Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

# INVITATION TO TENDER

**RETURN BIDS TO:**

**Bid Receiving / Agriculture and Agri-Food Canada**

Agriculture and Agri-Food Canada
Central Experimental Farm (CEF)
K.W. Neatby building
960 Carling Avenue
Ottawa, Ontario K1A 0C6
Attn: Jean-Pierre Simard

**TENDER TO:**

**Agriculture and Agri-Food Canada**
We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the construction listed herein and on any attached sheets at the price(s) set out therefor.

Comments
This document contains a security requirement.

**ISSUING OFFICE**

Agriculture and Agri-Food Canada
CEF Integrated Services
K.W. Neatby building
960 Carling Avenue
Ottawa, Ontario
K1A 0C6

| | |
|---|---|
| Title: Office Fit-up, rooms 2130 - 2140, Building 20 | |
| Solicitation No.: 14-1392 | Date: 2015-02-18 |
| Client Reference No.: CEF14-A372 | |
| File No.: 14-1392 | |
| Solicitation Closes: Friday, March 13, 2015, at 02:00 PM, EST. | |
| F.O.B: ○ Plant ◉ Destination ○ Other | |
| Address Enquiries to: Jean-Pierre Simard | |
| Title: Senior Contracts Officer | |
| Email: jean-pierre.simard@agr.gc.ca | |
| Telephone Number Ext.: 613 759-6157 | Fax Number: |
| Destination: Agricuture and Agri-Food Canada<br>960 Carling Avenue, building 20<br>Ottawa, Ontario<br>K1A 0C6 | |

**Instructions: See Herein**

| | |
|---|---|
| Delivery Required | Delivery Offered |
| Vendor / Firm Name and Address | |
| Telephone Number Ext. | Fax Number |
| Name and title of person authorized to sign on behalf of Vendor / Firm (type or print)<br><br>Signature _____ Date _____ | |



Canada

# SPECIAL INSTRUCTIONS TO BIDDERS (SI)



## SI01 BID DOCUMENTS

1) The following are the bid documents:

(a) INVITATION TO TENDER - Page 1 form AAFC / AAC5323-E;
(b) SPECIAL INSTRUCTIONS TO BIDDERS form AAFC / AAC5301-E;
(c) GENERAL INSTRUCTIONS TO BIDDERS form AAFC / AAC5313-E;
(d) Clauses and Conditions identified in "CONTRACT DOCUMENTS";
(e) Drawings and Specifications;
(f) BID AND ACCEPTANCE form AAFC / AAC5320-E and any Appendices attached thereto; and,
(g) Any amendment issued prior to solicitation closing.

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 named on the INVITATION TO TENDER - Page 1 as early as possible within the solicitation period. Except for the approval of alternative materials as described in GI13 of the GENERAL 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.

2) 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.

3) All enquiries and other communications related to this bid sent throughout the solicitation period are to be directed ONLY to the Contracting Officer named on the INVITATION TO TENDER - Page 1. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a bid.

## SI03 NON-MANDATORY SITE VISIT

1) There will be a site visit on Thursday, February, 26 , 2015 at 10:00 (•) AM ( ) PM EST.

Interested bidders are to meet at:

CEF Ottawa
K.W. Neatby building
960 Carling Avenue
Ottawa, Ontario
K1A 0C6

**SI04 REVISION OF BID**

1) A bid may be revised by letter or facsimile in accordance with GI09 of the GENERAL INSTRUCTIONS TO BIDDERS. The facsimile number for receipt of revisions is

**SI05 BID RESULTS**

1) Following bid closing, bid results may be obtained from the bid receiving office by calling telephone number 613 759-6157 ext.

**SI06 INSUFFICIENT FUNDING**

1) In the event that the lowest compliant bid exceeds the amount of funding allocated for the Work, Canada in its sole discretion may:
   (a) cancel the solicitation; or
   (b) obtain additional funding and award the Contract to the Bidder submitting the lowest compliant bid; and/or
   (c) negotiate a reduction in the bid price and/or scope of work of not more than 15% with the Bidder submitting the lowest compliant bid. Should an agreement satisfactory to Canada not be reached, Canada shall exercise option (a) or (b).

**SI07 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.

2) If the extension referred to in paragraph 1) of SI07 is accepted, in writing, by all those who submitted bids, then Canada shall continue immediately with the evaluation of the bids and its approvals processes.

3) If the extension referred to in paragraph 1) of SI07 is not accepted in writing by all those who submitted bids then Canada shall, at its sole discretion, either:
   (a) continue to evaluate the bids of those who have accepted the proposed extension and seek the necessary approvals; or
   (b) cancel the invitation to bid.

4) The provisions expressed herein do not in any manner limit Canada's rights in law or under GI10 of the GENERAL INSTRUCTIONS TO BIDDERS.

## SI08 CONSTRUCTION DOCUMENTS

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

## SI09 WEB SITES

The connection to some of the Web sites in the solicitation documents is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Treasury Board Appendix L, Acceptable Bonding Companies
http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494&section=text#appL

Canadian economic sanctions
http://www.international.gc.ca/sanctions/index.aspx?lang=eng

## SI10 PERSONNEL SECURITY REQUIREMENTS

1) The successful Bidder's personnel, as well as any subcontractor and its personnel, who are required to perform any part of the work pursuant to the subsequent contract, must meet the following contract security requirements:

- Personnel who are required to perform any part of the work must EACH hold a valid personnel security screening at the level of RELIABILITY STATUS, granted or approved by Agriculture and Agri-Food Canada. Until the security screening of the personnel has been completed satisfactorily by Agriculture and Agri-Food Canada, the Contractor/Subcontractor personnel MAY NOT perform contract work. Each of the proposed staff must complete "Security Clearance Form" (TBS 330-23E) upon request from Canada.

# GENERAL INSTRUCTIONS TO BIDDERS



## GI01 COMPLETION OF BID

1) The bid shall be:

   (a) submitted on the BID AND ACCEPTANCE FORM provided by AAFC with the bid package 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

      (i) bid security as specified in GI07; and
      (ii) 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 GI10, 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. 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.

## GI02 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.

## GI03 APPLICABLE TAXES

1) "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.

## GI04 CAPITAL DEVELOPMENT AND REDEVELOPMENT CHARGES

1) For the purposes of GC1.8 LAWS, PERMITS AND TAXES 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.

## GI05 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.

## GI06 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 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 shall result in the disqualification of its bid.

## GI07 BID SECURITY REQUIREMENTS

1) The Bidder shall submit bid security with the bid in the form of a bid bond or a security deposit in an amount that is equal to not less than 10 percent of the bid amount. Applicable Taxes shall not be included when calculating the amount of any bid security that may be required. The maximum amount of bid security required with any bid is $2,000,000.00.

2) A bid bond shall be in an approved form http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494&section=text#appS, properly completed, with original signature(s) and issued by an approved company whose bonds are acceptable to Canada either at the time of solicitation closing or as identified in Treasury Board Appendix L: Acceptable Bonding Companies.

3) A security deposit shall be an original, properly completed, signed where required and be either:

   (a) a bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or

   (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada;

4) For the purposes of subparagraph 3) (a) of GI07

   (a) a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;

   (b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4.c. of GI07, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and

   (c) An approved financial institution is:
      (i) a corporation or institution that is a member of the Canadian Payments Association as defined in the Canadian Payments Act;
      (ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
      (iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
      (iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the Income Tax Act; or
      (v) Canada Post Corporation.

5) Bonds referred to in subparagraph 3)(b) of GI07 shall be provided on the basis of their market value current at the date of solicitation closing, and shall be:

   (a) payable to bearer;

   (b) accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or

   (c) registered as to principal or as to principal and interest in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.

6) As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to Canada and the amount shall be determined in the same manner as a security deposit referred to above.

7) An irrevocable standby letter of credit referred to in paragraph 6) of GI07 shall

(a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant) or on its own behalf,

(i) is to make a payment to, or to the order of, the Receiver General for Canada as the beneficiary;

(ii) is to accept and pay bills of exchange drawn by the Receiver General for Canada;

(iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or

(iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;

(b) state the face amount which may be drawn against it;

(c) state its expiry date;

(d) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by the Departmental Representative identified in the letter of credit by his/her office;

(e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;

(f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600; pursuant to the ICC UCP; a credit is irrevocable even if there is no indication to that effect; and

(g) be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.

8) Bid security shall lapse or be returned as soon as practical following:

(a) the solicitation closing date, for those Bidders submitting non-compliant bids; and

(b) the administrative bid review, for those Bidders submitting compliant bids ranked fourth to last on the schedule of bids; and

(c) the award of contract, for those Bidders submitting the second and third ranked bids; and

(d) the receipt of contract security, for the successful Bidder; or

(e) the cancellation of the solicitation, for all Bidders.

9) Notwithstanding the provisions of paragraph 8) of GI07 and provided more than three compliant bids have been received, if one or more of the bids ranked third to first is withdrawn or rejected

for whatever reason then Canada reserves the right to hold the security of the next highest ranked compliant bid in order to retain the bid security of at least three valid and compliant bids.

**GI08 SUBMISSION OF BID**

1) The Bid and Acceptance Form, duly completed, and the bid security shall be enclosed and sealed in an envelope provided by the Bidder, and shall be addressed and submitted to the office designated on the INVITATION TO TENDER 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 Number;

   (b) Name of Bidder;

   (c) Return address; and

   (d) Closing Date and Time.

4) Timely and correct delivery of bids is the sole responsibility of the Bidder.

**GI09 REVISION OF BID**

1) A bid submitted in accordance with these instructions may be revised by letter or facsimile 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 solicitation. The letter or facsimile shall be on the Bidder's letterhead or bear a signature that identifies the Bidder;

2) A revision to a bid that includes unit prices must clearly identify the changes(s) in the unit price(s) and the specific item(s) to which each change applies.

3) A letter or facsimile submitted to confirm an earlier revision shall be clearly identified as a confirmation.

4) 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).

**GI10 REJECTION 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 GI10, 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 or 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) the Bidder is bankrupt, or where for whatever reason, its activities are rendered inoperable for an extended period;

(e) 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;

(f) evidence satisfactory to Canada that based on past conduct or behavior, the Bidder, a sub-contractor or a person who is to perform the Work is unsuitable or has conducted himself/herself improperly;

(g) with respect to current or prior transactions with Canada
  (i) 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
  (ii) 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)(g)(ii)of GI10, 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 GI10, 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) Where Canada intends to reject a bid pursuant to a provision of paragraphs 1), 2), 3) or 4) of GI10, other than subparagraph 2)(g)of IT10, the contracting authority will inform the Bidder and provide the Bidder ten (10) days within which to make representations, before 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.

## GI11 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.

## GI12 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 GI12, 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 GI12 shall result in disqualification of the bid.

## GI13 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 solicitation 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 solicitation closing date.

## GI14 CONFLICT OF INTEREST - UNFAIR ADVANTAGE

1) In order to protect the integrity of the procurement process, bidders are advised that Canada may reject a bid in the following circumstances:

(a) if the Bidder, any of its subcontractors, any of their respective employees or former employees was involved in any manner in the preparation of the bid solicitation or in any situation of conflict of interest or appearance of conflict of interest;

(b) if the Bidder, any of its subcontractors, any of their respective employees or former employees had access to information related to the bid solicitation that was not available to other bidders and that would, in Canada's opinion, give or appear to give the Bidder an unfair advantage.

2) The experience acquired by a bidder who is providing or has provided the goods and services described in the bid solicitation (or similar goods or services) will not, in itself, be considered by Canada as conferring an unfair advantage or creating a conflict of interest. This bidder remains however subject to the criteria established above.

3) Where Canada intends to reject a bid under this section, the Contracting Authority will inform the Bidder and provide the Bidder an opportunity to make representations before making a final decision. Bidders who are in doubt about a particular situation should contact the Contracting Authority before bid closing. By submitting a bid, the Bidder represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Bidder acknowledges that it is within Canada's sole discretion to determine whether a conflict of interest, unfair advantage or an appearance of conflict of interest or unfair advantage exists.

# MAJOR WORKS - CONTRACT DOCUMENTS

## SC01 CONTRACT DOCUMENTS

1) The following are the contract documents:

(a) Contract page when signed by Canada;

(b) Duly completed Bid and Acceptance Form and any Appendices attached thereto;

(c) Drawings and Specifications;

(d) AAFC General Conditions form AAFC / AAC5321-E:

| | | |
|---|---|---|
| (i) | GC1 | General Provisions |
| (ii) | GC2 | Administration of the Contract |
| (iii) | GC3 | Execution and Control of the Work |
| (iv) | GC4 | Protective Measures |
| (v) | GC5 | Terms of Payment |
| (vi) | GC6 | Delays and Changes in the Work |
| (vii) | GC7 | Default, Suspension or Termination of Contract |
| (viii) | GC8 | Dispute Resolution |
| (ix) | GC9 | Contract Security |
| (x) | GC10 | Insurance |

(e) Supplementary Conditions, if any;

(f) Insurance Terms form AAFC / AAC5315-E;

(g) Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;

(h) Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and

(i) Any amendment or variation of the contract documents that is made in accordance with the General Conditions.

2) The language of the contract documents shall be the language of the Bid and Acceptance Form submitted.

## SC02 ACCEPTANCE AND CONTRACT

1) 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 referred to in SC01 CONTRACT DOCUMENTS.

**MAJOR WORKS – GENERAL CONDITIONS** 

**MAJOR WORKS GENERAL CONDITIONS FORM AAFC 5321**: Revision Date

## GC1 GENERAL PROVISIONS



### GC1.1 INTERPRETATION

#### GC1.1.1 Headings and References

1) The headings in the contract documents, other than those in the drawings and specifications, form no part of the Contract but are inserted for convenience of reference only.

2) A reference made to a part of the Contract by means of numbers preceded by letters is a reference to the particular part of the Contract that is identified by that combination of letters and numbers and to any other part of the Contract referred to therein.

3) A reference to a paragraph or subparagraph followed by an identifying number, letter or combination thereof is, unless specifically stated otherwise, a reference to the paragraph or subparagraph that forms part of the clause within which the reference is made.

#### GC1.1.2 Terminology

1) In the Contract

"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", “Crown”, “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;

"Contract Amount" means the amount set out in the Contract to be payable to the Contractor for the Work, subject to the terms and conditions of the Contract, exclusive of Applicable Taxes;

"Contract Security" means any security given by the Contractor to Canada in accordance with the Contract;

"Contractor" means the person contracting with Canada to provide or furnish all labour, Material and Plant for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to Canada.

