORK PLATFORMS

- .1 Design, install, and inspect scaffolds and work platforms required for work in accordance with relevant municipal, provincial and other regulations.

1.19 PUBLIC WAY PROTECTION

- .1 Design, erect and maintain hoarding to provide protection complete with signs as required by authority having jurisdiction.

1.20 OPERATIONS AND MAINTENANCE MANUALS

- .1 Two (2) weeks prior to any scheduled training, submit to the Project Manager two (2) copies of approved Operations Data and Maintenance Manual in both official languages, compiled as follows:
 - .1 Bind data in vinyl hard cover 3 "D" ring type loose leaf binders for 212 x 275.rnm size paper. Binders must not exceed 75rnm thick or be more than 2/3 full.

- .2 Enclose title sheet labelled "Operation Data and Maintenance Manual," project name, date and list of contents. Project name must appear on binder face and spine.
- .3 Organize contents into applicable sections of work to parallel project specifications breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.
- .2 Include following information plus data specified.
 - .1 Maintenance instructions for finished surfaces and materials.
 - .2 Copy of paint schedules.
 - .3 Guarantees showing:
 - .1 Name and address of projects.
 - .2 Guarantee commencement date (date of Interim Certificate of Completion).
 - .3 Duration of guarantee.
 - .4 Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.
 - .4 Signature and seal of Guarantor.
 - .5 Additional material used in project listed under various Sections showing name of manufacturer and source of supply.
- .3 Spare parts: List all recommended spares to be maintained on site to ensure optimum efficiency. List all special tools appropriate to unique application. All parts/tools detailed must be identified as to manufacturer, manufacturer part number and supplier (including address).
- .4 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

1.21 RECORDS

- .1 As work progresses, maintain accurate records to show deviations from contract drawings. Just prior to the Project Officer's inspection for issuance of final certificate of completion, supply to the Project Officer one (1) set of white prints with all deviations neatly inked in. The Project Officer will provide two sets of clean white prints for this purpose.

1.22 GUARANTEES AND WARRANTIES

- .1 Before completion of work collect all manufacturer's guarantees and warranties and deposit with Engineer.

1.23 CLEAN UP

- .1 Clean up work area as work progresses. At the end of each work period, and more often if ordered by the Project Officer, remove debris from site, neatly stack material for use, and clean up generally.
- .2 Upon completion remove scaffolding, temporary protection and surplus materials. Make good defects noted at this stage.
- .3 Wash and polish glass, stainless steel, baked or porcelain enamel, plastic laminate and other plastic surfaces, floors, hardware. Clean manufactured articles in accordance with manufacturer's directions.
- .4 Clean areas under contract to a condition at least equal to that previously existing and to approval of Project Officer.

1.24 CONTRACT DOCUMENTS

- .1 Drawings and specifications are complementary, items shown or mentioned in one and not in the other are deemed to be included in the contract work.

1.25 BUILDING SMOKING ENVIRONMENT

- .1 Smoking is not permitted in the Building. Obey smoking restrictions on building property.

1.26 DUST CONTROL

- .1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of work and public.
- .2 Maintain and relocate protection until such work is complete.
- .3 Protect all furnishings within work area with 0.102 mm thick polyethylene film during construction. Remove film during non-construction hours and leave premises in clean, unencumbered and safe manner for normal daytime function.

1.27 TESTING LABORATORY

- .1 The Project Manager will appoint and pay for costs of inspection and testing services, unless indicated otherwise.
- .2 Provide safe working areas and assist with testing procedures, including provisions for materials or services and co-ordination, as required by testing agency and as authorized by Project Officer.

- .3 Where tests indicate non-compliance with specifications, contractor to pay for initial test and all subsequent testing of work to verify acceptability of corrected work.

1.28 SCHEDULING

- .1 On award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion. When schedule has been reviewed by the Project Manager, take necessary measures to complete work within scheduled time. Do not change schedule without notifying the Project Manager.
- .2 Carry -out work between 7:00 and 18:00 Monday to Friday, excluding statutory holidays. Work overtime hours as required to meet the scheduled completion date.
- .3 Give the Project Officer 48 hours notice for work to be carried out on between 18:00 and 7:00 hours and for work to be carried out on weekends or holidays.
- .4 Carry out noise generating work during "off hours" Monday to Friday from 16:00 to 09:00 hours and on Saturdays, Sundays, and statutory holidays.

1.29 COST BREAKDOWN

- .1 Ten days after Contract award and before submitting first progress claim, submit breakdown of Contract Amount in detail for the Project Officer's approval and aggregating the Contract Amount. After approval by the Project Officer, the cost breakdown will be used as the basis of progress payments.

END OF SECTION 01 10 20

Part 1 General

1.1 ADMINISTRATIVE

- .1 Submit to AAFC Authorized Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to AAFC Authorized Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify AAFC Authorized Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by AAFC Authorized Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by AAFC Authorized Representative review.
- .10 Keep one reviewed copy of each submission on site.

1.2 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

- .3 Allow 10 days for Authorized Representative's review of each submission.
- .4 Adjustments made on shop drawings by AAFC Authorized Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to AAFC Authorized Representative prior to proceeding with Work.
- .5 Make changes in shop drawings as AAFC Authorized Representative may require, consistent with Contract Documents. When resubmitting, notify AAFC Authorized Representative in writing of revisions other than those requested.
- .6 Accompany submissions with transmittal letter, in [duplicate], containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .7 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .8 After AAFC Authorized Representative review, distribute copies.

- .9 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as AAFC Authorized Representative may reasonably request.
- .10 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by AAFC Authorized Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .11 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by AAFC Authorized Representative.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within [3] years of date of contract award for project.
- .12 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by AAFC Authorized Representative.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
- .13 Submit electronic copies of manufacturer's instructions for requirements requested in specification Sections and as requested by AAFC Authorized Representative.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .14 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by AAFC Authorized Representative.
- .15 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .16 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by AAFC Authorized Representative.
- .17 Delete information not applicable to project.
- .18 Supplement standard information to provide details applicable to project.
- .19 If upon review by AAFC Authorized Representative, no errors or omissions are discovered or if only minor corrections are made, transparency copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same

procedure indicated above, must be performed before fabrication and installation of Work may proceed.

- .20 The review of shop drawings by is for sole purpose of ascertaining conformance with general concept.
 - .1 This review shall not mean that the Owner or AAFC Authorized Representative approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
 - .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.3 SAMPLES

- .1 Submit for review samples in triplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to AAFC Authorized Representative's business address.
- .3 Notify AAFC Authorized Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by AAFC Authorized Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to AAFC Authorized Representative prior to proceeding with Work.
- .6 Make changes in samples which AAFC Authorized Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.4 PHOTOGRAPHIC DOCUMENTATION

- .1 Submit electronic copy of colour digital photography monthly with progress statement and as directed by AAFC Authorized Representative.
- .2 Project identification: name and number of project and date of exposure indicated.

- .3 Frequency of photographic documentation: monthly as directed by AAFC Authorized Representative.

1.5 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION 01 33 00

Part 1 General

1.1 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Ontario
 - .1 Occupational Health and Safety Act, R.S.O. 1990 Updated 2005.

1.2 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures ____.
- .2 Submit site-specific Health and Safety Plan: Within 7 ____ days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation.
- .3 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to AAFC Authorised Representative and or authority having jurisdiction, weekly.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Submit copies of incident and accident reports.
- .6 Submit WHMIS MSDS - Material Safety Data Sheets. AAFC Authorised Representative ____ will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to AAFC Authorised Representative within 7 days after receipt of comments from AAFC Authorised Representative.
- .7 AAFC Authorised Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .8 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to AAFC Authorised Representative.

- .9 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.3 FILING OF NOTICE

- .1 File Notice of Project with Provincial and Municipal authorities as required prior to beginning of Work.

1.4 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project. Submit report to Engineer.

1.5 MEETINGS

- .1 Schedule and administer Health and Safety meeting with AAFC Authorised Representative prior to commencement of Work.
- .2 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .3 AAFC Authorised Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.6 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.7 COMPLIANCE REQUIREMENTS

- .1 Comply with Ontario Health and Safety Act, R.S.O.
- .2 Comply with Occupational Health and Safety Regulations, 1996.
- .3 Comply with Occupational Health and Safety Act, General Safety Regulations, O.I.C.
- .4 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.8 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in

accordance with Acts and Regulations of Province having jurisdiction and advise AAFC Authorised Representative verbally and in writing.