"Certificate of Completion" means a certificate issued by Canada when the Work reaches Completion;

"Certificate of Measurement" means a certificate issued by Canada certifying the correctness of the final quantities, prices per unit and values of labour, Plant and Material performed, used and supplied by the Contractor for the construction of the part of the Work to which a Unit Price Arrangement applies;

"Certificate of Substantial Performance" means a certificate issued by Canada when the Work reaches Substantial Performance;

"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;

"herein", "hereby", "hereof", "hereunder" and similar expressions refer to the Contract as a whole and not to any particular section or part thereof;

"Lump Sum Arrangement" means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates;

"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" also 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 tradesperson in practicing a trade;

"Subcontractor" means a person having a direct contract with the Contractor, subject to GC3.6 SUBCONTRACTING, to perform a part or parts of the Work, or to supply Material customized for the Work;

"Superintendent" means the employee or representative of the Contractor designated by the Contractor to act pursuant to GC2.6 SUPERINTENDENT;

"Supplementary Conditions" means the part of the Contract that amends or supplements the General Conditions;

"Supplier" means a person having a direct contract with the Contractor to supply Plant or Material not customized for the Work;

“Total Estimated Cost”, “Revised Estimated Cost”, “Increase (Decrease)” on Page 1 of the Contract or Contract Amendment means an amount used for internal administrative purposes only that comprises the Contract Amount, or the revised Contract Amount, or the amount that would increase or decrease the Contract Amount and the Applicable Taxes as evaluated by the Contracting Authority, and does not constitute tax advice on the part of Canada;

"Unit Price Arrangement" means that part of the Contract that prescribes the product of a price per unit of measurement multiplied by a number of units of measurement for performance of the Work to which it relates;

"Unit Price Table" means the table of prices per unit set out in the Contract;

"Work" means, subject only to any express stipulation in the Contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contract in accordance with the contract documents; and

“Working Day” means a day other than a Saturday, Sunday, or a statutory holiday that is observed by the construction industry in the area of the place of the Work.

### GC1.1.3 Application of Certain Provisions

1) Any provisions of the Contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the Work to which a Lump Sum Arrangement applies.

2) Any provisions of the Contract that are expressly stipulated to be applicable only to a Lump Sum Arrangement are not applicable to any part of the Work to which a Unit Price Arrangement applies.

### GC1.1.4 Substantial Performance

1) The Work shall be considered to have reached Substantial Performance when

   (a) the Work or a substantial part thereof has passed inspection and testing and is, in the opinion of Canada, ready for use by Canada or is being used for the intended purposes; and

   (b) the Work is, in the opinion of Canada, capable of completion or correction at a cost of not more than

      (i) 3 percent of the first $500,000;

      (ii) 2 percent of the next $500,000; and

      (iii) 1 percent of the balance

      of the Contract Amount at the time this cost is calculated.

2) Where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and

(a) the remainder of the Work or a part thereof cannot be completed by the time specified in the Contract, or as amended in accordance with GC6.5 DELAYS AND EXTENSION OF TIME, for reasons beyond the control of the Contractor; or

(b) Canada and the Contractor agree not to complete a part of the Work within the specified time;

the cost of that part of the Work that was either beyond the control of the Contractor to complete or Canada and the Contractor have agreed not to complete by the time specified, shall be deducted from the value of the Contract referred to in subparagraph 1)(b) of GC1.1.4 and the said cost shall not form part of the cost of the Work remaining to be done in determining Substantial Performance.

### GC1.1.5 Completion

1) The Work shall be deemed to have reached Completion when all labour, Plant and Material required have been performed, used or supplied, and the Contractor has complied with the Contract and all orders and directions made pursuant thereto, all to the satisfaction of Canada.

## GC1.2 CONTRACT DOCUMENTS

### GC1.2.1 General

1) The contract documents are complementary, and what is required by any one shall be as binding as if required by all.

2) References in the contract documents to the singular shall be considered to include the plural as the context requires.

3) Nothing contained in the contract documents shall create a contractual relationship between Canada and any Subcontractor or Supplier, their subcontractors or suppliers, or their agents or employees.

### GC1.2.2 Order of Precedence

1) In the event of any discrepancy or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:

(a) any amendment or variation of the contract documents that is made in accordance with the General Conditions;

(b) any amendment issued prior to tender closing;

(c) Supplementary Conditions;

(d) General Conditions;

(e) the duly completed Bid and Acceptance Form when accepted;
(f) drawings and specifications.

later dates shall govern within each of the above categories of documents.

2) In the event of any discrepancy or conflict in the information contained in the drawings and specifications, the following rules shall apply:

   (a) specifications shall govern over drawings;

   (b) dimensions shown in figures on a drawings shall govern where they differ from dimensions scaled from the same drawings; and

   (c) drawings of larger scale govern over those of smaller scale.

### GC1.2.3 Security and Protection of Documents and Work

1) The Contractor shall guard and protect contract documents, drawings, information, models and copies thereof, whether supplied by Canada or the Contractor, against loss or damage from any cause.

2) The Contractor shall keep confidential all information provided to the Contractor by or on behalf of Canada in connection with the Work, and all information developed by the Contractor as part of the Work, and shall not disclose any such information to any person without the written permission of Canada, except that the Contractor may disclose to a subcontractor, authorized in accordance with the Contract, information necessary to the performance of a subcontract. This section does not apply to any information that

   (a) is publicly available from a source other than the Contractor; or

   (b) is or becomes known to the Contractor from a source other than Canada, except any source that is known to the Contractor to be under an obligation to Canada not to disclose the information.

3) When the Contract, the Work, or any information referred to in paragraph 2) is identified as top secret, secret, confidential, or protected by Canada, the Contractor shall, at all times, take all measures reasonably necessary for the safeguarding of the material so identified, including such measures as may be further specified elsewhere in the Contract or provided, in writing, from time to time by Canada.

4) Without limiting the generality of paragraphs 2) and 3) of GC1.2.3, when the Contract, the Work, or any information referred to in paragraph 2) is identified as top secret, secret, confidential or protected by Canada, Canada shall be entitled to inspect the Contractor's premises and the premises of its subcontractors or suppliers and any other person at any tier, for security purposes at any time during the term of the Contract, and the Contractor shall comply with, and ensure that any such subcontractors or suppliers comply with all written instructions issued by Canada dealing with the material so identified, including any requirement that employees of the Contractor and its subcontractors and suppliers and any other person at any tier execute and deliver declarations relating to reliability screenings, security clearances and other procedures.

5) The Contractor shall safeguard the Work and the Contract, the specifications, drawings and any other information provided by Canada to the Contractor, and shall be liable to Canada for any loss or damage from any causes.

## GC1.3 STATUS OF THE CONTRACTOR

1) The Contractor is engaged under the Contract as an independent contractor.

2) The Contractor, its subcontractors and suppliers and any other person at any tier and their employees are not engaged by the Contract as employees, servants or agents of Canada.

3) For the purposes of the contract the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for Canada or Quebec Pension Plans, Employment Insurance, Worker's Compensation, provincial health or insurance plans, and Income Tax.

### GC1.4 RIGHTS AND REMEDIES

1) Except as expressly provided in the Contract, the duties and obligations imposed by the Contract and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

### GC1.5 TIME OF THE ESSENCE

1) Time is of the essence of the Contract.

### GC1.6 INDEMNIFICATION BY THE CONTRACTOR

1) The Contractor shall pay all royalties and patent fees required for the performance of the Contract and, at the Contractor's expense, shall defend all claims, actions or proceedings against Canada charging or claiming that the Work or any part thereof provided or furnished by the Contractor to Canada infringes any patent, industrial design, copyright trademark, trade secret or other proprietary right enforceable in Canada.

2) The Contractor shall indemnify and save Canada harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by any third party, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by, or attributable to the activities of the Contractor, its subcontractors and suppliers and any other person at any tier, in performing the Work.

3) For the purposes of paragraph 2) of GC1.6, "activities" means any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

### GC1.7 INDEMNIFICATION BY CANADA

1) Subject to the *Crown Liability and Proceedings Act*, the *Patent Act*, and any other law that affects Canada's rights, powers, privileges or obligations, Canada shall indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of the Contractor's activities under the Contract that are directly attributable to

   (a) a lack of or a defect in Canada's title to the Work site if owned by Canada, whether real or alleged; or

   (b) an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the Contract employing a model, plan or design or any other thing related to the Work that was supplied by Canada to the Contractor.

## GC1.8 LAWS, PERMITS AND TAXES

1) The Contractor shall comply with all federal, provincial and municipal laws and regulations applicable to the performance of the Work or any part thereof including, without limitation, all laws concerning health and labour conditions and the protection of the environment, 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. The Contractor shall furnish evidence of compliance with such laws and regulations to Canada at such times as Canada may reasonably request.

2) Unless stipulated otherwise in the Contract, the Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work.

3) Prior to the commencement of the Work at the site, the Contractor shall tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the Work were being performed for an owner other than Canada.

4) Within 10 days of making a tender pursuant to paragraph 3) of GC1.8, the Contractor shall notify Canada of the amount properly tendered and whether or not the municipal authority has accepted that amount.

5) If the municipal authority has not accepted the amount tendered, the Contractor shall pay that amount to Canada within 6 days after the time stipulated in paragraph 4) of GC1.8.

6) For the purposes of this clause, "municipal authority" means any authority that would have jurisdiction respecting permission to perform the Work if the owner were not Canada.

7) Notwithstanding the residency of the Contractor, the Contractor shall pay any applicable tax arising from or related to the performance of the Work under the Contract.

8) In accordance with the Statutory Declaration referred to in paragraph 4) of GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK, a Contractor who has neither residence nor place of business in the province or territory in which work under the Contract is being performed shall provide Canada with proof of registration with the provincial sales tax authorities in the said province.

9) For the purpose of the payment of any Applicable Taxes or the furnishing of security for the payment of any Applicable Taxes arising from or related to the performance of the Work, and notwithstanding the provision that all Material, Plant and interest of the Contractor in all real property, licences, powers and privileges, become the property of Canada after the time of purchase in accordance with GC3.10 MATERIAL PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA, the Contractor shall be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any Applicable Taxes payable, at the time of the use or consumption of that Material, Plant or interest of the Contractor in accordance with the relevant legislation.

10) Federal government departments and agencies are required to pay Applicable Taxes.

11) Applicable Taxes will be paid by Canada as provided in the request for payment. 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.

12) 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.

13) In those cases where Applicable Taxes, customs duties, and excise taxes are included in the Contract Amount, the Contract Amount will be adjusted to reflect any increase, or decrease, of Applicable Taxes, customs duties, and excise taxes that will have occurred between bid submission and contract award. However, there will be no adjustment for any change to increase the Contract Amount if public notice of the change was given before bid submission date in sufficient detail to have permitted the Contractor to calculate the effect of the change.

14) Tax Withholding of 15 Percent – Canada Revenue Agency

Pursuant to the *Income Tax Act*, 1985, c. 1 (5th Supp.) and the *Income Tax Regulations*, Canada must withhold 15 percent of the amount to be paid to the Contractor in respect of services provided in Canada if the Contractor is not a resident of Canada, unless the Contractor obtains a valid waiver from the Canada Revenue Agency. The amount withheld will be held on account for the Contractor in respect to any tax liability which may be owed to Canada.

## GC1.9 WORKERS' COMPENSATION

1) Prior to commencement of Work, at the time of Substantial Performance of the Work, and prior to issuance of the Certificate of Completion, the Contractor shall provide evidence of compliance with workers' compensation legislation applicable to the place of the Work, including payments due thereunder.

2) At any time during the term of the Contract, when requested by Canada, the Contractor shall provide such evidence of compliance by the Contractor, its subcontractors and any other person at any tier and any other person performing part of the Work who is required to comply with such legislation.

## GC1.10 NATIONAL SECURITY

1) If Canada determines that the Work is of a class or kind that involves national security, Canada may order the Contractor to

(a) provide Canada with any information concerning persons employed or to be employed by the Contractor for purposes of the Contract; and

(b) remove any person from the site of the Work if, in the opinion of Canada, that person may be a risk to the national security;

and the Contractor shall comply with the order.

2) In all contracts with persons who are to be employed in the performance of the Contract, the Contractor shall make provision for the performance of any obligation that may be imposed upon the Contractor under paragraph 1) of GC1.10.

## GC1.11 UNSUITABLE WORKERS

1) Canada shall instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Contract who, in the opinion of Canada, is incompetent or is guilty of improper conduct, and the Contractor shall not permit a person who has been removed to return to the site of the Work.

## GC1.12 PUBLIC CEREMONIES AND SIGNS

1) The Contractor shall not permit any public ceremony in connection with the Work without the prior consent of Canada.

2) The Contractor shall not erect nor permit the erection of any sign or advertising on the Work or its site without the prior consent of Canada.

## GC1.13 CONFLICT OF INTEREST

1) It is a term of the Contract that no individual, for whom the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders or the Values and Ethics Code for the Public Service apply, shall derive a direct benefit from the Contract unless that individual is in compliance with the applicable post-employment provisions.

## GC1.14 AGREEMENTS AND AMENDMENTS

1) The Contract constitutes the entire and sole agreement between the parties with respect to the subject matter of the Contract and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in the Contract. There are no terms, covenants, representations, statements or conditions binding on the parties other than those contained in the Contract.

2) The failure of either party at any time to require performance by the other party of any provision hereof shall not affect the right thereafter to enforce such provision. Nor shall the waiver by either party of any breach of any covenant, term or condition hereof be taken to be held to be a waiver of any further breach of the same covenant, term or condition.

3) The Contract may be amended only as provided for in the Contract.

## GC1.15 SUCCESSION

1) The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and, subject to GC1.16 ASSIGNMENT, permitted assigns.

## GC1.16 ASSIGNMENT

1) The Contractor shall not make any assignment of the Contract, either in whole or in part, without the written consent of Canada.

## GC1.17 NO BRIBE

1) The Contractor represents and covenants that no bribe, gift, benefit, nor other inducement has been nor shall be paid, given, promised or offered directly or indirectly to any official or employee of Canada or to a member of the family of such a person, with a view to influencing the entry into the Contract or the administration of the Contract.

## GC1.18 CERTIFICATION - CONTINGENCY FEES

1) In this clause

   (a) "contingency fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government contract or negotiating the whole or any part of its terms;

   (b) "employee" means a person with whom the Contractor has an employer/employee relationship; and

   (c) "person" includes an individual or a group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the *Lobbying Act* R.S.C. 1985 c.44 (4th Supplement) as the same may be amended from time to time.

2) The Contractor certifies that it has not directly or indirectly paid nor agreed to pay and covenants that it shall not directly or indirectly pay nor agree to pay a contingency fee for the solicitation, negotiation or obtaining of the Contract to any person other than an employee acting in the normal course of the employee's duties.

3) All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiation of the Contract shall be subject to the accounts and audit provisions of the Contract.

4) If the Contractor certifies falsely under this section or is in default of the obligations contained therein, Canada may either take the Work out of the Contractor's hands in accordance with the provisions of the Contract or recover from the Contractor by way of reduction to the Contract Amount or otherwise, the full amount of the contingency fee.

## GC1.19 INTERNATIONAL SANCTIONS

1) Persons and companies in Canada, and Canadians outside of Canada are bound by economic sanctions imposed by Canada. As a result, the Government of Canada cannot accept delivery of goods or services that originate, either directly or indirectly, from the countries or persons subject to economic sanctions

2) It is a condition of the Contract that the Contractor not supply to the Government of Canada any goods or services which are subject to economic sanctions.
3) By law, the Contractor must comply with changes to the regulations imposed during the life of the Contract. During the performance of the Contract should the imposition of sanctions against a country or person or the addition of a good or service to the list of sanctioned goods or services cause an impossibility of performance for the Contractor, the Contractor may request that the Contract be terminated in accordance with GC7.3 TERMINATION OF CONTRACT.

## GC2 ADMINISTRATION OF THE CONTRACT



### GC2.1 DEPARTMENTAL REPRESENTATIVE'S AUTHORITY

1) Canada shall designate a Departmental Representative and shall notify the Contractor of the name, address and telephone number of the Departmental Representative.

2) The Departmental Representative shall perform Canada's duties and functions under the contract.

3) The Departmental Representative shall be authorized to issue notices, instructions and directions to the Contractor and to accept on behalf of Canada any notice, order or other communication from the contractor relating to the Work.

4) The Departmental Representative shall, within a reasonable time, review and respond to submissions made by the Contractor in accordance with the requirements of the Contract.

### GC2.2 INTERPRETATION OF CONTRACT

1) If, at any time before Canada has issued a Certificate of Completion, any question arises between the parties about whether anything has been done as required by the Contract or about what the Contractor is required by the Contract to do, and in particular but without limiting the generality of the foregoing, about

   (a) the meaning of anything in the drawings and specifications;

   (b) the meaning to be given to the drawings and specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their wording or intention;

   (c) whether or not the quality or quantity of any Material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the Contract;

   (d) whether or not the labour, Plant or Material performed, used and supplied by the Contractor for performing the Work and carrying out the Contract are adequate to ensure that the Work shall be performed in accordance with the Contract and that the Contract shall be carried out in accordance with its terms;

   (e) what quantity of any of the Work has been completed by the Contractor; or

   (f) the timing and scheduling of the various phases of the performance of the Work as specified in the Contract;

   the question shall be decided, subject to the provisions of GC8 DISPUTE RESOLUTION, by Canada.

2) The Contractor shall perform the Work in accordance with any decisions of Canada that are made under paragraph 1) of GC2.2 and in accordance with any consequential directions given by Canada.

3) If the Contractor fails to comply with any instruction or direction issued by Canada pursuant to the Contract, Canada may employ such methods as Canada deems advisable to do what the Contractor failed to do, and the Contractor shall, on demand, pay Canada an amount that is equal to the aggregate of all costs, expenses and damages incurred or sustained by Canada by reason of the Contractor's failure to comply with such instruction or direction, including the cost of any methods employed by Canada in doing what the Contractor failed to do.

**GC2.3 NOTICES**

1) Subject to paragraph 3) of GC2.3, any notice, order or other communication may be given in any manner, and if required to be in writing, shall be addressed to the party to whom it is intended at the address in the Contract or at the last address of which the sender has received written notice in accordance with this section.

2) Any notice, order or other communication given in writing in accordance with paragraph 1) of GC2.3 shall be deemed to have been received by either party

   (a) if delivered personally, on the day that it was delivered;

   (b) if forwarded by mail, on the earlier of the day it was received or the sixth day after it was mailed; and

   (c) if forwarded by facsimile or electronic mail, 24 hours after it was transmitted.

3) A notice given under GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS, GC7.2 SUSPENSION OF WORK, and GC7.3 TERMINATION OF CONTRACT shall be given in writing and, if delivered personally, shall be delivered, if the Contractor is a sole proprietor, to the Contractor or, if the Contractor is a partnership or corporation, to an officer thereof.

**GC2.4 SITE MEETINGS**

1) In consultation with Canada, the Contractor shall arrange site meetings at regular intervals, with all involved parties who are to attend, in order to ensure, among other things, the proper co-ordination of the Work.

**GC2.5 REVIEW AND INSPECTION OF WORK**

1) Canada shall review the Work to determine if it is proceeding in conformity with the Contract and to record the necessary data to make an assessment of the value of Work completed. Canada shall measure and record the quantities of labour, Plant and Material performed, used or supplied by the Contractor in performing the Work or any part thereof that is subject to a Unit Price Arrangement and, on request, shall inform the Contractor of those measurements, and permit the Contractor to inspect any records pertaining thereto.

2) Canada shall reject Work or Material which in Canada's opinion does not conform to the requirements of the Contract, and shall require inspection or testing of Work, whether or not such Work is fabricated, installed, or completed. If such Work is not in accordance with the

requirements of the Contract, the Contractor shall correct the Work and shall pay Canada, on demand, all reasonable costs and expenses that were incurred by Canada in having the examination performed.

3) The Contractor shall provide Canada with access to the Work and its site at all times, and at all times shall provide sufficient, safe, and proper facilities for the review and inspection of the Work by persons authorized by Canada and any representatives of those authorities having jurisdiction. If parts of the Work are in preparation at locations other than the site of the Work, Canada shall be given access to such Work whenever it is in progress.

4) The Contractor shall furnish Canada with such information respecting the performance of the Contract as Canada may require, and render every possible assistance to enable Canada to verify that the Work is performed in accordance with the Contract, carry out any other duties and exercise any powers in accordance with the Contract.

5) If Work is designated for tests, inspections, or approvals in the Contract or by Canada's instructions, or by laws or ordinances of the place of the Work, the Contractor shall give Canada reasonable notice of when such Work shall be ready for review and inspection. The Contractor shall arrange for and shall give Canada reasonable notice of the date and time of inspections, tests or approvals.

6) If the Contractor covers, or permits to be covered, Work that has been designated for tests, inspections or approvals before such tests, inspections or approvals are made, completed or given, the Contractor shall, if so directed by Canada, uncover such Work, have the inspections, tests or approvals satisfactorily made, completed or given and make good the covering of the Work at the Contractor's expense.

## GC2.6 SUPERINTENDENT

1) Prior to commencing the Work, the Contractor shall designate a Superintendent and shall notify Canada of the name, address and telephone number of the Superintendent. The Contractor shall keep the Superintendent at the Work site during working hours until the Work has reached completion.

2) The Superintendent shall be in full charge of the operations of the Contractor during the performance of the Work and shall be authorized to accept on behalf of the Contractor any notice, order or other communication given to the Superintendent or the Contractor relating to the Work.

3) Upon request of Canada, the Contractor shall remove any Superintendent who, in the opinion of Canada, is incompetent or has been guilty of improper conduct, and shall forthwith designate another Superintendent who is acceptable to Canada.

4) The Contractor shall not substitute a Superintendent without the written consent of Canada. If a Superintendent is substituted without such consent, Canada shall be entitled to refuse to issue any documentation or certification relating to progress payments, Substantial Performance or Completion of the Work until the Superintendent has returned to the Work site or another Superintendent who is acceptable to Canada has been substituted.

## GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR

1) For the purposes of this clause, “persons" include the Contractor, its subcontractors and suppliers at any tier and their respective employees, agents, licensees or invitees and any other individual involved in the performance of the Work or granted access to the Work site.

A “person” includes any partnership, proprietorship, firm, joint venture, consortium and corporation.

2) Without restricting the provisions of paragraph 3) of GC2.6, SUPERINTENDENT, the Contractor shall not refuse to employ and shall not discriminate in any manner against any person because

(a) of that person's race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status;

(b) of the race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status of any person having a relationship or association with that person, or

(c) a complaint has been made or information has been given in respect of that person relating to an alleged failure by the Contractor to comply with subparagraph (a) or (b).

3) Within two working days immediately following receipt of a written complaint pursuant to paragraph 2) of GC2.7, the Contractor shall

(a) cause to have issued a written direction to the person or persons named by the complainant to cease all actions that form the basis of the complaint;

(b) forward a copy of the complaint to Canada by registered mail or courier service; and

(c) when the Labour Conditions are applicable under the circumstances of the complaint, forward a copy of the complaint to HRSDC - Labour to the attention of the appropriate Director as described in the Labour Conditions (“HRSDC - Labour" means the labour component of the federal Department of Human Resources and Social Development).

4) Within twenty four (24) hours immediately following receipt of a direction from Canada to do so, the Contractor shall cause to have removed from the site of the Work and from the performance of Work under the Contract, any person or persons whom Canada believes to be in breach of the provisions of paragraph 2) of GC2.7.

5) No later than thirty (30) days after receipt of the direction referred to in paragraph 4) of GC2.7, the Contractor shall cause the necessary action to be commenced to remedy the breach described in the direction.

6) If a direction is issued pursuant to paragraph 4) of GC2.7, Canada may withhold from monies that are due and payable to the Contractor or setoff pursuant to GC5.9 RIGHT OF SETOFF, whichever is applicable, an amount representing the sum of the costs and payment referred to in paragraph 8) of GC2.7.

7) If the Contractor fails to proceed in accordance with paragraph 5) of GC2.7, Canada shall take the necessary action to have the breach remedied, and shall determine all supplementary costs incurred by Canada as a result.

8) Canada may make a payment directly to the complainant from monies that are due and payable to the Contractor upon receipt from the complainant of

(a) a written award issued pursuant to the federal *Commercial Arbitration Act*, R.S.C. 1985, c. 17 (2nd Supp.);

(b) a written award issued pursuant to the *Canadian Human Rights Act*, R.S.C. 1985, c. H-6;

(c) a written award issued pursuant to provincial or territorial human rights legislation; or

(d) a judgement issued by a court of competent jurisdiction.

9) If Canada is of the opinion that the Contractor has breached any of the provisions of this clause, Canada may take the Work out of the Contractor's hands pursuant to GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS.

10) Subject to paragraph 7) of GC3.6 SUBCONTRACTING, the Contractor shall ensure that the provisions of this clause are included in all agreements and contracts entered into as a consequence of the Work.

## GC2.8 ACCOUNTS AND AUDITS

1) The Contractor shall, in addition to the requirements expressed in paragraph 6) of GC3.4 EXECUTION OF THE WORK, maintain full records of the Contractor's estimated and actual cost of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, and shall make them available on request to audit and inspection by Canada and the Deputy Receiver General for Canada or by persons designated to act on behalf of either or both of them.

2) The Contractor shall allow any of the persons referred to in paragraph 1) of GC2.8 to make copies of and take extracts from any of the records and material, and shall furnish such persons or entities with any information those persons or entities may require from time to time in connection with such records and material.

3) The Contractor shall maintain and keep the records intact until the expiration of two years after the date that a Certificate of Completion has been issued or until the expiration of such other period of time as Canada may direct.

4) The Contractor shall cause all subcontractors at any tier and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with the requirements of this clause as if they were the Contractor.

## GC3 EXECUTION AND CONTROL OF THE WORK



### GC3.1 PROGRESS SCHEDULE

1) The Contractor shall

   (a) prepare and submit to Canada, prior to the submission of the Contractor's first progress claim, a progress schedule in accordance with the requirements set out in the Contract;

   (b) monitor the progress of the Work relative to the schedule and update the schedule as stipulated by the contract documents;

   (c) advise Canada of any revisions to the schedule required as the result of any extension of time for completion of the Contract that was approved by Canada; and

   (d) prepare and submit to Canada, at the time of issuance of a Certificate of Substantial Performance, an update of any schedule clearly showing a detailed timetable that is acceptable to Canada for the completion of any unfinished Work and the correction of all listed defects.

### GC3.2 ERRORS AND OMISSIONS

1) The Contractor shall report promptly to Canada any errors, discrepancies, or omissions the Contractor may discover when reviewing the contract documents. In making a review, the Contractor does not assume any responsibility to Canada for the accuracy of the review. The Contractor shall not be liable for damage or costs resulting from such errors, discrepancies, or omissions in the contract documents prepared by or on behalf of Canada that the Contractor did not discover.

### GC3.3 CONSTRUCTION SAFETY

1) Subject to GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS, the Contractor shall be solely responsible for construction safety at the place of the Work and for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. In any emergency, the Contractor shall either stop the Work, make changes or order extra work to ensure the safety of life and the protection of the Work and neighbouring property.

2) Prior to commencing the Work, the Contractor shall notify the authorities having jurisdiction for construction safety at the site of the Work with respect to the intended commencement of the Work, and shall provide such authority with whatever additional information may be required by that authority.

### GC3.4 EXECUTION OF THE WORK

1) The Contractor shall perform, use or supply and pay for, all labour, Plant, Material, tools, construction machinery and equipment, water, heat, light, power, transportation and other facilities and services necessary for the performance of the Work in accordance with the Contract.

2) The Contractor shall, at all times, perform the Work in a proper, diligent and expeditious manner as is consistent with construction industry standards and in accordance with the progress schedule prepared pursuant to GC3.1 PROGRESS SCHEDULE and shall provide sufficient personnel to fulfil the Contractor's obligations in accordance with that schedule.

3) Subject to paragraph 4) of GC3.4, the Contractor shall have complete care, custody and control of the Work and shall direct and supervise the Work so as to ensure compliance with the Contract. The Contractor shall be responsible for construction means, methods, techniques, sequences and procedures and for co-ordinating the various parts of the Work.

4) When requested in writing by Canada, the Contractor shall make appropriate alterations in the method, Plant or workforce at any time Canada considers the Contractor's actions to be unsafe or damaging to either the Work, existing facilities, persons at the site of the Work or the environment.

5) The Contractor shall have sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and for the construction methods used in their erection, operation, maintenance and removal. The Contractor shall engage and pay for registered professional engineering personnel, skilled in the appropriate discipline to perform these functions if required by law or by the Contract, and in all cases when such temporary facilities and their methods of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.

6) The Contractor shall keep at least one copy of current contract documents, submittals, reports, and records of meetings at the site of the Work, in good order and available to Canada.

7) Except for any part of the Work that is necessarily performed away from or off the site of the Work, the Contractor shall confine Plant, storage of Material, and operations of employees to limits indicated by laws, ordinances, permits or the contract documents.

### GC3.5 MATERIAL

1) Unless otherwise specified in the Contract, all Material incorporated in the Work shall be new.

2) Subject to paragraph 3) of GC3.5, if a specified reused, refurbished, or recycled item of Material is not available, the Contractor shall apply to Canada to substitute a similar item for the one specified.

3) If Canada agrees that the Contractor's application for substitution of a reused, refurbished or recycled item is warranted, and that the substitute item is of acceptable quality and value to

that specified and is suitable for the intended purpose, Canada may approve the substitution, subject to the following:

(a) the request for substitution shall be made in writing to Canada and shall be substantiated by information in the form of the manufacturer's literature, samples and other data that may be required by Canada;

(b) the Contractor shall make the request for substitution in a manner that shall not negatively affect the progress schedule of the Contract and well in advance of the time the item of Material must be ordered;

(c) substitution of Material shall be permitted only with the prior written approval of Canada, and any substituted items that are supplied or installed without such approval shall be removed from the site of the Work at the expense of the Contractor, and specified items installed at no additional cost to Canada; and

(d) the Contractor shall be responsible for all additional expenses incurred by Canada, the Contractor, its subcontractors and suppliers at any tier due to the Contractor's use of the substitute.

## GC3.6 SUBCONTRACTING

1) Subject to the provisions of this clause, the Contractor may subcontract any part of the Work but not the whole of the Work.

2) The Contractor shall notify Canada in writing of the Contractor's intention to subcontract.

3) A notification referred to in paragraph 2) of GC3.6 shall identify the part of the Work and the Subcontractor with whom the Contractor intends to subcontract.

4) Canada may for reasonable cause, object to the intended subcontracting by notifying the Contractor in writing within six (6) days of receipt by Canada of a notification referred to in paragraph 2) of GC3.6.

5) If Canada objects to a subcontracting, the Contractor shall not enter into the intended subcontract.

6) The Contractor shall not change, nor permit to be changed, a Subcontractor engaged by the Contractor, in accordance with this clause, without the written consent of Canada.

7) The Contractor shall ensure that all the terms and conditions of the Contract that are of general application shall be incorporated in every other contract issued as a consequence of the Contract, at whatever tier, except those contracts issued solely to suppliers at any tier for the supply of Plant or Material.

8) Neither a subcontracting nor Canada's consent to a subcontracting shall be construed to relieve the Contractor from any obligation under the Contract or to impose any liability upon Canada.

## GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS

1) Canada reserves the right to send other contractors or workers, with or without Plant and Material, onto the site of the Work.