1.9 HEALTH AND SAFETY CO-ORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1 Have site-related working experience.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

1.10 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with AAFC Authorised Representative.

1.11 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by AAFC Authorised Representative.
- .2 Provide AAFC Authorised Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 AAFC Authorised Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.12 POWDER ACTUATED DEVICES

- .1 Use powder actuated devices only after receipt of written permission from AAFC Authorised Representative.

1.13 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION 01 35 29

Part 1 General

1.1 REFERENCES

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-[1994], Stipulated Price Contract.
 - .2 CAN/CSA-S269.2-[M1987(R2003)], Access Scaffolding for Construction Purposes.
 - .3 CAN/CSA-Z321-[96(R2001)], Signs and Symbols for the Occupational Environment.

1.2 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, avenues of ingress/egress to fenced area and details of fence installation.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

1.3 SCAFFOLDING

- .1 Scaffolding in accordance with CAN/CSA-S269.2.
- .2 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms and temporary stairs as required.

1.4 HOISTING

Provide, operate and maintain hoists, cranes required for moving of workers, materials and equipment.

- .1 Hoists, cranes to be operated by qualified operator.

1.5 SITE STORAGE/LOADING

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.6 CONSTRUCTION PARKING

- .1 Parking will be permitted on site provided it does not disrupt performance of Work or building operations.
- .2 Provide and maintain adequate access to project site.

1.7 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.8 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.9 CONSTRUCTION SIGNAGE

- .1 No signs or advertisements, other than warning signs, are permitted on site.
- .2 Signs and notices for safety and instruction in both official languages Graphic symbols to CAN/CSA-Z321.
- .3 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by AAFC Authorized Representative.

1.10 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Protect travelling public from damage to person and property.
- .3 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .4 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.

1.11 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.

- .2 Store materials resulting from demolition activities that are salvageable.
- .3 Stack stored new or salvaged material not in construction facilities.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION 01 52 00

Part 1 General

1.1 REFERENCES

- .1 Canadian Standards Association (CSA International)
- .1 CSA-O121-[M1978(R2003)], Douglas Fir Plywood.

1.2 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.3 HOARDING

- .1 Erect temporary site enclosure using new 1.2 m high snow fence wired to rolled steel "T" bar fence posts spaced at 2.4 m on centre. Provide one lockable truck gate. Maintain fence in good repair.
- .2 Provide as required by governing authorities as indicated.

1.4 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.5 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.6 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Confirm with AAFC Authorized Representative locations and installation schedule 3 days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for recycling in accordance with municipal regulations.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION 01 56 00

Part 1 General

1.1 REFERENCES

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-2008, Stipulated Price Contract.

1.2 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify AAFC Authorized Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .2 Request AAFC Authorized Representative's inspection.
 - .2 AAFC Authorized Representative's Inspection:
 - .1 AAFC Authorized Representative and Contractor to inspect Work and identify defects and deficiencies.
 - .2 Contractor to correct Work as directed.
 - .3 Completion Tasks: submit written certificates in English or French that tasks have been performed as follows:
 - .1 Work: completed and inspected for compliance with Contract Documents.
 - .2 Defects: corrected and deficiencies completed.
 - .3 Work: complete and ready for final inspection.
 - .4 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by AAFC Authorized Representative, and Contractor.
 - .2 When Work incomplete according to Owner and AAFC Authorized Representative, complete outstanding items and request re-inspection.
 - .5 Final Payment:
 - .1 When AAFC Authorized Representative considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .2 Refer to CCDC 2 when Work is incomplete according to the AAFC Authorized Representative, complete outstanding items and request re-inspection.
 - .6 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.3 FINAL CLEANING

- .1 Remove surplus materials, excess materials, rubbish, tools and equipment.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION 01 77 00

Part 1 General

1.1 SECTION INCLUDES

- .1 Materials, removal and installation of asphalt shingles and roll roofing.

1.2 REFERENCES

- .1 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-37.4-[M89], Fib-rated, Cutback Asphalt, Lap Cement for Asphalt Roofing.
 - .2 CAN/CGSB-37.5-[M89], Cutback Asphalt Plastic Cement.
 - .3 CAN/CGSB-51.32-[M77], Sheathing, Membrane, Breather Type.
 - .4 CAN/CGSB-51.34-[M86], Vapour Barrier Polyethylene Sheet, for Use in Building Construction.
- .2 Canadian Roofing Contractors' Association (CRCA).
 - .1 CRCA Roofing Specification Manual - 1997.
- .3 Canadian Standards Association (CSA International).
 - .1 CAN/CSA-A123.1/A123.5-[98], Asphalt Shingles Made From Organic Felt and Surfaced With Mineral Granules/Asphalt Shingles Made From Glass Felt and Surfaced With Mineral Granules.
 - .2 CSA A123.2-[M1979 (R2001)], Asphalt-Coated Roofing Sheets.
 - .3 CAN/CSA-A123.3-[98], Asphalt Saturated Organic Roofing Felt.
 - .4 CAN3-A123.51-[M85 (R2001)], Asphalt Shingle Application on Roof Slopes 1:3 and Steeper.
 - .5 CAN3-A123.52-[M85 (R2001)], Asphalt Shingle Application on Roof Slopes 1:6 to Less Than 1:3.
 - .6 CSA B111-[1974 (R1998)], Wire Nails, Spikes and Staples.
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).
- .5 National Research Council Canada (NRC)/Institute for Research in Construction (IRC) - Canadian Construction Materials Centre (CCMC).
 - .1 CCMC-[2002], Registry of Product Evaluations.

1.3 SUBMITTALS

- .1 Submit product data sheets for asphalt shingles, include:
 - .1 Product characteristics.
 - .2 Performance criteria.
 - .3 Installation instructions.
 - .4 Limitations.

.5 Colour and finish.

1.4 SAMPLES

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit duplicate samples of full size specified shingles.

1.5 QUALITY ASSURANCE

- .1 Mock-ups:
 - .1 Provide 1200 mm x 1200 mm mock up including all components as directed by AAFC Authorized representative.
 - .2 Mock-up will be used:
 - .1 To judge workmanship, substrate preparation, operation of equipment and material application.
 - .3 Locate where directed.
 - .4 Allow 24 hours for inspection of mock-up before proceeding with work.
 - .5 When accepted, mock-up will demonstrate minimum standard of quality required for this work. Approved mock up may remain as part of finished work. Remove mock-up and dispose of materials when no longer required or as directed by the AAFC Authorized representative.
 - .2 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
 - .3 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics, criteria and physical requirements.
 - .4 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

1.6 WARRANTY

- .1 Supply a material / labour warrantee offered by the material manufacturer. Supply a written and signed warranty acceptable to the Owner and the AAFC Authorized representative, in the name of the Owner.
- .2 At no additional cost to the Owner, provide labour and workmanship warranty. The warranty shall cover the repair of the shakes and associated roofing work as a result of faulty materials or workmanship for a period of two (2) years from the date of substantial and complete performance of the work.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, handle, store and protect materials as per manufacturer recommendations
- .2 Provide and maintain dry, off-ground weatherproof storage.
- .3 Remove only in quantities required for same day use.

1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Divert unused materials from landfill to appropriate recycling, reuse, composting facility
- .2 Divert unused preservatives materials from landfill through disposal at special wastes depot.
- .3 Remove from site and dispose of packaging materials at appropriate recycling facilities.