2) When other contractors or workers are sent on to the site of the Work, Canada shall

   (a) enter into separate contracts, to the extent it is possible, with the other contractors under conditions of contract that are compatible with the conditions of the Contract;

   (b) ensure that the insurance coverage provided by the other contractors is co-ordinated with the insurance coverage of the Contractor as it affects the Work; and

   (c) take all reasonable precautions to avoid labour disputes or other disputes arising from the work of the other contractors or workers.

3) When other contractors or workers are sent on to the site of the Work, the Contractor shall

   (a) co-operate with them in the carrying out of their duties and obligations;

   (b) co-ordinate and schedule the Work with the work of the other contractors and workers;

   (c) participate with other contractors and workers in reviewing their construction schedules when directed to do so;

   (d) where part of the Work is affected by or depends upon the work of other contractors or workers for its proper execution, promptly report to Canada in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work. Failure by the Contractor to so report shall invalidate any claims against Canada by reason of the deficiencies in the work of other contractors or workers except those deficiencies that are not then reasonably discoverable; and

   (e) when designated as being responsible for construction safety at the place of work in accordance with the applicable provincial or territorial laws, carry out its duties in that role and in accordance with those laws.

4) If, when entering into the Contract, the Contractor could not have reasonably foreseen nor anticipated the sending of other contractors or workers on to the site of the Work and provided the Contractor

   (a) incurs extra expense in complying with the requirements of paragraph 3) of GC3.7; and

   (b) gives Canada written notice of a claim for that extra expense within thirty (30) days of the date that the other contractors or workers were sent onto the Work or its site;

   Canada shall pay the Contractor the cost of the extra labour, Plant and Material that was necessarily incurred, calculated in accordance with GC6.4 DETERMINATION OF PRICE.

**GC3.8 LABOUR**

1) To the extent to which they are available, consistent with proper economy and the expeditious carrying out of the Work, the Contractor shall, in the performance of the Work, employ a reasonable number of persons who have been on active service with the Armed Forces of Canada and have been honourably discharged therefrom.

2) The Contractor shall maintain good order and discipline among the Contractor's employees and workers engaged in the Work and shall not employ on the site of the Work anyone not skilled in the tasks assigned.

## GC3.9 TRUCK HAULAGE RATES

CANCELLED

## GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA

1) Subject to paragraph 9) of GC1.8 LAWS PERMITS AND TAXES, all Material and Plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Work shall, immediately after the time of their purchase, use or consumption be the property of Canada for the purposes of the Work and they shall continue to be the property of Canada

   (a) in the case of Material, until Canada indicates that the Materials shall not be required for the Work; and

   (b) in the case of Plant, real property, licences, powers and privileges, until Canada indicates that the interest vested in Canada therein is no longer required for the purposes of the Work.

2) Material or Plant, that is the property of Canada by virtue of paragraph 1) of GC3.10, shall not be taken away from the site of the Work nor used nor disposed of except for the purposes of the Work without the written consent of Canada.

3) Canada is not liable for loss of nor damage from any cause to the Material or Plant referred to in paragraph 1) of GC3.10, and the Contractor is liable for such loss or damage notwithstanding that the Material or Plant is the property of Canada.

## GC3.11 DEFECTIVE WORK

1) The Contractor shall promptly remove from the site of the Work and replace or re-execute defective Work whether or not the defective Work has been incorporated in the Work and whether or not the defect is the result of poor workmanship, use of defective Material, or damage through carelessness or other act or omission of the Contractor.

2) The Contractor, at the Contractor's expense, shall promptly make good other work destroyed or damaged by such removals or replacements.

3) If, in the opinion of Canada, it is not expedient to correct defective Work or Work not performed as provided for in the Contract documents, Canada may deduct from the amount otherwise due to the Contractor the difference in value between the Work as performed and that called for by the contract documents.

4) The failure of Canada to reject any defective Work or Material shall not constitute acceptance of the defective Work or Material.

## GC3.12 CLEANUP OF SITE

1) The Contractor shall maintain the Work and its site in a tidy condition and free from an accumulation of waste material and debris.

2) Before the issue of a Certificate of Substantial Performance, the Contractor shall remove waste material and debris, and all Plant and Material not required for the performance of the remaining Work and, unless otherwise stipulated in the Contract Documents, shall cause the Work and its site to be clean and suitable for occupancy by Canada.

3) Before the issue of a Certificate of Completion, the Contractor shall remove all surplus Plant and Materials and any waste products and debris from the site of the Work.

4) The Contractor's obligations described in paragraphs 1) to 3) of GC3.12 do not extend to waste products and other debris caused by Canada's servants, or by other contractors and workers referred to in GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS.

## GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

1) Without restricting any warranty or guarantee implied or imposed by law or contained in the Contract, the Contractor shall, at the Contractor's expense

   (a) rectify and make good any defect or fault that appears in the Work or comes to the attention of Canada with respect to those parts of the Work accepted in connection with the Certificate of Substantial Performance within 12 months from the date of Substantial Performance; and

   (b) rectify and make good any defect or fault that appears in or comes to the attention of Canada in connection with those parts of the Work described in the Certificate of Substantial Performance within 12 months from the date of the Certificate of Completion.

   (c) transfer and assign, to Canada, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the Contract covering periods beyond the 12 months stipulated above. Extended warranties or guarantees referred to herein shall not extend the 12-month period whereby the Contractor, except as may be provided elsewhere in the Contract, must rectify and make good any defect or fault that appears in the Work or comes to the attention of Canada.

   (d) provide, to Canada prior to the issuance of the Certificate of Completion, a list of all extended warranties and guarantees referred to in paragraph (c) above.

2) Canada may direct the Contractor to rectify and make good any defect or fault referred to in paragraph 1) of GC3.13 or covered by any other expressed or implied warranty or guarantee and the Contractor shall rectify and make good such defect within the time stipulated in the direction.

3) A direction referred to in paragraph 2) GC3.13 shall be in writing and shall be given to the Contractor in accordance with GC2.3 NOTICES.

## GC4 PROTECTIVE MEASURES



### GC4.1 PROTECTION OF WORK AND PROPERTY

1) The Contractor shall protect the Work and its site against loss or damage from any cause and shall similarly protect all Material, Plant and real property under the Contractor's care, custody and control whether or not such Material, Plant and real property are supplied by Canada to the Contractor.

2) The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by Canada to inspect or to take security measures in respect of the Work and its site.

3) Canada may direct the Contractor to do such things and to perform such work as Canada considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraphs 1) or 2) of GC4.1, and the Contractor, shall comply with such direction.

### GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

1) The Contractor shall do whatever is necessary to ensure that

   (a) no person, property, right, easement nor privilege is injured, damaged or infringed upon by reasons of the Contractor's activities in performing the Work;

   (b) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted nor endangered by the performance or existence of the Work, Material or Plant;

   (c) fire hazards in or about the site of the Work are eliminated and any fire is promptly extinguished;

   (d) the health and safety of all persons employed in the performance of the Work is not endangered by the methods nor means of their performance;

   (e) adequate medical services are available to all persons employed on the Work or its site at all times during the performance of the Work;

   (f) adequate sanitation measures are taken in respect of the Work and its site; and

   (g) all stakes, buoys and marks placed on the Work or its site by Canada are protected and are not removed, defaced, altered nor destroyed.

2) Canada may direct the Contractor to do such things and to perform such work as Canada considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraph 1) of GC4.2, and the Contractor shall comply with the direction of Canada.

## GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY CANADA

1) Subject to paragraph 2) of GC4.3, the Contractor is liable to Canada for any loss of or damage to Material, Plant or real property that is supplied or placed in the care, custody and control of the Contractor by Canada for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.

2) The Contractor is not liable to Canada for any loss or damage to Material, Plant or real property referred to in paragraph 1) of GC4.3 if that loss or damage results from and is directly attributable to reasonable wear and tear.

3) The Contractor shall not use any Material, Plant or real property supplied by Canada except for the purpose of performing the Contract.

4) When the Contractor fails to make good any loss or damage for which the Contractor is liable under paragraph 1) within a reasonable time, Canada may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to Canada for the cost thereof and shall, on demand, pay to Canada an amount equal to that cost.

5) The Contractor shall keep records of all Material, Plant and real property supplied by Canada as Canada requires and shall satisfy Canada, when requested, that such Material, Plant and real property are at the place and in the condition in which they ought to be.

## GC4.4 CONTAMINATED SITE CONDITIONS

1) For the purposes of GC4.4, a contaminated site condition exists when a solid, liquid, gaseous, thermal or radioactive irritant or contaminant, or other hazardous or toxic substance or material, including moulds and other forms of fungi, is present at the site of the Work to an extent that constitutes a hazard, or potential hazard, to the environment, property, or the health or safety of any person.

2) If the Contractor encounters a contaminated site condition of which the Contractor is not aware or about which the Contractor has not been advised, or if the Contractor has reasonable grounds to believe that such a site condition exists at the site of the Work, the Contractor shall

   (a) take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;

   (b) immediately notify Canada of the circumstances in writing; and

   (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.

3) Upon receipt of a notification from the Contractor, Canada shall promptly determine whether a contaminated site condition exists, and shall notify the Contractor in writing of any action to be taken, or work to be performed, by the Contractor as a result of Canada's determination.

4) If the Contractor's services are required by Canada, the Contractor shall follow the direction of Canada with regard to any excavation, treatment, removal and disposal of any polluting substance or material.

5) Canada, at Canada's sole discretion, may enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of contaminated site conditions, and the Contractor shall allow them access and co-operate with them in the carrying out of their duties and obligations.

6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE shall apply to any additional work made necessary because of a contaminated site condition.

## GC5 TERMS OF PAYMENT



### GC5.1 INTERPRETATION

In these Terms of Payment

1) The "payment period" means a period of 30 consecutive days or such other longer period as may be agreed between the Contractor and Canada.

2) An amount is "due and payable" when it is due and payable by Canada to the Contractor according to GC5.4 PROGRESS PAYMENT, GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK or GC5.6 FINAL COMPLETION.

3) An amount is “overdue” when it remains unpaid on the first day following the day upon which it is due and payable.

4) The "date of payment" means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada.

5) The "Bank Rate" means the rate of interest established by the Bank of Canada as the minimum rate at which it makes short term advances to members of the Canadian Payments Association.

6) The "Average Bank Rate" means the simple arithmetic mean of the Bank Rate in effect at 4:00 p.m. Eastern Time each day during the calendar month which immediately precedes the calendar month in which payment is made.

### GC5.2 AMOUNT PAYABLE

1) Subject to any other provisions of the Contract, Canada shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which the amounts payable by Canada to the Contractor in accordance with the Contract exceed the amounts payable by the Contractor to Canada, and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by the Contractor in respect of the Work to which the payment relates.

2) When making any payment to the Contractor, the failure of Canada to deduct an amount payable to Canada by the Contractor shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.

3) Should any payment be made by Canada in excess of what is owed to the Contractor for the actual work performed, the Contractor will reimburse Canada the excess immediately, with or without demand, and any amounts outstanding shall bear simple interest at the Average Bank rate plus 3 percent per annum from the date of overpayment until the day prior to the date of repayment by the Contractor.

4) No payment other than a payment that is expressly stipulated in the Contract shall be made by Canada to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.

## GC5.3 INCREASED OR DECREASED COSTS

1) The Contract Amount shall not be increased nor decreased by reason of any increase or decrease in the cost of the Work that is brought about by an increase or decrease in the cost of labour, Plant, Material or any wage adjustment arising pursuant to the Labour Conditions.

2) Notwithstanding paragraph 1) of GC5.3, if any change, including a new imposition or repeal, of any tax, customs or other duty, charge, or any similar imposition that is imposed under sales, customs 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

   (a) after the date of submission by the Contractor of its bid; or

   (b) after the date of submission of the last revision, if the Contractor's bid was revised;

   the Contract Amount shall be adjusted in the manner provided in paragraph 3) of GC5.3.

3) If a change referred to in paragraph 2) of GC5.3 occurs, the Contract Amount shall be increased or decreased by an amount established by an examination by Canada of the relevant records of the Contractor referred to in GC2.8 ACCOUNTS AND AUDITS to be the increase or decrease in the cost incurred by the Contractor that is directly attributable to that change.

4) For the purpose of paragraph 2) of GC5.3, if a tax is changed after the solicitation closing, but public notice of the change has been given by the Minister of Finance or the corresponding Provincial or Territorial authority before that closing, the change shall be deemed to have occurred before the solicitation closing.

5) Notwithstanding paragraphs 2) to 4) of GC5.3, no adjustment to the Contract Amount in respect of the Work or a part thereof shall be made for a change in any imposition referred to in this section that occurs after the date required by the Contract for completion of the Work or that part of the Work.

## GC5.4 PROGRESS PAYMENT

1) On the expiration of a payment period, the Contractor shall deliver to Canada

   (a) a written progress claim in a form acceptable to Canada that fully describes any part of the Work that has been completed, and any Material that was delivered to the Work site but not incorporated into the Work, during that payment period, and

   (b) a completed and signed statutory declaration containing a declaration that, up to the date of the progress claim, the Contractor has complied with all lawful obligations with

respect to the Labour Conditions and that, in respect of the Work, all lawful obligations of the Contractor to its Subcontractors and Suppliers, referred to collectively in the declaration as “subcontractors and suppliers”, have been fully discharged.

2) Within 10 days of receipt of a progress claim and statutory declaration from the Contractor, Canada shall inspect, or cause to have inspected, the part of the Work and the Material described in the progress claim, and shall issue a progress report to the Contractor, that indicates the value of the part of the Work and the 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 relating to the Contract.

3) Subject to GC5.2 AMOUNT PAYABLE, and paragraph 5) of GC5.4, Canada shall pay the Contractor an amount that is equal to

   (a) 95 percent of the value that is indicated in Canada's progress report if a labour and material payment bond has been furnished by the Contractor; or

   (b) 90 percent of the value that is indicated in Canada's progress report if a labour and material payment bond has not been furnished by the Contractor.

4) Canada shall pay the amount referred to in paragraph 3) of GC5.4 not later than

   (a) 30 days after receipt by Canada of both a progress claim and a statutory declaration referred to in paragraph 1) of GC5.4; or

   (b) 15 days after receipt by Canada of the Contractor’s progress schedule or updated progress schedule, in accordance with GC3.1 PROGRESS SCHEDULE,

   whichever is later.

5) In the case of the Contractor's first progress claim, it is a condition precedent to Canada's obligation under paragraph 3) of GC5.4 that the Contractor has provided all necessary documentation required by the Contract for the first progress claim.

**GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK**

1) If, at any time before the issuance of a Certificate of Completion, Canada determines that the Work has reached Substantial Performance as described in subparagraph 1) (b) of GC1.1.4 SUBSTANTIAL PERFORMANCE, Canada shall issue a Certificate of Substantial Performance to the Contractor. The Certificate of Substantial Performance shall state or describe

   (a) the date of Substantial Performance;

   (b) the parts of the Work not completed to the satisfaction of Canada; and

   (c) all things that must be done by the Contractor before a Certificate of Completion is issued and before the 12-month warranty period referred to in GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK commences for the said parts and all the said things.

2) The issuance of a Certificate of Substantial Performance does not relieve the Contractor from the Contractor's obligations under GC3.11 DEFECTIVE WORK.

3) Subject to GC5.2 AMOUNT PAYABLE and paragraph 4) of GC5.5, Canada shall pay the Contractor the amount referred to in paragraph 1) of GC5.2 AMOUNT PAYABLE, less the aggregate of

   (a) the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT;

   (b) an amount that is equal to Canada's estimate of the cost to Canada of rectifying defects described in the Certificate of Substantial Performance; and

   (c) an amount that is equal to Canada's estimate of the cost to Canada of completing the parts of the Work described in the Certificate of Substantial Performance other than defects listed therein.

4) Canada shall pay the amount referred to in paragraph 3) of GC5.5 not later than

   (a) 30 days after the date of issue of a Certificate of Substantial Performance, or

   (b) 15 days after the Contractor has delivered to Canada

      (i) a statutory declaration containing a declaration by the Contractor that up to the date of the Certificate of Substantial Performance, the Contractor has complied with all lawful obligations with respect to the Labour Conditions, discharged all its lawful obligations to its Subcontractors and Suppliers in respect of the work under the Contract, and discharged its lawful obligations referred to in GC1.8 LAWS, PERMITS AND TAXES;

      (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION; and

      (iii) an update of the progress schedule in accordance with the requirements of GC3.1 PROGRESS SCHEDULE;

   whichever is later.

**GC5.6 FINAL COMPLETION**

1) When Canada is of the opinion that the Contractor has complied with the Contract and all orders and directions made pursuant thereto, and that the Work has been completed as described in GC1.1.5 COMPLETION, Canada shall issue a Certificate of Completion to the Contractor and, if the Work or a portion of the Work is subject to a Unit Price Arrangement, Canada shall issue a Certificate of Measurement that shall, subject to GC8, be binding upon and conclusive between Canada and the Contractor as to the quantities referred to therein.

2) Subject to GC5.2 AMOUNT PAYABLE and paragraph 3) of GC5.6, Canada shall pay the Contractor the amount referred to in GC5.2 AMOUNT PAYABLE, less the aggregate of the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT and GC5.5 SUBSTANTIAL PERFORMANCE OF WORK.

3) Canada shall pay the amount referred to in paragraph 2) of GC5.6 not later than

   (a) 60 days after the date of issue of a Certificate of Completion; or

(b) 15 days after the Contractor has delivered to Canada

(i) a statutory declaration which contains a declaration by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the Contract have been discharged and satisfied; and

(ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION;

whichever is later.

## GC5.7 PAYMENT NOT BINDING ON CANADA

1) Neither acceptance of a progress claim or progress report, nor any payment made by Canada under the Contract, nor partial or entire use or occupancy of the Work by Canada shall constitute an acceptance by Canada of any portion of the Work or Material that is not in accordance with the requirements of the Contract.

## GC5.8 CLAIMS AND OBLIGATIONS

1) The Contractor shall discharge all the Contractor's lawful obligations and shall satisfy all lawful claims against the Contractor arising out of the performance of the Work at least as often as the Contract requires Canada to pay the Contractor.

2) Whenever requested to do so by Canada, the Contractor shall make a statutory declaration declaring to the existence and condition of any obligations and claims against the Contractor arising out of the performance of the Work.

3) In order to discharge lawful obligations of and satisfy lawful claims against the Contractor or its Subcontractors arising out of the performance of the Contract, Canada may pay an amount that is due and payable to the Contractor directly to the claimant. Such payment 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.

4) For the purposes of paragraph 3) of GC5.8, and subject to paragraph 6) of GC5.8, a claim or obligation shall be considered lawful when it is so determined by

(a) a court of legal jurisdiction;

(b) an arbitrator duly appointed to arbitrate the claim; or

(c) the written consent of the Contractor authorizing payment of the claim or obligation.

5) If a claim or obligation would have been subject to the provisions of Provincial or Territorial lien legislation or, in the Province of Quebec, the law relating to legal hypothecs had the Contractor been performing the Work for an entity other than Canada

(a) such amount as may be paid by Canada pursuant to paragraphs 3) and 4) of GC5.8 shall not exceed the amount that the Contractor would have been obliged to pay had the provisions of such legislation or law been applicable to the Work;

(b) a 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 privilege which the claimant might have had; and

(c) for the purposes of determining the entitlement of a claimant, the notice required by paragraph 8) of GC5.8 shall be deemed to replace the registration or provision of notice after the performance of work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by such legislation.

6) The Contractor shall, at the request of any claimant, submit to binding arbitration those questions that need to be answered to establish the entitlement of the claimant to payment. The arbitration shall have as parties to it any Subcontractor or Supplier to whom the claimant supplied Material, performed work or rented equipment should such Subcontractor or Supplier wish to be adjoined, and Canada shall not be a party to such arbitration. Subject to any agreement between the Contractor and the claimant, the arbitration shall be conducted in accordance with the governing Provincial or Territorial legislation applicable to the site of the Work.

7) Paragraph 3) of GC5.8 shall apply only to claims and obligations

(a) the notification of which has set forth the amount claimed to be owing and the person who by contract is primarily liable and has been received by Canada in writing before final payment is made to the Contractor pursuant to GC5.6 FINAL COMPLETION, and within 120 days of the date on which the claimant

(i) should have been paid in full under the claimant's contract with the Contractor, its Subcontractor or Supplier if the claim is for money that was lawfully required to be held back from the claimant; or

(ii) performed the last of the services, work or labour, or furnished the last of the Material pursuant to the claimant's contract with the Contractor or its Subcontractor or Supplier where the claim is for money not lawfully required to be held back from the claimant; and

(b) the proceedings to determine the right to payment of which, pursuant to paragraph 5) of GC5.8, shall have commenced within one year from the date that the notification required by subparagraph 7)(a) of GC5.8 was received by Canada.

8) Upon receipt of a notice of claim, Canada may 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.

9) Canada shall notify the Contractor in writing in a timely manner of receipt of any claim and of the intention of Canada to withhold funds. At any time thereafter and until payment is made to the claimant, the Contractor may be entitled to post, with Canada, security in a form acceptable to Canada in an amount equal to the value of the claim, and upon receipt of such security Canada shall release to the Contractor any funds that would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of this clause in respect of the claim of any claimant for whom the security stands.

**GC5.9 RIGHT OF SETOFF**

1) Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, Canada may set off any amount payable to Canada by the Contractor under the

Contract, or under any current contract, against any amount payable to the Contractor under the Contract.

2) For the purposes of paragraph 1) of GC5.9, "current contract" means a contract between Canada and the Contractor

   (a) under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or

   (b) in respect of which Canada has, since the date of the Contract, exercised any right to take the work that is the subject of that contract out of the Contractor's hands.

### GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION

1) For the purposes of this clause

   (a) the Work shall be deemed to be completed on the date of the Certificate of Completion; and

   (b) the "period of delay" means the number of days commencing on the day fixed for completion of the Work and ending on the day immediately preceding the day on which the Work is completed but does not include any day within a period of extension granted pursuant to GC6.5 DELAYS AND EXTENSION OF TIME and any other day on which, in the opinion of Canada, completion of the Work was delayed for reasons beyond the control of the Contractor.

2) If the Contractor does not complete the Work by the day fixed for its completion but completes it thereafter, the Contractor shall pay Canada an amount equal to the aggregate of

   (a) all salaries, wages and travelling expenses incurred by Canada in respect of persons overseeing the performance of the Work during the period of delay;

   (b) the cost incurred by Canada as a result of the inability to use the completed Work for the period of delay; and

   (c) all other expenses and damages incurred or sustained by Canada during the period of delay as a result of the Work not being completed by the day fixed for its completion.

3) Canada may waive the right of Canada to the whole or any part of the amount payable by the Contractor pursuant to paragraph 2) of GC5.10 if, in the opinion of Canada, it is in the public interest to do so.

### GC5.11 DELAY IN MAKING PAYMENT

1) Notwithstanding GC1.5 TIME OF THE ESSENCE, any delay by Canada in making any payment when it is due pursuant to GC5 TERMS OF PAYMENT, shall not be a breach of the Contract by Canada.

2) Subject to paragraph 3) of GC5.11, Canada shall pay to the Contractor simple interest at the Average Bank Rate plus 3 percent per annum on any amount that is overdue pursuant to paragraph 3) of GC5.1 INTERPRETATION, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment.

3) Interest shall be paid without demand by the Contractor except that

   (a) in respect of amounts that are less than 15 days overdue, no interest shall be paid in respect of payment made within such 15 days unless the Contractor so demands after such amounts have become due and payable; and

   (b) interest shall not be payable or paid on overdue advance payments, if any.

## GC5.12 INTEREST ON SETTLED CLAIMS

1) For the purposes of this clause, a claim means a disputed amount subject to negotiation between Canada and the Contractor under the Contract.

2) A claim is deemed to have been settled when an agreement in writing is signed by Canada and the Contractor setting out the amount of the claim to be paid by Canada and the items of work for which the said amount is to be paid.

3) A settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the Contract had it not been disputed.

4) Canada shall pay to the Contractor simple interest on the amount of a settled claim at the Average Bank Rate plus 3 percent per annum from the date the settled claim was deemed to be outstanding until the day prior to the date of payment.

## GC5.13 RETURN OF SECURITY DEPOSIT

1) After a Certificate of Substantial Performance has been issued, and if the Contractor is not in breach of nor in default under the Contract, Canada shall return to the Contractor all or any part of a Security Deposit that, in the opinion of Canada, is not required for the purposes of the Contract.

2) After a Certificate of Completion has been issued, Canada shall return to the Contractor the remainder of any security deposit unless the Contract stipulates otherwise.

3) If the security deposit was paid into the Consolidated Revenue Fund of Canada, Canada shall pay interest thereon to the Contractor at a rate established pursuant to section 21(2) of the *Financial Administration Act (FAA)*.

## GC6 DELAYS AND CHANGES IN THE WORK



## GC6.1 CHANGES IN THE WORK

1) At any time before issuance of a Certificate of Completion, Canada may issue orders for additions, deletions or other changes to the Work, or changes in the location or position of the whole or any part of the Work, if the addition, deletion, change or other revision is deemed by Canada to be consistent with the general intent of the Contract.

2) An order referred to in paragraph 1) of GC6.1 shall be in writing and given to the Contractor in accordance with GC2.3 NOTICES.

3) Upon receipt of an order, the Contractor shall promptly perform the work in accordance with the order as if the order had appeared in and been part of the original Contract.

4) If anything done or omitted by the Contractor pursuant to an order increases or decreases the cost of the Work to the Contractor, payment for the work shall be made in accordance with GC6.4 DETERMINATION OF PRICE.

## GC6.2 CHANGES IN SUBSURFACE CONDITIONS

1) If, during the performance of the Work, the Contractor encounters subsurface conditions that are substantially different from the subsurface conditions described in the tender documents supplied to the Contractor, or a reasonable assumption of fact based thereon, the Contractor shall give notice to Canada immediately upon becoming aware of the situation.

2) If the Contractor is of the opinion that the Contractor may incur or sustain any extra expense or any loss or damage that is directly attributable to the changed subsurface conditions, the Contractor shall within 10 days of the date the changed subsurface conditions were encountered, give Canada written notice of intention to claim for that extra expense, loss or damage.

3) If the Contractor has given a notice referred to in paragraph 2) of GC6.2, the Contractor shall give Canada a written claim for extra expense, loss or damage no later than 30 days after the date that a Certificate of Substantial Performance is issued.

4) A written claim referred to in paragraph 3) of GC6.2 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified, and the Contractor shall supply such further and other information for that purpose as Canada requires.

5) If Canada determines that a claim referred to in paragraph 3) of GC6.2 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.

6) If, in the opinion of Canada, the Contractor effects a saving of expenditure that is directly attributable to a substantial difference between the information relating to subsurface conditions at the site of the Work that is contained in the tender documents, or a reasonable assumption of fact based thereon, and the actual subsurface conditions encountered by the Contractor, the Contract Amount shall be reduced by the amount of the saving of expenditure determined in accordance with GC6.4 DETERMINATION OF PRICE.

7) If the Contractor fails to give a notice referred to in paragraph 2) of GC6.2 and a claim referred to in paragraph 3) of GC6.2 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.

8) Canada does not warrant the content expressed in any subsurface report available for the perusal of the Contractor that does not form part of the tender and contract documents.

## GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST

1) For the purposes of this clause

   (a) "human remains" means the whole or any part of a deceased human being, irrespective of the time of death;

   (b) "archaeological remains" are items, artefacts or things made, modified or used by human beings in antiquity and may include, but not be limited to, stone, wood or iron structures or monuments, dump deposits, bone artefacts, weapons, tools, coins, and pottery; and

   (c) "items of historical or scientific interest" are naturally occurring or manufactured objects or things of any age that are not archaeological remains but may be of interest to society because of their historical or scientific significance, value, rarity, natural beauty, or other quality.

2) If, during the course of the Work, the Contractor encounters any object, item or thing which is described in paragraph 1) of GC6.3 or which resembles any object, item or thing described in paragraph 1) of GC6.3, the Contractor shall

   (a) take all reasonable steps, including stopping work in the affected area, to protect and preserve the object, item or thing;

   (b) immediately notify Canada of the circumstances in writing; and

   (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.

3) Upon receipt of a notification in accordance with subparagraph 2)(b) of GC6.3, Canada shall promptly determine whether the object, item or thing is one described in, or contemplated by paragraph 1) of GC6.3, and shall notify the Contractor in writing of any action to be performed, or work to be carried out, by the Contractor as a result of Canada's determination.

4) Canada may, at any time, enlist the services of experts to assist in the investigation, examination, taking of measurements or other such recordings, placing of permanent protection around or removing of the object, item or thing encountered by the Contractor, and the Contractor shall, to the satisfaction of Canada, allow them access and co-operate with them in the carrying out of their duties and obligations.

5) Human remains, archaeological remains and items of historical or scientific interest encountered at the site of the Work shall be deemed to be the property of Canada.

6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE and GC6.5 DELAYS AND EXTENSION OF TIME shall apply.

## GC6.4 DETERMINATION OF PRICE

### GC6.4.1 Price Determination Prior to Undertaking Changes

1) If 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 plus a negotiated allowance for supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount.

2) If 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 quantities and prices per unit to the Unit Price Table.

3) A price per unit referred to in paragraph 2) of GC6.4.1 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, plus a negotiated allowance.

4) To facilitate approval of the price of the change or the additional price per unit as applicable, 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 negotiated allowance.

5) If no agreement is reached as contemplated in paragraph 1) of GC6.4.1, the price shall be determined in accordance with GC6.4.2.

6) If no agreement is reached, as contemplated in paragraphs 2) and 3) of GC6.4.1, Canada 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 GC6.4.2.

### GC6.4.2 Price Determination Following Completion of Changes

1) If it is not possible to predetermine, or if 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

   (a) 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 paragraph 2) of GC6.4.2, that are directly attributable to the performance of the Contract;

   (b) an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is equal to 10 percent of the sum of the expenses referred to in subparagraph 1)(a) of GC6.4.2; and

   (c) interest on the amounts determined under subparagraphs 1)(a) and 1)(b) of GC6.4.2 calculated in accordance with GC5.12 INTEREST ON SETTLED CLAIMS;

2) The cost of labour, Plant and Material referred to in subparagraph 1)(a) of GC6.4.2 shall be limited to the following categories of expenditure:
   (a) payments to Subcontractors and Suppliers;

   (b) wages, salaries, bonuses and, if applicable, travel and lodging expenses of employees of the Contractor located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging 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;

   (c) 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 Applicable Taxes collection costs;

   (d) 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 has been approved by Canada;

   (e) 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 Canada, 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;

   (f) 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;

   (g) 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

   (h) any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

**GC6.4.3 Price Determination - Variations in Tendered Quantities**

1) Except as provided in paragraphs 2), 3), 4) and 5) of GC6.4.3, if it appears that the final quantity of labour, Plant and Material under a price per unit item shall exceed or be less than the estimated tendered quantity, the Contractor shall perform the Work or supply the Plant and Material required to complete the item and payment shall be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.