Part 2 Products

2.1 MATERIALS

- .1 Laminated asphalt shingles: to UL 790 Class A rated with UL 997 Wind Resistance Label; ASTM D 7158, Class H; ASTM D 3161, Type 1; ASTM D 3018, Type 1; ASTM D 3462; CSA A123.5-98; AC438.
 - .1 Type: Heavyweight, granule surfaced, self-sealing asphalt shingle with a fiberglass reinforced core and protection. Architectural laminate styling with a 143mm (5 5/8") exposure.
 - .2 Colour: Charcoal, to be submitted to the AAFC Authorized representative/Owner for approval.
- .2 Shingle Underlayment: A synthetic laminated breathable underlayment with a slip-resistant surface.
- .3 Ridge and hip protection, valley liner and eave protection: Self-adhering, SBS polymer modified bituminous membrane underlayment, integrally bonded on one side to an embossed polyethylene film, conforming to ASTM / CSA standards:
 - .1 Minimum thickness 1.0mm (40 mil).
 - .2 Top face: Tri-Laminated Woven Polyethylene - Underface - Silicon Release Film
 - .3 Properties:

		MD	XD
.1	Breaking strength (kN/m), ASTM D1970	11.3	15.4
.2	Ultimate elongation (%), ASTM D1970	52	54
.3	Tear resistance (N), ASTM D1970	375	400
.4	Static puncture resistance (N), ASTM D5602	400	
.5	Adhesion to the plywood, 4.5 ⁰ C, ASTM D1970 (N/m)	500	
.6	Adhesion to the plywood, 24 ⁰ C, ASTM D1970 (N/m)	1,100	
.7	Low temperature flexibility, ASTM D1970	Pass at -30 °C	
.8	Water Vapour Permeance, (ng / Pa•s•m ²) ASTM E96.	1.25	
.9	Nail Sealability ASTM D1970	Pass	
- .4 Asphaltic Cement:

- .1 Plastic cement: to CAN/CGSB-37.5.
- .5 Nails: to CSA B111, galvanized steel, sufficient length to penetrate 21 mm into deck.
- .6 2-ply Self-Adhesive Membrane Roofing (on the low slope roof section above the louvres as shown on the drawing):
 - .1 Support Panel (Mechanically Fastened): composed of two asphalt-saturated glass mat reinforcement covering a mineral-fortified asphaltic core.
 - .1 Properties:
 - .1 Thickness: 3.2 mm
 - .2 Puncture Resistance (ASTM E154): 500 N
 - .3 Water Absorption (ASTM D 994): 0.25%
 - .4 Compressive Strength (ASTM C472): $\geq 1,641$ kPa (238 psi)
 - .5 Shore Hardness (ASTM C1278): Pass
 - .2 Self-Adhesive Base Sheet Membrane (Winter Grade): with SBS modified bitumen reinforced with a polyester and glass composite reinforcement.
 - .1 Properties: Based on CAN/CGSB-37.56-M9th draft

	MD	XD
.1 Thickness (mm):	3.0	
.2 Top Face:	Sanded	
.3 Strain Energy (kJ/m):	7.8	7.2
.4 Breaking Strength ((kJ/m):	15	13.5
.5 Ultimate Elongation:	60%	65%
.6 Tear Resistance (N):	125	
.7 Static Puncture (N):	560	
.8 Cold Bending ($^{\circ}$ C):	-30	
 - .3 Self-Adhesive Cap Sheet Membrane: Cap sheet membrane composed of SBS modified bitumen and a composite reinforcement.
 - .1 Properties: Based on ASTM D6162, Type II

	MD	XMD
.1 Thickness (mm):	3.8	
.2 Top Face:	Granules	
.3 Peak Load at -18° C \pm 2° C (kJ/m):		
.1 Initial	25	22
.2 90 days at 70° C	26	22
.4 Elongation at -18° C \pm 2° C:		
.1 Initial	43%	45%
.2 90 days at 70° C	45%	32%
.5 Peak Load at 23° C \pm 2° C (kJ/m):		
.1 Initial	20	16
.2 90 days at 70° C	20	17
.6 Elongation at 23° C \pm 2° C:		

	.1	Initial	58%	60%
	.2	90 days at 70 ⁰ C	47%	53%
.7		Ultimate Elongation at 23 ⁰ C ± 2 ⁰ C:		
	.1	Initial	82%	80%
	.2	90 days at 70 ⁰ C	51%	57%
.8		Tear Strength at 23 ⁰ C ± 2 ⁰ C (N):	690	600
.9		Low Temperature Flex (⁰ C):		
	.1	Initial	-20	-20
	.2	90 days at 70 ⁰ C	-18	-20
.10		Maximum Dimensional Stability, max	0.2%	0.1%
.11		Compound Stability (⁰ C)	125	
.12		Granules embedment, max	< 2g	
.7		Primer: Solvent based primer to prepare surfaces before the installation of self-adhesive membranes.		
.8		Insulation (Where indicated on the roof plan): Closed cell insulation (4" thickness).		
	.1	Nominal Density (ASTM D1622): 33 kg/m ³		
	.2	Dimensional Stability, % Vol. Change (ASTM D2126 Modified)		
	.1	-20 ⁰ C – 0.3		
	.2	80 ⁰ C – 1.1		
	.3	70 ⁰ C, 97 ± 3% RH – 12		
	.3	Tensile Strength (ASTM 1623): 313 kPa		
	.4	Surface Burning Characteristics (CAN/ULC-S102 and CAN/ULC-S127): Pass		
	.5	Compressive Strength (ASTM D1621): 245 kPa		
	.6	Open-cell Content (ASTM D1940): 2.1%		
	.7	R-Value (CAN/ULC-S770): 25 (4" thickness)		
	.8	Water Absorbtion (ASTM D2842): 0.88%		
	.9	Water Vapour Permeance (CCMC 07272): < 0.0002 L/S@75 Pa		
	.10	Time to Occupancy (CAN/ULC-S774): 24 Hours – Pass		
.9		Liquid Membrane: Single-component polyurethane waterproofing coating.		
	.1	Density at 25 °C (77 °F) - 1.07 kg/L		
	.2	Solids content - 80 %		
	.3	Softening point - 150 °C (302 °F)		
	.4	Ultimate elongation ASTM D412: 500 %		
	.5	Breaking strength ASTM D412: 1.35 MPa		
	.6	Tear resistance ASTM D903: 102.3 N (23 lbf)		
	.7	Tear resistance ASTM D 5147, sec.7: 253.5 N (57 lbf)		
	.8	Water vapour permeance ASTM E96 (Procedure B): < 30 ng/Pa•s•m ² (< 0.47 perm)		
	.9	Peel adhesion after water immersion ASTM C836: 792 N/m		

Part 3 Execution

3.1 REMOVAL OF EXISTING ROOFING

- .1 Remove existing roofing, flashings and underlayment, to expose sheathing.
- .2 Withdraw existing shingle and flashing nails, set those which break off. Leave surfaces free from dirt and loose material.
- .3 AAFC Authorized representative to inspect roof sheathing.
- .4 Remove and replace portion of sheathing as shown on the roof plan and as directed by AAFC Authorized representative.

3.2 APPLICATION

- .1 Eave and Ridge Protection Membrane:
 - .1 Install galvanised metal drip edge along eaves, overhanging 13mm (1/2"), with minimum 102mm (4") flange extending onto roof decking with end joints of at least 52mm (2"). Nail to deck at 203-254mm (8-10") oc
 - .2 Install new self-adhering eave protection extending from the outside edge of the roof, on top of the drip edge metal, to a point 1.82m (6') above the inside face of the exterior walls and as shown on the drawings. At narrow roofs between dormers install self-adhering eave protection over the entire roof area. Extend eave protection up sidewalls where the roof slope meets a wall to the height of the step flashings.
 - .3 Provide eave protection membrane at all vent pipe sleeves, roof vent openings, wall flashing details, chimney details, sided walls, hatch curbs, goose-neck vents, rake edges and any other roof appurtenances.
- .2 Shingle Underlayment:
 - .1 Install a single ply shingle underlayment in horizontal rows parallel to the eaves over the entire roof area. Side laps to be a minimum of 52mm (2"). Secure underlayment with nails at a maximum spacing of 305 mm (12") o.c. Lap ends of rolls a minimum of 152mm (6") and turn underlay up walls to the height of the step flashings. The end laps should be a minimum of 152mm (6") from hips, ridges or valleys.
 - .2 The shingle underlayment shall overlap the upper leading edge of the eave protection at least 102mm (4").
 - .3 Underlayment can be used as a temporary roof. When the finished roofing will be installed within two days of underlayment application and high winds are not forecast, standard roofing nails with 3/8" diameter heads can be used.
 - .4 Fasten side (horizontal) laps and end (vertical) laps at 305mm (12") o.c. or 152mm (6" o.c.) for high wind areas. Fasten in the field of the roll with two staggered rows of fasteners 152mm (6") in from the outside horizontal edges. Stagger 610mm (24") o.c. In high wind areas, use 305mm (12") o.c. for the staggered pattern.
- .3 Do asphalt shingle work in accordance with Ontario Building Code, CAN3-A123.51 and CRCA Guidelines SH-1 except where specified otherwise.