2) If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15 percent, either party to the Contract may make a written request to the other party to negotiate an amended price per unit for that portion of the item which exceeds 115 percent of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor shall, on request, provide Canada with

   (a) detailed records of the actual cost to the Contractor of performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and

(b) the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115 percent of the tendered quantity.

3) If agreement is not reached as contemplated in paragraph 2) of GC6.4.3, the price per unit shall be determined in accordance with GC6.4.2.

4) If it appears that the final quantity of labour, Plant and Material under a price per unit item shall be less than 85 percent of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if

(a) there is a demonstrable difference between the unit cost to the Contractor of performing or supplying the estimated tendered quantity and the unit cost to the Contractor for performing or supplying the final quantity; and

(b) the difference in unit cost is due solely to the decrease in quantity and not to any other cause.

5) For the purposes of the negotiation referred to in paragraph 4) of GC6.4.3

(a) the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and

(b) in no event shall the total price for an item that has been amended as a result of a reduction in quantity pursuant to paragraph 4) of GC6.4.3 exceed the amount that would have been payable to the Contractor had 85 percent of the tendered quantity actually been performed or supplied.

## GC6.5 DELAYS AND EXTENSION OF TIME

1) Upon application of the Contractor made before the date first fixed for completion of the Work or before any other date previously fixed under this clause, Canada may extend the time for completion of the Work by fixing a new date if Canada determines that causes beyond the control of the Contractor have delayed its completion.

2) The Contractor's application shall be accompanied by the written consent of the bonding company whose bond forms part of the Contract Security.

3) Subject to paragraph 4) of GC6.5, no payment, other than a payment that is expressly stipulated in the Contract, shall be made by Canada to the Contractor for any extra expense, loss or damage incurred or sustained by the Contractor due to delay, whether or not the delay is caused by circumstances beyond the control of the Contractor.

4) If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to any neglect or delay that occurs after the date of the Contract on the part of Canada in providing any information or in doing any act that the Contract either expressly requires Canada to do or that would ordinarily be done by an owner in accordance with the practice of the trade, the Contractor shall give Canada written notice of intention to claim for that extra expense or loss or damage within ten working days of the date the neglect or delay first occurred.

5) When the Contractor has given a notice referred to in paragraph 4) of GC6.5, the Contractor shall give Canada a written claim for the extra expense, loss or damage no later than 30 days after the date that a Certificate of Completion is issued and not afterwards.

6) A written claim referred to in paragraph 5) of GC6.5 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as Canada may require.

7) If Canada determines that a claim referred to in paragraph 5) of GC6.5 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.

8) If the Contractor fails to give a notice referred to in paragraph 4) and a claim referred to in paragraph 5) of GC6.5 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.

## 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 in accordance with GC2.3 NOTICES, Canada, without any other authorization, 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 diligent performance of the Work to the satisfaction of Canada within six days of Canada giving notice to the Contractor in writing in accordance with GC2.3 NOTICES;

   (b) defaults in the completion of any part of the Work within the time fixed for its completion by the Contract;

   (c) becomes insolvent, or has committed 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 of the Contract without the consent required by GC1.16 ASSIGNMENT; 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, subject only to paragraph 3) of GC7.1, extinguished, and the Contractor is liable to pay Canada, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by Canada in respect of the Contractor's failure to complete the Work.

3) If the whole or any part of the Work that is taken out of the Contractor's hands is completed by Canada, Canada may pay the Contractor the amount, if any, of the holdback or a progress claim as determined by Canada that had accrued and was due prior to the date on which the Work was taken out of the Contractor's hands and 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.

4) The taking of the Work or any part thereof out of the Contractor's hands does not relieve the Contractor from any obligation under the Contract or imposed by law except the obligation to complete the performance of that part of the Work that was taken out of the Contractor's hands.

5) If the Work or any part thereof is taken out of the Contractor's hands, all Plant and Material and the interest of the Contractor, or its suppliers or subcontractors at any tier, in all real property, licences, powers and privileges acquired, used or provided by the Contractor, or its suppliers or subcontractors at any tier, under the Contract shall continue to be the property of Canada without compensation.

6) When Canada certifies that any Plant, Material, or any interest of the Contractor is no longer required for the purposes 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.

7) If the Contractor has become insolvent or has committed an act of bankruptcy, and has either made a proposal to its creditors or filed a notice of intention to make such a proposal, pursuant to the *Bankruptcy and Insolvency Act*, the Contractor shall immediately forward a copy of the proposal or the notice of intention to Canada.

## GC7.2 SUSPENSION OF WORK

1) When, in Canada's opinion, it is in the public interest to do so, Canada may require the Contractor to suspend performance of the Work either for a specified or an unspecified period, by giving a notice of suspension in writing to the Contractor in accordance with GC2.3 NOTICES.

2) When a notice of suspension is received by the Contractor, the Contractor shall suspend all operations in respect of the Work except those that Canada determines are necessary for the care and preservation of the Work, Plant and Material.

3) During a period of suspension, the Contractor shall not remove any part of the Work, Plant or Material from its site without the consent of Canada.

4) If a period of suspension is 60 days or less, the Contractor shall resume the performance of the Work on the expiration of that period, and the Contractor is entitled to be paid the extra costs necessarily incurred by the Contractor as a result of the suspension, determined in accordance with GC6.4 DETERMINATION OF PRICE.

5) If a period of suspension is more than 60 days, Canada and the Contractor may agree that the performance of the Work shall be continued by the Contractor, and the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by Canada and the Contractor. If Canada and the Contractor do not agree that performance of the Work shall be continued by the Contractor, or upon the terms and conditions under which the Contractor shall continue the Work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC7.3 TERMINATION OF CONTRACT.

## GC7.3 TERMINATION OF CONTRACT

1) Canada may terminate the Contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC2.3 NOTICES.

2) If the Contractor receives a notice of termination, the Contractor shall forthwith cease all operations in performance of the Contract, subject to any conditions stipulated in the notice.

3) Subject to paragraph 4) of GC7.3, if the Contract is terminated, Canada shall pay the Contractor an amount determined to be due to the Contractor pursuant to GC6.4 DETERMINATION OF PRICE less the aggregate of all amounts that were paid to the Contractor by Canada and all amounts that are due to Canada from the Contractor pursuant to the Contract.

4) In no event shall the total amount payable by Canada to the Contractor exceed the amount, calculated in accordance with GC5 TERMS OF PAYMENT, that would have been payable to the Contractor had the Contractor completed the Work.

5) Payment to the Contractor, if any, shall be made as soon as practicable under the circumstances.

## GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

1) If the Work is taken out of the Contractor's hands, or the Contractor is in breach of, or in default under, the Contract, Canada may convert a security deposit to Canada's own use.

2) If Canada converts a security deposit, the amount realized shall be deemed to be an amount due from Canada to the Contractor under the Contract.

3) Any balance of the amount realized that remains after payment of all losses, damage and claims of Canada and others shall be paid by Canada to the Contractor if, in the opinion of Canada, it is not required for the purposes of the Contract.

## GC8 DISPUTE RESOLUTION



### GC8.1 INTERPRETATION

1) "dispute" means any disagreement regarding any issue identified by the Contractor in the notice submitted to Canada in accordance with paragraph 2 of GC8.3 NOTICE OF DISPUTE, and includes any claim by the Contractor arising from such disagreement and any counterclaim by Canada, but does not include any claim by either party for punitive or exemplary damages, injury to persons, death, or any claim based on an allegation of libel or slander.

2) The alternative dispute resolution procedures set out in GC8, do not apply to any claim by Canada against the Contractor except any counterclaim in a dispute as defined in paragraph 1 of GC8.1, including, but not limited to, any claim of setoff regarding any amount due to Canada under GC5.10 ASSESSMENT AND DAMAGES FOR LATE COMPLETION.

### GC8.2 CONSULTATION AND CO-OPERATION

1) The parties agree to maintain open and honest communication throughout the performance of the Contract.

2) The parties agree to consult and co-operate with each other in the furtherance of the Work and the resolution of problems or differences that may arise.

### GC8.3 NOTICE OF DISPUTE

1) Any difference between the parties to the Contract of any nature arising out of or in connection with the Contract which could result in a claim by the Contractor against Canada, and which is not settled by consultation and co-operation as envisaged in GC8.2 CONSULTATION AND CO-OPERATION, shall be resolved in the first instance by Canada, whose written decision or direction shall be final and binding subject only to the provisions of

GC8. Such written decision or direction includes, but is not limited to, any written decision or direction by Canada under any provision of the General Conditions.

2) The Contractor shall be deemed to have accepted the decision or direction of Canada referred to in paragraph 1) of GC8.3 and to have expressly waived and released Canada from any claim in respect of the particular matter dealt with in that decision or direction unless, within 15 working days after receipt of the decision or direction, the Contractor submits to Canada a written notice of dispute requesting formal negotiation under GC8.4 NEGOTIATION. Such notice shall refer specifically to GC8.4 NEGOTIATION, and shall specify the issues in contention and the relevant provisions of the Contract.

3) The giving of a written notice in accordance with paragraph 2) of GC8.3 shall not relieve the Contractor from complying with the decision or direction that is the subject of the dispute. Such compliance, however, shall not be construed as an admission by the Contractor of the correctness of such decision or direction.

4) If a dispute is not resolved promptly, Canada shall give such instructions as, in Canada's opinion, are necessary for the proper performance of the Work and to prevent delays pending a resolution of the matter. Unless Canada terminates the Contract, orders the Contractor to suspend the Work, or takes the Work out of the hands of the Contractor, the Contractor shall continue to perform the Work in accordance with the provisions and requirements of the Contract and the instructions of Canada. Such performance shall not prejudice any claim that the Contractor may have.

5) Nothing in GC8 relieves the Contractor from its obligation to provide any other notice required by the Contract within the time specified in the Contract, including but not limited to, any notice required under GC6.2 CHANGES IN SUBSURFACE CONDITIONS.

**GC8.4 NEGOTIATION**

1) Within 10 working days after receipt by Canada of a notice referred to in paragraph 2) of GC8.3 NOTICE OF DISPUTE, or within such other period of time as may be mutually agreed to, the parties shall commence formal negotiations in order to resolve the dispute. Negotiations shall occur initially between representatives of the Contractor and Canada who play a direct supervisory role in the performance, administration or management of the Contract.

2) If the representatives referred to in paragraph 1) of GC8.4 are unable to resolve some or all of the issues which are the subject of the negotiations within 10 working days, the parties shall refer the remaining issues which are in dispute to a second level of negotiation between a principal or principals of the Contractor and a senior level manager or senior level managers representing Canada.

3) If negotiations fail to resolve the dispute within 30 working days from the date of delivery of the notice referred to in paragraph 2) of GC8.3 NOTICE OF DISPUTE, or within such longer period as may have been agreed to by the parties, the Contractor may, by giving written notice to Canada, in accordance with GC2.3 NOTICES, within 10 working days from the end of such period, request that mediation be undertaken to assist the parties to reach agreement on the outstanding issues.

4) If the Contractor does not request mediation within the period permitted by paragraph 3) of GC8.4, the Contractor shall be deemed to have accepted the decision or direction of Canada under paragraph 1) of GC8.3 NOTICE OF DIPUTE and to have expressly waived and released Canada from any claim in respect of the particular matter dealt with in that decision or direction.

### GC8.5 MEDIATION

1) If the Contractor has requested mediation in accordance with paragraph 3) of GC8.4 NEGOTIATION, mediation shall be conducted in accordance with GC8.8 RULES FOR MEDIATION OF DISPUTES.

2) If a Project Mediator has not previously been appointed for the purposes of the Contract, a Project Mediator shall be appointed in accordance with GC8.8 RULES FOR MEDIATION OF DISPUTES forthwith after delivery of a notice in accordance with paragraph 3) of GC8.4 NEGOTIATION, requesting mediation.

3) If the dispute has not been resolved within

   (a) Ten (10) working days following the appointment of a Project Mediator in accordance with paragraph 2) of GC8.5, if a Project Mediator was not previously appointed;

   (b) Ten (10) working days following receipt by Canada of a written notice in accordance with paragraph 3) of GC8.4 NEGOTIATION, if a Project Mediator was previously appointed; or

   (c) such other longer period as may have been agreed to by the parties;

   the Project Mediator shall terminate the mediation by giving written notice to the parties stating the effective date of termination.

### GC8.6 CONFIDENTIALITY

1) All information exchanged during alternative dispute resolution procedures, by whatever means, shall be without prejudice and shall be treated as confidential by the parties and their representatives, unless otherwise required by law. However, evidence that is independently admissible or discoverable shall not be rendered inadmissible or non-discoverable by virtue of its use during an alternative dispute resolution process.

### GC8.7 SETTLEMENT

1) Any agreement to settle all or any part of a dispute, by whatever means, shall be in writing and be signed by the parties or their authorized representatives.

### GC8.8 RULES FOR MEDIATION OF DISPUTES

#### GC8.8.1 Interpretation

In these Rules

1) “Coordinator” means the person designated by Canada to act as the Dispute Resolution Coordinator.

#### GC8.8.2 Application

1) By mutual agreement, the parties may change or make additions to the Rules.

### GC8.8.3 Communication

1) Written communications pursuant to these Rules shall be given in accordance with GC2.3 NOTICES.

### GC8.8.4 Appointment of Project Mediator

1) The parties to the Contract may, by mutual consent, at any time after entry into the Contract, appoint a mediator (the "Project Mediator") to conduct mediation proceedings in accordance with these Rules for Mediation of Disputes, in regard to any dispute that may arise with regard to the interpretation, application or administration of the Contract. In this case, they shall jointly enter into a contract with the appointed Project Mediator, which contract shall be in a form drafted by the Coordinator and agreed to by the parties.

2) If the parties do not appoint a Project Mediator pursuant to paragraph 1) of GC8.8.4, the parties shall appoint a Project Mediator within 17 working days following receipt of a written notice from the Contractor, in accordance with GC2.3 NOTICES, requesting that mediated negotiations be undertaken in accordance with these Rules to assist the parties to reach agreement on any outstanding issues that may be in dispute. Any contract entered into with the appointed Project Mediator shall meet the requirements as set out for the contract described in paragraph 1) of GC8.8.4.

3) When mediation is requested by the Contractor pursuant to paragraph 3) of GC8.4 NEGOTIATION, if the parties have previously entered into a contract with a Project Mediator, the parties shall within 2 days send to both the Project Mediator and the Coordinator

   (a) a copy of the notice requesting negotiation under paragraph 2) of GC8.3 NOTICE OF DISPUTE;

   (b) a copy of Canada's written position in relation to the notice, the issues in contention and the relevant provisions of the contract; and

   (c) a copy of the Contractor's written request for mediation required under paragraph 3) of GC8.4 NEGOTIATION.

4) If the parties have not agreed on a Project Mediator, the parties shall forthwith provide the Coordinator with the written materials referred to in subparagraphs 3)(a), 3)(b) and 3)(c) of GC8.8.4 together with a request that the Coordinator assist in the appointment of a mutually acceptable Project Mediator in accordance with these Rules.