- .4 Provide sufficient chalk lines to ensure accurate vertical and horizontal alignment of shingles. Ensure rows of shingles remain in a straight line.
- .5 Install a starter strip consisting of a row of shingles with factory applied adhesive. In order to offset end joints, cut 152mm (6") off the first starter strip shingle. The starter strip shingle shall be positioned with factory applied adhesive face up, adjacent to the eaves. Extend starter strip approximately 13mm (1/2") beyond the eave and rake edges and fasten with nails spaced at not more than 298mm (11.75") o.c. Continue with the starter strip shingle across the eave of the roof.
- .6 Use a minimum of six (6) nails per shingle, or more as required by the shingle Manufacturer for high wind installations. Install first course of shingles directly over the starter course and even with the lower edge of the starter course. Offset end joints a minimum of 75mm (3") from the joints in the underlying starter course. Nail with 6 nails equally spaced across the starter strip 75mm (3") up from the eave.
- .7 Apply shingles with a maximum exposure with nails located 25 mm to 38 mm (1" - 1.5") from each end of each shingle and four others spaced equally in the nail line. Drive nails straight and true.
- .8 Second and Succeeding Shingle Courses: Provide a minimum headlap of 52mm (2"). Horizontally offset end joints in each course 75mm (3") from previous shingle course. Overhang rake edges a minimum of 13mm (1/2"). Install succeeding shingle courses to the manufacturer's recommendations.
- .9 If shingles are installed during cool weather or in dust or other contaminants that would prevent proper sealing of the shingles, or if required by the shingle manufacturer for the wind exposure, secure each shingle tab with 25 mm (1") dab of lap cement.
- .10 Shingle installation is to progress in such a method as to avoid traffic over completed areas to reduce the chance of tracking plastic cement over completed work. Any shingles with plastic cement on their top surface are to be changed.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 The Aluminum Association Inc. (AAI)
 - .1 AAI-Aluminum Sheet Metal Work in Building Construction-2002.
 - .2 AAI DAF45-03, Designation System for Aluminum Finishes.
- .2 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A167-99(2004), Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - .2 ASTM A240/A240M-07e1, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - .3 ASTM A606-04, Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.
 - .4 ASTM A653/A653M-07, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .5 ASTM A792/A792M-06a, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
 - .6 ASTM B32-04, Standard Specification for Solder Metal.
 - .7 ASTM B370-03, Standard Specification for Copper Sheet and Strip for Building Construction.
 - .8 ASTM D523-89(1999), Standard Test Method for Specular Gloss.
 - .9 ASTM D822-01(2006), Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
- .3 Canadian Roofing Contractors Association (CRCA)
 - .1 Roofing Specifications Manual 1997.
- .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.
 - .2 CAN/CGSB-93.1-M85, Sheet Aluminum Alloy, Prefinished, Residential.
- .5 Canadian Standards Association (CSA International)
 - .1 CSA A123.3-05, Asphalt Saturated Organic Roofing Felt.
 - .2 AAMA/WDMA/CSA 101/I.S.2/A440-2008, Standard/Specification for Windows, Doors, and Unit Skylights.
 - .3 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
- .6 Green Seal Environmental Standards
 - .1 Standard GS-03-93, Anti-Corrosive Paints.
 - .2 Standard GS-11-97, Architectural Paints.

- .3 Standard GS-36-00, Commercial Adhesives.
- .7 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .8 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .9 Product Data:
 - .1 Submit manufacturer's printed product literature for sheet metal flashing systems materials, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two copies WHMIS MSDS - Material Safety Data Sheets
- .10 Shop Drawings:
 - .1 Shop drawings: submit drawings requested by consultant.
- .11 Samples:
 - .1 Submit duplicate 50 x 50 mm samples of each type of sheet metal material, finishes and colours.
- .12 Quality assurance submittals: submit following in accordance with Section 01 33 00.
 - .1 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence, cleaning procedures.

1.2 QUALITY ASSURANCE

- .1 Pre-Installation Meetings: convene pre-installation meeting one week prior to beginning work of this Section and on-site installation, with contractor's representative and Departmental Representative, and Engineer to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review manufacturer's installation instructions and warranty requirements.

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's instructions.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for recycling.

Part 2 Materials

2.1 Prefinished steel with factory applied silicone modified polyester,

- .1 Class F1S, Series 8000.
- .2 Colour selected by Owner / AAFC Authorized Representative from manufacturer's standard range.

- .3 Specular gloss: 30 units +/- 5 in accordance with ASTM D523.
- .4 Coating thickness: to be not less than 25 micrometres.
- .5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20% to ASTM D822 as follows:
 - .1 Outdoor exposure period 1000 hours.
 - .2 Humidity resistance exposure period 1000 hours.
 - .3 Base metal thickness 0.58 mm (26 gauge) unless indicated otherwise. Base metal to be hot-dipped galvanized steel with coating designation Z7275 (G90).

2.2 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Plastic cement: to CAN/CGSB 37.5.
 - .1 Maximum VOC limit 50 g/L to SCAQMD Rule 1168 to GSES GS-36.
- .3 Underlay for metal flashing: SBS polymer modified membrane.
- .4 Sealants:
 - .1 Maximum VOC limit 50g/L to SCAQMD Rule 1168 to GSES GS-36.
- .5 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness: 48 mm.
- .6 Fasteners: of same material as sheet metal, to CSA B111, flat head roofing nails of length and thickness suitable for metal flashing application.
- .7 Washers: of same material as sheet metal, 1 mm thick with rubber packing's.
- .8 Touch-up paint: as recommended by prefinished material manufacturer.
 - .1 Maximum VOC limit 50 150 g/L to Standard GS-11 to SCAQMD Rule 1113.

2.3 FABRICATION

- .1 Fabricate metal flashings and other sheet metal work in accordance with applicable CRCA 'FL' series details and as indicated.
- .2 Form pieces in 2400 mm maximum lengths.
 - .1 Make allowance for expansion at joints.
- .3 Hem exposed edges on underside 12 mm.
 - .1 Mitre 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.
- .5 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

2.4 METAL FLASHINGS

- .1 Form flashings, copings and fascias to profiles indicated of .48 mm thick galvanized steel, prefinished

2.5 REGLETS AND CAP FLASHINGS

- .1 Form recessed surface mounted reglets of 0.48 mm thick sheet metal to be built-in concrete masonry work for base flashings as detailed in accordance with CRCA FL series details, FL.
 - .1 Provide slotted fixing holes and steel/plastic washer fasteners.
 - .2 Cover face and ends with plastic tape

2.6 ALUMINIUM ELEMENTS

- .1 A-101/I.S.2/A440, for coating Classes 1, 2 and 3 respectively.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

- .1 Install sheet metal work in accordance with CRCA FL series details, FL as detailed.
- .2 Use concealed fastenings except where approved before installation.
- .3 Provide underlay under sheet metal.
 - .1 Secure in place and lap joints 100 mm.
- .4 Lock end joints and caulk with sealant.
- .5 Install surface mounted reglets true and level, and caulk top of reglet with sealant.
- .6 Insert metal flashing into reglets under cap flashing to form weather tight junction.
- .7 Turn top edge of flashing into recessed reglet or mortar joint minimum of 25 mm. Lead wedge flashing securely into joint.
- .8 Caulk flashing at reglet, cap flashing with sealant.
- .9 Install pans, where shown around items projecting through roof membrane.

3.3 CLEANING

- .1 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

- .2 Leave work areas clean, free from grease, finger marks and stains.

END OF SECTION 07 62 00

Part 1 General

1.1 SECTION INCLUDES

- .1 Materials, preparation and application for caulking and sealants.

1.2 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CGSB 19-GP-14M-[1984], Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).

1.3 SUBMITTALS

- .1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Manufacturer's product to describe.
 - .1 Caulking compound.
- .3 Cured samples of exposed sealants for each color where required to match adjacent material.
- .4 Submit manufacturer's instructions in accordance with Section 01 33 00 - Submittal Procedures.
 - .1 Instructions to include installation instructions for each product used.

1.4 QUALITY ASSURANCE/MOCK-UP

- .1 Construct mock-up to show location, size, shape and depth of joint [s] complete with back-up material, primer, caulking and sealant.
- .2 Mock-up will be used:
 - .1 To judge workmanship, substrate preparation, operation of equipment and material application.
- .3 Locate where directed.
- .4 Allow 24 hours for inspection of mock-up by Consultant before proceeding with sealant work.

- .5 When accepted, mock-up will demonstrate minimum standard of quality required for this Work. Approved mock-up may remain as part of finished Work. Remove mock-up and dispose of materials when no longer required and when directed by Consultant.

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance with manufacturer's recommendations.
- .2 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Place materials defined as hazardous or toxic in designated containers.
- .3 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .4 Unused material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
- .5 Divert unused joint sealing material from landfill to official hazardous material collections site approved by AAFC Authorized Representative.
- .6 Empty plastic joint sealer containers are not recyclable. Do not dispose of empty containers with plastic materials destined for recycling.
- .7 Fold up metal banding, flatten, and place in designated area for recycling.

1.7 PROJECT CONDITIONS

- .1 Environmental Limitations:
 - .1 Do not proceed with installation of joint sealants under following conditions:
 - .1 When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 degrees C.
 - .2 When joint substrates are wet.
- .2 Joint-Width Conditions:
 - .1 Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
- .3 Joint-Substrate Conditions:

- .1 Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.8 ENVIRONMENTAL REQUIREMENTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to Labour Canada.
- .2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .3 Ventilate area of work as directed by AAFC Authorized Representative by use of approved portable supply and exhaust fans as required.

Part 2 Products

2.1 SEALANT MATERIALS

- .1 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.
- .2 When low toxicity caulks are not possible, confine usage to areas which offgas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize offgas time.
- .3 Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

- .1 Urethanes One Part.
 - .1 Non-Sag to CAN/CGSB-19.13, Type 2, [MCG-2-25] [MCG-2-40].
 - .2 Bond Breaker Tape.
 - .1 Polyethylene bond breaker tape which will not bond to sealant.

2.3 JOINT CLEANER

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.
- .2 Primer: as recommended by manufacturer.

Part 3 Execution

3.1 PROTECTION

- .1 Protect installed Work of other trades from staining or contamination.

3.2 SURFACE PREPARATION

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.
- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .4 Ensure joint surfaces are dry and frost free.
- .5 Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

- .1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.
- .2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

- .1 Apply bond breaker tape where required to manufacturer's instructions.
- .2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 MIXING

- .1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.6 APPLICATION

- .1 Sealant.
 - .1 Apply sealant in accordance with manufacturer's written instructions.
 - .2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
 - .3 Apply sealant in continuous beads.

- .4 Apply sealant using gun with proper size nozzle.
- .5 Use sufficient pressure to fill voids and joints solid.
- .6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
- .7 Tool exposed surfaces before skinning begins to give slightly concave shape.
- .8 Remove excess compound promptly as work progresses and upon completion.
- .2 Curing.
 - .1 Cure sealants in accordance with sealant manufacturer's instructions.
 - .2 Do not cover up sealants until proper curing has taken place.
- .3 Clean-up.
 - .1 Clean adjacent surfaces immediately and leave Work neat and clean.
 - .2 Remove excess and droppings, using recommended cleaners as work progresses.
 - .3 Remove masking tape after initial set of sealant.

END OF SECTION 07 92 00

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PROJECT NAME:	NOM DU PROJET
BUILDING 34 SHINGLE ROOF REPLACEMENT	EDIFICE 34 REMPLACEMENT DE LA TOITURE DE BARDEAUX

PROJECT NO:	PROJET NO:

DRAWING TITLE:	DESSIN TITRE:
PLAN-1/PLAN-1	

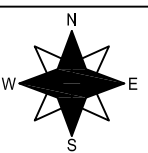
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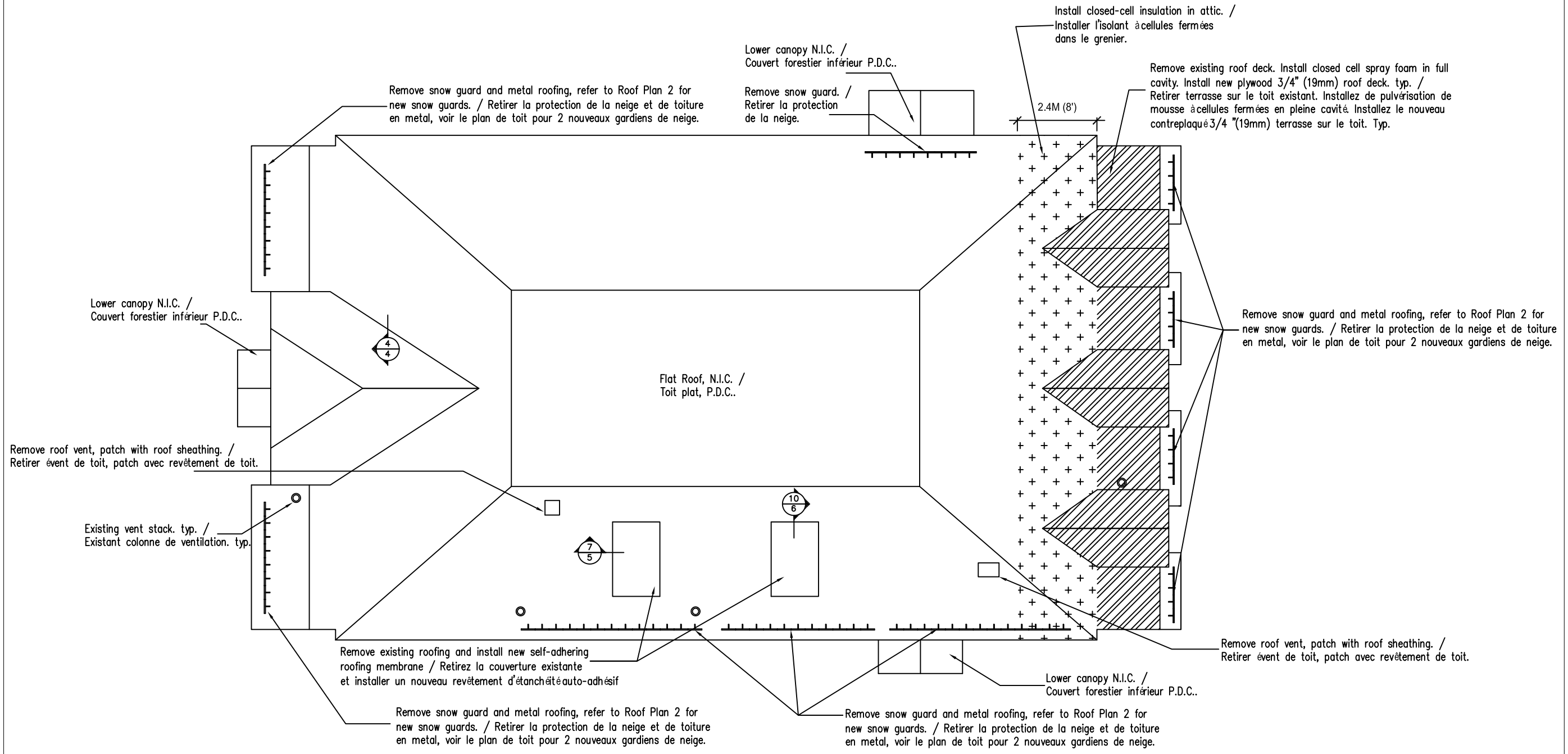
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DAVE CARNEGIE

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14/10/2014	14/10/2014

SCALE:	ECHELLE:
NTS	N/A

	DRAWING NO. NO. DU DESSIN R1
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1
R1
 ROOF PLAN-1 / PLAN DE TOITURE-1

KEY PLAN / PLAN CLÉ

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DRAWING TITLE:	DESSIN TITRE:
PLAN-2/PLAN-2	

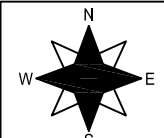
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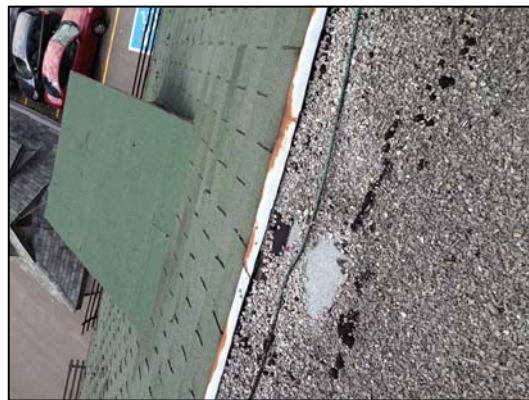
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NTS	N/A

	DRAWING NO. NO. DU DESSIN R2
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Lift the metal flashing on the metal roof, install one-roll self-adhesive base sheet around the perimeter, reinstate the metal flashing, seal metal flashing joints with liquid membrane flashing and seal the fasteners. / Soulevez le métal sur le toit de solin métallique, installer feuille de base auto-adhésive d'un rouleau autour du périmètre, rétablir le solin métallique, étanchâté métal joints avec du liquide clignotement de solin et sceller les fixations.

Lower canopy N.I.C. / Couvert forestier inférieur P.D.C..

Install new neoprene plumbing flange / Installez la nouvelle bride néoprène de plomberie.

New snow retention system, zinc/aluminum die-cast bracket 3M (10') long c/w three galvalume 37mm (1 1/2") tubes. / Nouveau système de rétention de la neige, le support de zinc moulés sous pression/aluminium 3M (10') de long c/w trois 37mm galvalumes (1 1/2") tubes.

Lower canopy N.I.C. / Couvert forestier inférieur P.D.C..

New self adhering waterproof membrane. Ice and water shield. typical / Nouvelle auto adhérent membrane imperméable. Glace et le bouclier de l'eau. typique

New synthetic laminated breathable underlayment typ. / nouveau sous-couche lamine synthétique de respirante type.

Flat Roof, N.I.C. / Toit plat, P.D.C..
Approx. 11.9M (39') x 5.7M (19')

Install new neoprene plumbing flange / installer un nouveau collerette neoprene de plomberie

Install new neoprene plumbing flange / Installez la nouvelle bride néoprène de plomberie.

New snow retention system, zinc/aluminum die-cast bracket 3M (10') long c/w three galvalume 37mm (1 1/2") tubes. / Nouveau système de rétention de la neige, le support de zinc moulés sous pression/aluminium 3M (10') de long c/w trois 37mm galvalumes (1 1/2") tubes.

Lower canopy N.I.C. / Couvert forestier inférieur P.D.C..

2 ROOF PLAN-2 / PLAN DE TOITURE-2
R2

Installation Notes:

- 1) Remove existing shingles to roof deck. Properly dispose, validation to be provided. Examine roof deck with Consultant to verify extent of rotted or deteriorated wood to be replaced with new underlayment. Contractor to include costing for 9 M2 (100sq. ft.) deck replacement. Existing roof decking approx. 21mm (7/8") thick. Supply and install new life-time shingles, matching colour. Style of shingles to be 'architectural'.
 - 2) Existing flat roof to remain, not in contract. Existing canopies not in contract (N.I.C.).
 - 3) Remove all existing metal flashing, including metal flashing at roof ends. Supply and install new hip and dormer flashing. Colour to be 'Charcoal, ID # 8306'. Transition flashing to flat roof to remain as-is.
 - 4) At dormers install new step flashings between each shingle layer. Extend new step flashing within existing shingle assembly.
 - 5) Remove all ice guard assembly to accommodate new work.
 - 6) Re-install ice guard assembly where indicated.
 - 7) Remove and re-install lightning protection and associated wiring. Contractor responsible for parts damaged or missing.
 - 8) Install new 26 guage prefinished sheet metal drip edge flashing for roof perimeter. New self adhering membrane to be installed under drip edge and continuous layer on top of drip edge.
 - 9) Install self adhering waterproof membrane, to be installed at eaves, valleys and adjacent vertical areas.
 - 10) Protected access to both entrances to be provided at all times. Contractor to provide required scaffolding.
- *** Currently there are numerous wasp nests within the roof area, use caution when removing shingles. ***

Remarques sur l'Installation:

- 1) Retirer les bardeaux existants terrasse sur le toit. Éliminer correctement, la validation à fournir. Examiner terrasse sur le toit avec un conseiller de vérifier l'étendue de bois pourri ou détérioré à remplacer avec une nouvelle sous-couche. Entrepreneur d'inclure des coûts pour 9 M2 (100sq. M.) De remplacement du tablier. Existant platelage du toit env. 21mm (7/8 ") d'épaisseur. Fourniture et l'installation de nouveaux bardeaux de temps de vie, de couleur assortie. Style de bardeaux d'être «architectural».
 - 2) Existant toit plat de rester, pas dans le contrat. Auvents existant pas dans le contrat (P.D.C)
 - 3) Retirez tous les solins métalliques existantes, y compris solin métallique aux extrémités du toit. Fourniture et installation nouvelle hanche et lucarne clignotant. Couleur d'être «Charbon de bois, ID # 8306. Transition clignotant à toit plat de rester tel quel.
 - 4) Au lucarnes installer de nouveaux solins étape entre chaque couche de galets. Elargir nouvelle étape clignotant dans l'assemblage de galets existant.
 - 5) Retirez tous ensemble de protection de glace pour accueillir de nouveaux travaux.
 - 6) Re-installer ensemble de protection de glace aux endroits indiqués.
 - 7) Retirer et réinstaller protection contre la foudre et le câblage associé. Entrepreneur chargé de pièces endommagées ou manquantes.
 - 8) Installez le nouveau bord 26 jauge de goutte à goutte feuille préfini de solin métallique pour périmètre du toit. Nouvelle membrane auto-adhérent à être installé sous le larmier et couche continue au-dessus de larmier.
 - 9) Install self adhering waterproof membrane, to be installed at eaves, valleys and adjacent vertical areas.
 - 10) Installez auto adhérent membrane étanche, pour être installé à l'avant-toit, les vallées et les zones adjacentes verticales.
- *** Actuellement, il existe de nombreux nids de guêpes dans la zone de toit, faire preuve de prudence lorsque vous retirez le zona. ***

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BUILDING 34 SHINGLE ROOF REPLACEMENT	EDIFICE 34 REMPLACEMENT DE LA TOITURE DE BARDEAUX

PROJECT NO:	PROJET NO:
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DRAWING TITLE:	DESSIN TITRE:
INSTALLATION NOTES / NOTES D'INSTALLATION	

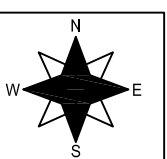
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DRAWING NO. NO. DU DESSIN
R3

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DRAWING TITLE:	DESSIN TITRE:
DETAILS / DÉTAILS	

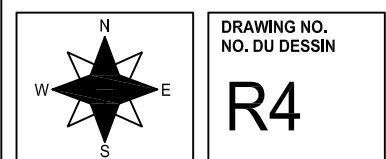
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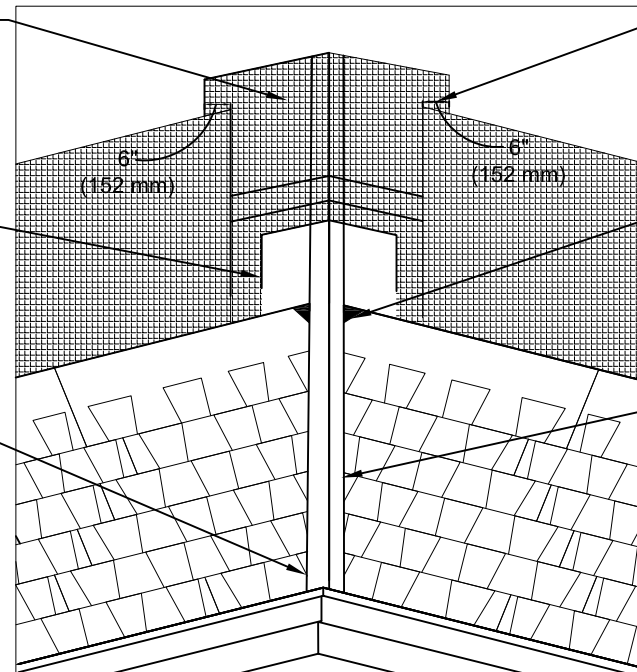
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Center full width roll of eave protection. Do not place fasteners within 6" (152mm) of center line. Horizontal laps 6" (152mm) min. / Centrez rouleau pleine largeur de protection d'avant-toit. Ne placez pas les fixations dans les 6" (152 mm) de la ligne médiane. Tours horizontaux 6" (152 mm) min.

Center valley metal, overlap metal horizontal laps a minimum 12" (305mm) and seal by embedding them in asphalt plastic cement. / Centre vallée métal, chevaucher tours horizontaux métalliques d'un minimum de 12" (305mm) et sceller en les intégrant dans l'asphalte ciment plastique.

Shingles should be separated 6" (152mm) at top of valley. Separation must increase 1/8" (3mm) per foot towards eaves to handle increasing water volume. Snap chalk lines to ensure shingles diverge properly in valley. / Bardeaux doivent être séparés de 6" (152 mm) en haut de la vallée. Séparation doit augmenter huitième" (3 mm) par pied vers l'avant-toit pour gérer l'augmentation du volume de l'eau. Aligner la craie lignes pour assurer bardeaux divergent bien dans la vallée.



Carry underlayment at least 6" (152mm) over eave protection. / Effectuer une sous-couche d'au moins 6" (152 mm) sur la protection d'avant-toit.

Clip the top corners of shingles 45° to keep water flow toward the valley center. / Coupez les supérieurs de bardeaux 45° pour éviter l'écoulement de l'eau vers le centre de la vallée.

Overlap shingles at least 4" (102mm) over 20" (508mm) wide valley metal. Embed the shingle asphalt plastic cement to seal the shingles to the metal and keep water from running under. / Bardeaux se chevauchent au moins 4" (102mm) de plus de 20" (508mm) de large en métal. Incluez le bardeau d'asphalte se termine en plastique de ciment pour sceller les bardeaux de garder l'eau de couler sous eux.

4 OPEN VALLEY DETAIL / DETAIL OUVERT VALLEY
R4

SHINGLE INSTALLATION / POSE DE BARDEAUX

Start at either rake and lay in either direction / Commencez à chaque râteau et de jeter dans les deux sens

First Course: / Première Cours

Start with full shingle / Commencez avec plein de galets

Second Course: / Deuxième Cours:

Trim 6" (152mm) off first shingle / Coupez 6" (152 mm) en premier bardeau

Third Course: / Troisième Cours:

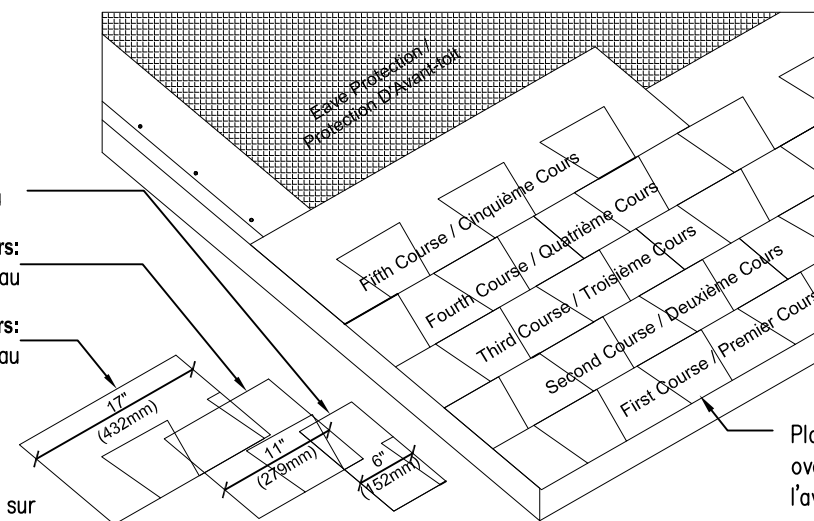
Trim 11" (279mm) off first shingle / Coupez 11" (279 mm) en premier bardeau

Fourth Course: / Quatrième Cours:

Trim 17" (432mm) off first shingle / Coupez 17" (432 mm) en premier bardeau

Remaining Courses:

Repeat the 1st - 4th course instructions on the remaining courses, starting the fifth course with a full shingle. / Répétez l'1er-4ème instructions de cours sur les autres cours, à partir le cinquième rang avec un bardeau complet.



NOTES / NOTES:

1. Continue each course with whole shingles. / Continuer chaque rang avec des bardeaux entiers.

2. Strike a chalk line about every 6 courses to check parallel alignment with eaves. / Frapper une ligne de craie sur tous les 6 cours pour vérifier l'alignement parallèle avec les avant-toits.

Place first course of shingles 1/4" - 3/4" (6-19mm) over eave and rake edges, covering starter course overhang, to provide drip edge. / Placez premier rang de bardeaux quart" - 3/4" (6-19mm) sur l'avant-toit et la rive, couvrant démarreur surplomb de cours, de fournir larmier.

5 SHINGLE INSTALLATION DETAIL / DETAIL SHINGLE INSTALLATION
R4

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DETAILS / DÉTAILS	

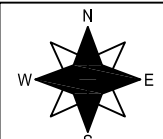
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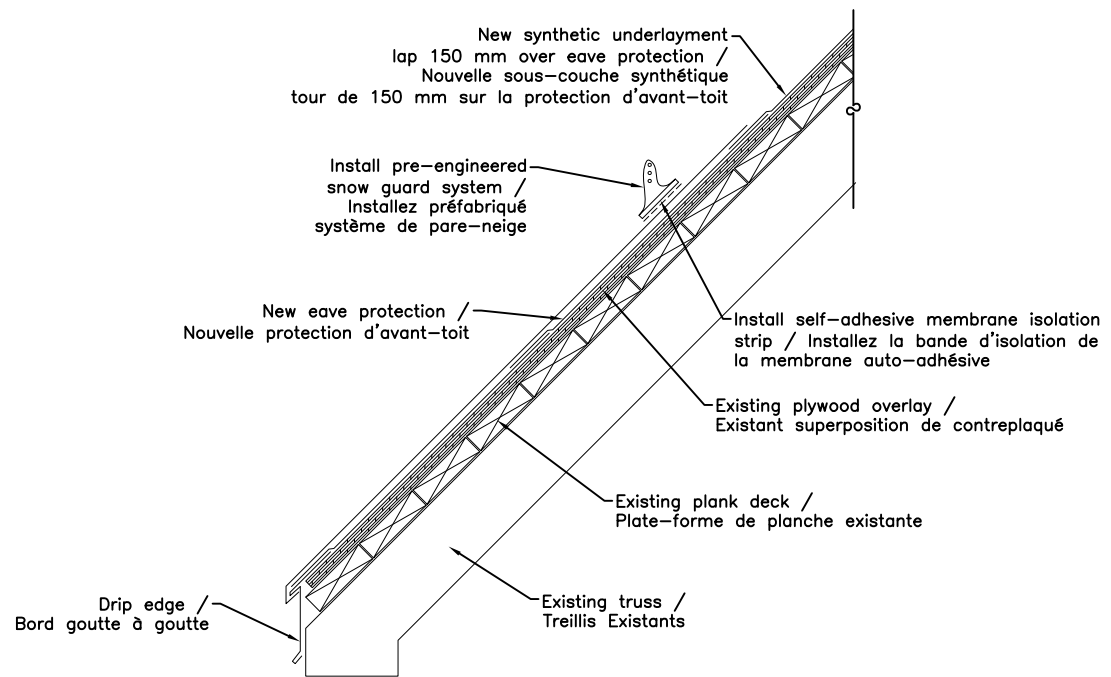
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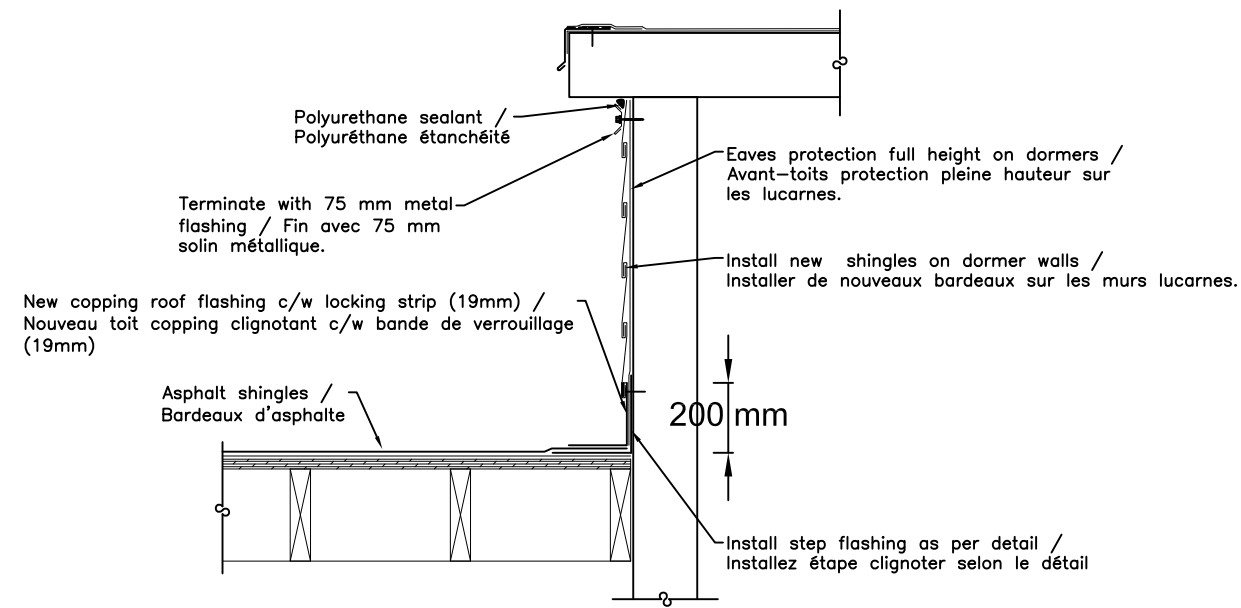
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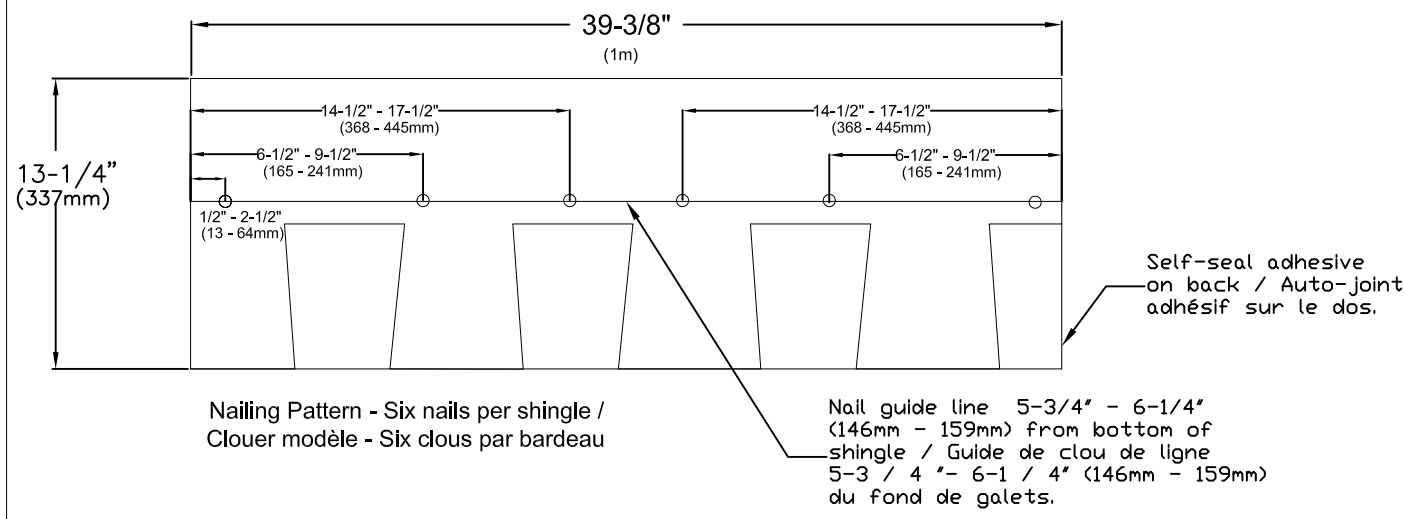

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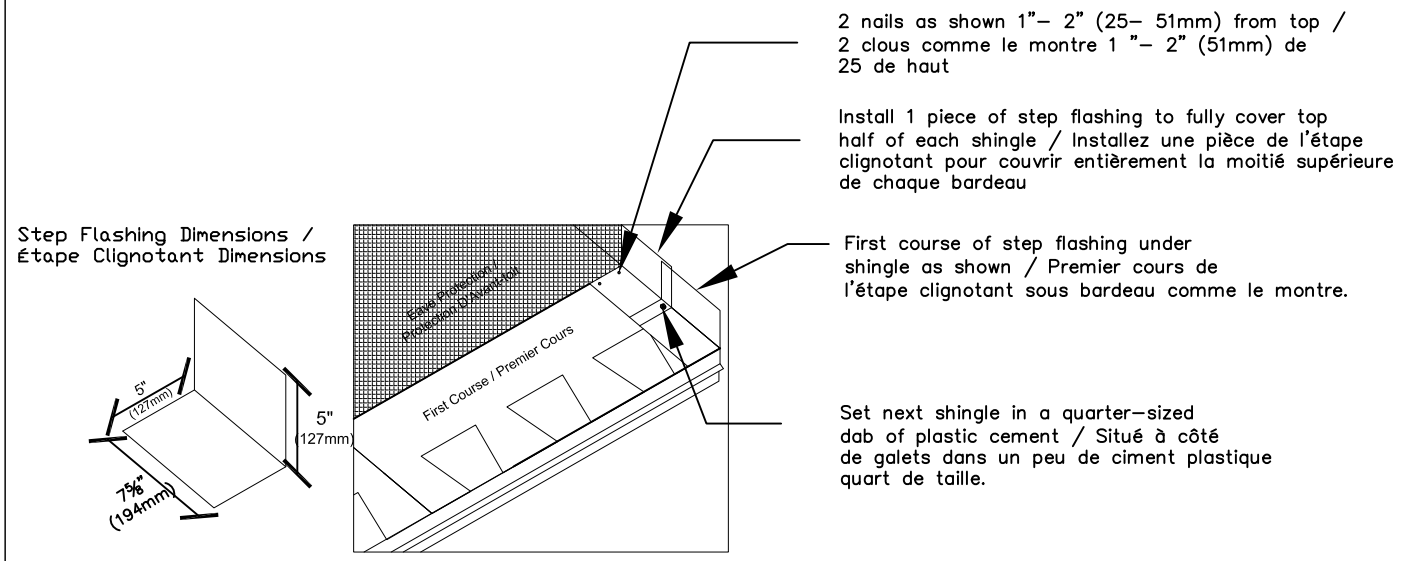
6 EAVE DETAIL / DETAIL AVANT-TOIT
R5



7 DETAIL ON DORMER WALLS / DÉTAIL SUR LES MURS DE LUCARNES
R5



8 NAIL PLACEMENT DETAIL / CLOU DÉTAIL DE PLACEMENT
R5



9 NAIL PLACEMENT DETAIL / CLOU DÉTAIL DE PLACEMENT
5

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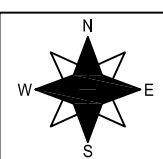
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	DRAWING NO. NO. DU DESSIN R6
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