5) Within 5 working days following receipt of the request and materials referred to in paragraph 4) of GC8.8.4, the Coordinator shall provide the parties with a list of qualified private sector mediators obtained from an independent and impartial entity, together with instructions to each party to individually and confidentially select and rank their preferred and fully acceptable choices of mediator in descending order. Each mediator listed shall be impartial and independent of the parties, and shall be an experienced and skilled commercial mediator, preferably with knowledge of the subject matter of the dispute.

6) Within 10 working days of receipt of the list referred to in paragraph 5) of GC8.8.4 each party shall comply with the instructions accompanying the list(s) and shall deliver the completed listing to the Coordinator.

7) Within 2 working days following receipt of the completed listings, the Coordinator shall select the highest common ranked mediator to act as Project Mediator for the purposes of the contract.

8) In the event of a tie, the Coordinator shall consult both parties to re-evaluate their rankings in order to assist the Coordinator in selecting a Project Mediator acceptable to both parties. If the parties cannot agree upon a Project Mediator, the Coordinator shall forthwith provide the parties with a second list of mediators and the procedure shall be repeated.

9) If the parties have not previously entered into a contract with a mutually acceptable Project Mediator, the Coordinator shall use reasonable efforts to negotiate a contract with a mutually acceptable Project Mediator on behalf of the parties, which contract shall incorporate or otherwise comply with the provisions of these Rules. If negotiations are unsuccessful, or if for other reason the individual is unwilling or unable to enter into a contract to act as Project Mediator, the Coordinator shall repeat the process with the second-highest common ranked mediator.

10) The parties agree that, upon successful completion of the negotiations referred to in paragraph 9) of GC8.8.4, they shall jointly enter into a contract with the selected Project Mediator, which contract shall be in a form drafted by the Coordinator and agreed to by the parties.

11) Upon execution of the contract with the Project Mediator referred to in paragraph 10) of GC8.8.4 the Coordinator shall provide the Project Mediator with copies of the documents referred to in paragraph 3) of GC8.8.4.

**GC8.8.5 Confidentiality**

1) Subject to paragraph 2) of GC8.8.5, and unless otherwise agreed in writing by the parties, the Project Mediator, the parties and their counsel or representatives shall keep confidential all matters and documents disclosed during mediation proceedings except where the disclosure is necessary for any implementation of any agreement reached or is required by law.

2) Evidence that is independently admissible or discoverable in any arbitral or judicial proceeding shall not be rendered inadmissible or non-discoverable by virtue of its use in mediation proceedings.

3) Neither party shall make transcripts, minutes or other records of a mediation conference.

4) The personal notes and written opinions of the Project Mediator made in relation to mediation are in the Project Mediator's sole possession and control, are confidential, and may not be used in any subsequent proceeding between the parties or where they are opposed in interest without the express written permission of the parties.

5) All information exchanged during mediation procedures, by whatever means, shall be without prejudice and shall be treated as confidential by the parties and their representatives, unless otherwise required by law.

**GC8.8.6 Time and Place of Mediation**

1) The Project Mediator, in consultation with the parties shall set the date, time and place of any mediation conference as soon as possible, bearing in mind that, subject to agreement to

the contrary between the parties, only 10 working days are available within which to attempt to settle the dispute.

### GC8.8.7 Representation

1) Representatives of the parties may be accompanied at the mediation conference by legal counsel or any other person.

2) If the Project Mediator is a lawyer, the Project Mediator shall not provide legal advice to a party during the course of the mediation conference, but may recommend that a party obtain independent legal advice before finalizing a settlement agreement.

### GC8.8.8 Procedure

1) The parties agree to an exchange of all facts, information and documents upon which they intend to rely in any oral or written presentation during the mediation. This exchange shall be completed no later than 2 working days prior to the date set for a mediation conference.

2) The Project Mediator shall be free to meet with the parties individually during a mediation conference if the Project Mediator is of the opinion that this may improve the chances of a mediated settlement, and either party may request such an individual meeting at any time.

3) The parties may agree to extend the 10 working days available for settlement of the dispute through mediation, and the Project Mediator shall record that agreement in writing.

### GC8.8.9 Settlement Agreement

1) The parties shall record in writing any settlement agreement reached, with sufficient detail to ensure a clear understanding of

   (a) the issues resolved;

   (b) any obligations assumed by each party including criteria to determine if and when these obligations have been met; and

   (c) the consequences of failure to comply with the agreement reached.

2) The parties agree to carry out the terms of a settlement agreement as soon as possible and, in any event, within any time periods specified in the agreement.

### GC8.8.10 Termination of Mediation

1) Either party may withdraw from mediation at any time without reason and, in that event, the Project Mediator shall give each party a written notice terminating the mediation and establishing the effective date of termination.

2) If, in the opinion of the Project Mediator, either party fails to mediate in good faith or fails to comply with the terms of these Rules, or if the Project Mediator, at any time during mediation, is of the opinion that further negotiations will fail to resolve the issues outstanding, the Project Mediator may terminate the negotiations by providing the parties with a written notice of termination, stating therein the Project Mediator's reasons for the termination, and the effective date of termination.

3) If a dispute has not been resolved within 10 working days or such other longer period as may have been agreed to by the parties, the Project Mediator shall terminate the mediation by giving written notice to the parties stating the effective date of termination.

### GC8.8.11 Costs

1) The parties agree that they will each be responsible for the costs of their own representatives and advisors and associated travel and living expenses. Fees and expenses of the Project Mediator and all administrative costs of mediation, such as the cost of the meeting room(s), if any, shall be borne equally by the parties.

### GC8.8.12 Subsequent Proceedings

1) The parties shall not rely on or introduce as evidence in any arbitral or judicial proceeding, whether or not such proceeding relates to the subject matter of mediation,

   (a) any documents of other parties that are not otherwise producible in those proceedings;

   (b) any views expressed or suggestions made by any party in respect of a possible settlement of issues;

   (c) any admission made by any party in the course of mediation unless otherwise stipulated by the admitting party; and

   (d) the fact that any party has indicated a willingness to make or accept a proposal or recommendation for settlement.

2) The Project Mediator shall neither represent nor testify on behalf of either of the parties in any subsequent investigation, action or proceeding relating to the issues in mediation proceedings.

3) The Project Mediator shall not be subpoenaed to give evidence relating to

   (a) the Project Mediator's role in mediation; or

   (b) the matters or issues in mediation;

   in any subsequent investigation, action or proceeding and the parties agree to vigorously oppose any effort to have the Mediator so subpoenaed.

## GC9 CONTRACT SECURITY



### GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

1) The Contractor shall, at the Contractor's expense and within 14 days after the date that the Contractor receives notice that the Contractor's bid was accepted by Canada, obtain and deliver Contract Security to Canada in one of the forms prescribed in GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY.

2) If the whole or a part of the Contract Security provided is in the form of a security deposit, it shall be held and disposed of in accordance with GC5.13 RETURN OF SECURITY DEPOSIT and GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN.

3) If a part of the Contract Security provided is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond at the site of the Work.

4) It is a condition precedent to the release of the first progress payment that the Contractor has provided the Contract Security as specified herein.

### GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY

1) The Contractor shall deliver to Canada either (a) or (b).

   (a) A performance bond and a labour and material payment bond each in an amount that is equal to not less than 50 percent of the Contract Amount.

   (b) A security deposit or an irrevocable standby letter of credit in an amount that is equal to not less than 20 percent of the Contract Amount.

2) A performance bond and a labour and material payment bond referred to in paragraph 1) of GC9.2 shall be in a form and be issued by a bonding or surety company that is approved by Canada.

   (a) The approved form for the performance bond is displayed at the following Website: http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494&section=text#appS

   (b) The approved form for the labour and material payment bond is displayed at the following website: http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494&section=text#appS ; and

   (c) The list of approved bonding or surety companies is displayed at the following Website: http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494&section=text#appL

3) A security deposit referred to in subparagraph 1)(b) of GC9.2 shall be in the form of

   (a) a bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or

(b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.

4) For the purposes of subparagraph 3)(a) of GC9.2

(a) a bill of exchange is an unconditional order in writing signed by the Contractor and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;

(b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4)(c) of GC9.2, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and

(c) An approved financial institution is

(i) a corporation or institution that is a member of the Canadian Payments Association as defined in the *Canadian Payments Act*;

(ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";

(iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;

(iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the *Income Tax Act*; or

(v) Canada Post Corporation.

5) Bonds referred to in subparagraph 3)(b) of GC9.2 shall be provided on the basis of their market value current at the date of the Contract, and shall be

(a) made payable to bearer; or

(b) accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or

(c) registered as to principal, or as to principal and interest, in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.

6) An irrevocable standby letter of credit referred to in subparagraph 1)(b) of GC9.2 shall:

(a) be an arrangement, however named or described, whereby a financial institution (the “Issuer”) acting at the request and on the instructions of a customer (the “Applicant”) or on its own behalf,

(i) is to make a payment to, or to the order of, Canada as the beneficiary;

(ii) is to accept and pay bills of exchange drawn by Canada;

(iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or

(iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;

(b) state the face amount that may be drawn against it;

(c) state its expiry date;

(d) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by Canada;

(e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;

(f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600. Pursuant to the ICC UCP, a credit is irrevocable even if there is no indication to that effect; and

(g) be issued or confirmed, in either official language in a format left to the discretion of the issuer or confirmer, by an approved financial institution on its letterhead.

## GC10 INSURANCE



### GC10.1 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 paragraph 1) of GC10.1 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 GC10.2 INSURANCE PROCEEDS.

### GC10.2 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 GC10.1 INSURANCE CONTRACTS, 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 GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid by the insurer directly to the claimant.

3) If an election is made pursuant to paragraph 1) of GC10.2, 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 subparagraph 1)(b) of GC10.2; 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 paragraph 3) of GC10.2 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 paragraph 4) of GC10.2, 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 paragraph 3) of GC10.2, be deemed to have been expended and discharged.

6) If an election is not made pursuant to subparagraph 1)(b) of GC10.2, the contractor shall, subject to paragraph 7) of GC10.2, 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 paragraph 6) of GC10.2, Canada shall pay the contractor out of the monies referred to in paragraph 1) of GC10.2 so far as they will thereunto extend.

8) Subject to paragraph 7) of GC10.2, payment by Canada pursuant to paragraph 7) of GC10.2 shall be made in accordance with the contract but the amount of each payment shall be 100 percent of the amount claimed notwithstanding subparagraphs 3)(a) and 3)(b) of GC5.4 PROGRESS PAYMENT.

# INSURANCE TERMS



## 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 Contactor shall deposit with Canada a CERTIFICATE OF INSURANCE (form AAFC / 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 $5,000,000.00 ;

   (b) a Products/Completed Operations Aggregate Limit of not less than $5,000,000.00 ; and

   (c) a General Aggregate Limit of not less than $10,000,000.00 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-owed 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 SUBSTANTIAL PERFORMANCE.

## 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.

Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

# BID AND ACCEPTANCE FORM

## CONSTRUCTION CONTRACT - MAJOR WORKS

**BA01 IDENTIFICATION**

Description of the Work
Office Fit-up, rooms 2130 - 2140, building 20

| Solicitation Number | File / Project Number |
|---|---|
| 14-1392 | CEF14-A372 |

**BA02 BUSINESS NAME AND ADDRESS OF BIDDER**

Name

Address

| Unit/Suite/Apt. | Street number | Number suffix | Street name | Street type | Street direction |
|---|---|---|---|---|---|
| | | | | | |

| PO Box or Route Number | Municipality (City, Town, etc.) | Province | Postal code |
|---|---|---|---|
| | | | |

| Phone number | Fax number | Email address |
|---|---|---|
| | | |

**BA03 THE OFFER**

1) The Bidder offers to Canada as represented by the Minister of Agriculture and Agri-food 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 (GST/HST/QST).

(to be expressed in numbers only)

**BA04 BID VALIDITY PERIOD**

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

**BA05 APPENDICES**

1) The following appendices are included in this Bid and Acceptance Form:

☒ No appendices

**BA06 ACCEPTANCE AND CONTRACT**

1) Upon acceptance of the Bidder's offer by Canada, a binding Contract shall be formed between Canada and the resulting Contractor. The documents forming the Contract shall be the contract documents referred to in SC01 CONTRACT DOCUMENTS.

**BA07 CONSTRUCTION TIME**

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

**BA08 BID SECURITY**

1) The Bidder shall enclose bid security with its bid in accordance with GI07 BID SECURITY REQUIREMENTS.

2) If a security deposit is furnished as bid security, it shall be forfeited in the event that the bid is accepted by Canada and the Contractor fails to provide Contract Security in accordance with GC9 CONTRACT SECURITY, provided that Canada may, if it is in the public interest, waive the right of Canada to forfeiture any or all of the security deposit.

| BA09 SIGNATURE | |
|---|---|
| Name and title of person authorized to sign on behalf of Bidder (type or print) | Name |
| | Title |
| | Signature Date |
| | Name |
| | Title |
| | Signature Date |

Government of Canada / Gouvernement du Canada

| Contract Number / Numéro du contrat |
|---|
| 14-1392 |
| Security Classification / Classification de sécurité |
| Unclassified |

# SECURITY REQUIREMENTS CHECK LIST (SRCL)
# LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

**PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE**

| 1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine | 2. Branch or Directorate / Direction générale ou Direction |
|---|---|
| AAFC | CBM |

| 3. a) Subcontract Number / Numéro du contrat de sous-traitance | 3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant |
|---|---|
| N/A | N/A |

4. Brief Description of Work / Brève description du travail

Office Fit-up of rooms 2130 - 2140, building 20.
Aménagement des bureaux des pièces 2130 - 2140, édifice 20.

| | | |
|---|---|---|
| 5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées? | ☒ No / Non | ☐ Yes / Oui |
| 5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques? | ☒ No / Non | ☐ Yes / Oui |
| 6. Indicate the type of access required / Indiquer le type d'accès requis | | |
| 6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c) | ☒ No / Non | ☐ Yes / Oui |
| 6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé. | ☐ No / Non | ☒ Yes / Oui |
| 6. c) Is this a commercial courier or delivery requirement with **no** overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale **sans** entreposage de nuit? | ☒ No / Non | ☐ Yes / Oui |

7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès

| **Canada** ☐ | **NATO / OTAN** ☐ | **Foreign / Étranger** ☐ |
|---|---|---|
| 7. b) Release restrictions / Restrictions relatives à la diffusion | | |
| No release restrictions / Aucune restriction relative à la diffusion ☐ | All NATO countries / Tous les pays de l'OTAN ☐ | No release restrictions / Aucune restriction relative à la diffusion ☐ |
| Not releasable / À ne pas diffuser ☐ | | |
| Restricted to: / Limité à : Specify country(ies): / Préciser le(s) pays : ☐ | Restricted to: / Limité à : Specify country(ies): / Préciser le(s) pays : ☐ | Restricted to: / Limité à : Specify country(ies): / Préciser le(s) pays : ☐ |
| 7. c) Level of information / Niveau d'information | | |
| PROTECTED A / PROTÉGÉ A ☐ | NATO UNCLASSIFIED / NATO NON CLASSIFIÉ ☐ | PROTECTED A / PROTÉGÉ A ☐ |
| PROTECTED B / PROTÉGÉ B ☐ | NATO RESTRICTED / NATO DIFFUSION RESTREINTE ☐ | PROTECTED B / PROTÉGÉ B ☐ |
| PROTECTED C / PROTÉGÉ C ☐ | NATO CONFIDENTIAL / NATO CONFIDENTIEL ☐ | PROTECTED C / PROTÉGÉ C ☐ |
| CONFIDENTIAL / CONFIDENTIEL ☐ | NATO SECRET / NATO SECRET ☐ | CONFIDENTIAL / CONFIDENTIEL ☐ |
| SECRET / SECRET ☐ | COSMIC TOP SECRET / COSMIC TRÈS SECRET ☐ | SECRET / SECRET ☐ |
| TOP SECRET / TRÈS SECRET ☐ | | TOP SECRET / TRÈS SECRET ☐ |
| TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐ | | TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT) ☐ |

**PART A *(continued)* / PARTIE A *(suite)***

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets? ☒ No / Non ☐ Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets? ☒ No / Non ☐ Yes / Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
Document Number / Numéro du document :

**PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)**

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

| | | | |
|---|---|---|---|
| ☒ RELIABILITY STATUS / COTE DE FIABILITÉ | ☐ CONFIDENTIAL / CONFIDENTIEL | ☐ SECRET / SECRET | ☐ TOP SECRET / TRÈS SECRET |
| ☐ TOP SECRET– SIGINT / TRÈS SECRET – SIGINT | ☐ NATO CONFIDENTIAL / NATO CONFIDENTIEL | ☐ NATO SECRET / NATO SECRET | ☐ COSMIC TOP SECRET / COSMIC TRÈS SECRET |
| ☐ SITE ACCESS / ACCÈS AUX EMPLACEMENTS | | | |

Special comments:
Commentaires spéciaux : _____

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work? ☒ No / Non ☐ Yes / Oui
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?
If Yes, will unscreened personnel be escorted? ☐ No / Non ☐ Yes / Oui
Dans l'affirmative, le personnel en question sera-t-il escorté?

**PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)**

**INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS**

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises? ☒ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?

11. b) Will the supplier be required to safeguard COMSEC information or assets? ☒ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?

**PRODUCTION**

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises? ☒ No / Non ☐ Yes / Oui
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?

**INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)**

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data? ☒ No / Non ☐ Yes / Oui
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency? ☒ No / Non ☐ Yes / Oui
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?

**PART C - *(continued)* / PARTIE C - *(suite)***

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

**SUMMARY CHART / TABLEAU RÉCAPITULATIF**

| Category Catégorie | PROTECTED PROTÉGÉ | | | CLASSIFIED CLASSIFIÉ | | | NATO | | | | COMSEC | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | CONFIDENTIAL CONFIDENTIEL | SECRET | TOP SECRET TRÈS SECRET | NATO RESTRICTED NATO DIFFUSION RESTREINTE | NATO CONFIDENTIAL NATO CONFIDENTIEL | NATO SECRET | COSMIC TOP SECRET COSMIC TRÈS SECRET | PROTECTED PROTÉGÉ A | PROTECTED PROTÉGÉ B | PROTECTED PROTÉGÉ C | CONFIDENTIAL CONFIDENTIEL | SECRET | TOP SECRET TRES SECRET |
| Information / Assets Renseignements / Biens | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Production | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| IT Media / Support TI | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| IT Link / Lien électronique | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☒ No / Non ☐ Yes / Oui

**If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".**
**Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.**

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☒ No / Non ☐ Yes / Oui

**If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).**
**Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).**

Government of Canada / Gouvernement du Canada

| Contract Number / Numéro du contrat |
|---|
| 14-1392 |
| Security Classification / Classification de sécurité |
| Unclassified |

**PART D - AUTHORIZATION / PARTIE D - AUTORISATION**

13. Organization Project Authority / Chargé de projet de l'organisme

| Name (print) - Nom (en lettres moulées) | Title – Titre | Signature | |
|---|---|---|---|
| | | | |
| **Telephone No. - N° de téléphone** | **Facsimile No. - N° de télécopieur** | **E-mail address - Adresse courriel** | **Date** |
| | | | |

14. Organization Security Authority / Responsable de la sécurité de l'organisme

| Name (print) - Nom (en lettres moulées) | Title – Titre | Signature | |
|---|---|---|---|
| | | | |
| **Telephone No. - N° de téléphone** | **Facsimile No. - N° de télécopieur** | **E-mail address - Adresse courriel** | **Date** |
| | | | |

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?
Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?

☐ No / Non ☐ Yes / Oui

16. Procurement Officer / Agent d'approvisionnement

| Name (print) - Nom (en lettres moulées) | Title – Titre | Signature | |
|---|---|---|---|
| Jean-Pierre Simard | Senior Contracts Officer | | |
| **Telephone No. - N° de téléphone** | **Facsimile No. - N° de télécopieur** | **E-mail address - Adresse courriel** | **Date** |
| 613 759-6157 | 613 759-7005 | jean-pierre.simard@agr.gc.ca | |

17. Contracting Security Authority / Autorité contractante en matière de sécurité

| Name (print) - Nom (en lettres moulées) | Title – Titre | Signature | |
|---|---|---|---|
| | | | |
| **Telephone No. - N° de téléphone** | **Facsimile No. - N° de télécopieur** | **E-mail address - Adresse courriel** | **Date** |
| | | | |

Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

# DRAWINGS AND SPECIFICATIONS

# #14-1392

**FOR**

## OFFICE FIT-UP, ROOMS 2130 - 2140
**Building 20**
**Project: CEF14-A372**

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

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## SPECIFICATIONS

**DIVISION 26 – Electrical**



**DIVISION 28 – Electronic Safety and Security**



## DRAWINGS

## 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 TAXES

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

### 1.3 FIRE SAFETY REQUIREMENTS

.1 Comply with the. National Building Code of Canada 2010 (NBC) for fire safety in construction and the National Fire Code of Canada 2010 (NFC) for fire prevention, fire fighting and life safety in building in use.

.2 Comply with Human Resources and Skills Development Canada (HRSDC), 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 available from Fire Protection Engineering Services, Labour Program, HRSDC or following internet site: www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/commissioner/index.shtml.
.5 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 Department Representative:
.1 Notice of intent, indicating devices affected, time and duration of isolation or bypass.
.2 Completed welding permit as defined in FC 302.
.3 Return welding permit to Department Representative immediately upon completion of procedures for which permit was issued.

.2 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.

.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:

.1 modification of fire alarms, fire suppression, extinguishing or protection systems; and/or
.2 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.

## 1.4 HAZARDOUS MATERIALS

.1 The majority of the hazardous substances including mercury, PCB's, asbestos containing flooring, pipe insulation and drywall were removed through a previous contact. The following hazardous materials are present in the proposed work area:
.1 Asbestos is present in the plaster on the walls, plaster on the vertical faces of the ceiling beams and remaining drywall.
.2 Lead containing paint is present on the walls and ceiling.
.3 Silica is present in the plaster, drywall, and concrete.

.2 Disturbance of the hazardous materials is subject to the precautions outlined in the applicable Provincial Regulations and Guidelines.

.3 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 and Skills Development Canada, Labour Program.

.4 For work in occupied buildings give the Department Representative 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.

## 1.5 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 Department Representative and utility companies of intended interruption of services, obtain requisite permission.

.4 Give the Department Representative 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.

## 1.6 REMOVED MATERIALS

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

## 1.7 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.

## 1.8 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to the normal use of premises. Make arrangements with Department Representative 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 work occurs adjacent to existing roads, driveways, parking lots, and pedestrian walkways, minimize disruption to vehicular and pedestrian traffic.

.5 Sanitary facilities will be assigned for Contractor's personnel. Others shall not be used. Keep facilities clean.

## 1.9 SITE STORAGE

.1 The Department Representative 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 Department Representative or other contractors.

.4 Obtain and pay for use of additional storage or work areas needed for operations.

## 1.10 CUT, PATCH AND MAKE GOOD

.1 Cut and /or remove existing surfaces as required to accommodate new work.

.2 Remove all items as shown or specified, or as required to accommodate new work.

.3 Patch and make good surfaces cut, damaged or disturbed, to Department Representative'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.

## 1.11 SLEEVES, HANGERS AND INSERTS

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

## 1.12 EXAMINATION

.1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.

## 1.13 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 Department Representative's approval.

.2 No advertising will be permitted on this project.

## 1.14 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.

## 1.15 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.

## 1.16 GUARANTEES AND WARRANTIES

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

## 1.17 CLEAN UP

.1 Clean up work area as work progresses. At the end of each work period, and more often if ordered by the Department Representative, 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 Department Representative.

## 1.18 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.

## 1.19 BUILDING SMOKING ENVIRONMENT

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

## 1.20 TESTING LABORATORY

.1 Department Representative 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 Department Representative.

.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.

## 1.21 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 Department Representative, take necessary measures to complete work within scheduled time. Do not change schedule without notifying Department Representative.

.2 The project schedule is very tight. Work shall be carried out during all hours Monday to Friday, and on Saturdays, Sundays and statutory holidays in order to meet the scheduled Completion Date.

.3 Give the Department Representative 48 hours notice for work to be carried out during "off hours".

## 1.22 COST BREAKDOWN

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

## 1.23 HARASSMENT

.1 Harassment in the workplace is unacceptable and will not be tolerated. The contractor is responsible for the conduct of their workers while on the Central Experimental Farm. The contractor must ensure that the contractor’s employees conduct themselves professionally and treat all persons on site with respect and dignity. An incident of harassment by an employee or employees of the contractor could invalidate this contract.

## PART 2 - PRODUCTS (not applicable)

## PART 3 - EXECUTION (not applicable)

## END OF SECTION

## PART 1 - GENERAL

### 1.1 WORK COVERED BY CONTRACT DOCUMENTS

.1 Work of this Contract generally includes new offices, a storage room, an open work area, new finishes, repairs to exit passageway, and associated mechanical and electrical work. The work is located at the K.W. Neatby Building No. 20 at the Central Experimental Farm, 960 Carling Avenue, Ottawa, Ontario.in accordance with the intent shown in the Contract Documents issued.

.2 Work is to be executed while the building remains fully occupied by Owner.

### 1.2 CONTRACT METHOD

.1 Form of Contract shall be as described in the solicitation documents.

### 1.3 WORK SEQUENCE

.1 Construct the Work to accommodate the Owner's continued use and occupancy of adjacent premises during construction. Coordinate all work accordingly. Allow for phasing of the work if such is required in order to accommodate the Owner=s use of the building.

.2 Co-ordinate Progress Schedule and co-ordinate with Department Representative during construction.

.3 Maintain full Dust Control measures at all times for each area of work.

.4 Maintain fire access/control, entrances and exiting for occupants at all times.

### 1.4 CONTRACTOR USE OF PREMISES

.1 Limit the use of premises for the work, for storage and for access, in order to allow continued Owner occupancy at all times.

.2 Co-ordinate use of premises under direction of Department Representative.

.3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

.4 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.

.5 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Department Representative.

.6 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

### 1.5 OWNER OCCUPANCY

.1 Owner will occupy adjacent premises during entire construction period for execution of normal operations. The area of work of this contract will be vacated for the entire duration of the Work.

.2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate the Owner=s work.

.3 Schedule and complete to 100% each area of Work for Owner's occupancy. The issuance of the Certificate of Substantial Performance will be considered upon the completion of the last area of Work.

**1.6 DOCUMENTS REQUIRED**

.1 Maintain at job site, one copy each document as follows:

.1 Contract Drawings.
.2 Specifications.
.3 Addenda.
.4 Reviewed Shop Drawings.
.5 List of Outstanding Shop Drawings.
.6 Change Orders.
.7 Other Modifications to Contract.
.8 Field Test Reports.
.9 Copy of Approved Work Schedule.
.10 Health and Safety Plan and Other Safety Related Documents.
.11 Other documents as specified.

**PART 2 - PRODUCT** - NOT USED

**PART 3 - EXECUTION** - NOT USED

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 ADMINISTRATIVE

.1 Submit to Department 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 Department 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 Department 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 Department Representative's review of submittals.

.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Department 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 Submit electronic versions of the shop drawings for each requirement requested in specification Sections or as recommended by the manufacturer. Electronic submission shall be in .pdf format only and printable on 8 1/2" x 11" or 11" x 17". The Contractor shall review and sign the shop drawings prior to sending them to the Department Representative for review.

.3 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.

.4 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.

.5 Allow seven (7) working days for Department Representative's review of each submission, starting from date of receipt to date of courier pickup at Consultant's office.

.6 Adjustments made on shop drawings by Department Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Department Representative prior to proceeding with Work.

.7 Make changes in shop drawings as Department Representative may require, consistent with Contract Documents. When resubmitting, notify Department Representative in writing of revisions other than those requested.

.8 Accompany submissions with transmittal letter, containing:

- .1 Date.
- .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 Relationship to adjacent work.

.9 Delete information not applicable to project.

.10 Supplement standard information to provide details applicable to project.

.11 If upon review by Department Representative, no errors or omissions are discovered or if only minor corrections are made, 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.

.12 After Department Representative's view, distribute copies.

.13 Do not commence manufacture or order materials before shop drawings are reviewed by Department Representative.

.14 Submit electronic copies in PDF format of product data sheets or brochures for requirements requested in specification Sections and as requested by Department Representative where shop drawings will not be prepared due to standardized manufacture of product.

.15 Submit 5 copies of manufacturers instructions for requirements requested in specification Sections and as requested by Department 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.

.2 Submitted material, once approved, shall be incorporated into the Operation and Maintenance manual.

.16 Submit six (6) copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Department Representative.

## 1.3 SAMPLES

.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to Department Representative's business address.

.3 Notify Department 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 Department Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Department Representative prior to proceeding with Work.

.6 Make changes in samples which Department 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 MOCK-UPS

.1 Prepare mock-ups for Work specifically requested in specifications or on drawings. Include for Work of Sections required to provide mock-ups.

.2 Construct in locations acceptable to Department Representative.

.3 Prepare mock-ups for Department Representative's review with reasonable promptness and in orderly sequence, to not cause delays in Work.

.4 Mock-ups may remain as part of Work if accepted by the Department Representative.

## 1.5 OPERATIONS AND MAINTENANCE MANUALS

.1 Two (2) weeks prior to any scheduled training, submit to Department Representative six (6) 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 mm 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 instruction for finished surface and materials.

.2 Copy of hardware and paint schedules.

.3 Description: Operation of the equipment and systems defining start-up, shut-down and emergency procedures, and any fixed or adjustable set points that affect the efficiency of the operation. Include name plate information such as make, size, capacity and serial number.

.4 Maintenance: Use clear drawings, diagrams or manufacturers' literature which specifically apply and detail the following:
.1 lubrication products and schedules.
.2 trouble shooting procedures.
.3 adjustment techniques.
.4 operational checks.
.5 Suppliers names, addresses and telephone numbers and components supplied by them must be included in this section. Components must be identified by a description and manufacturers part number.

.5 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.
.5 Signature and seal of Guarantor.
.6 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.

## 1.6 RECORD DRAWINGS

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

**PART 2 - PRODUCT** - NOT USED

**PART 3 - EXECUTION** - NOT USED

**END OF SECTION**

## 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 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 Site specific safety hazard assessment.

.2 Submit Contractor's authorized representative's work site health and safety inspection reports to Department Representative weekly.

.3 Submit copies of reports or directions issued by Federal and Provincial health and safety inspector.

.4 Submit copies of incident and accident reports.

.5 Submit to Department Representative Material Safety Data Sheets (MSDS).

.6 Personnel training requirements including as follows:

.1 Names of personnel and alternates - responsible for site safety and health, hazards present on site, and use of personal- protective equipment.

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

.2 Department Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 3 days after receipt of plan. Revise plan as appropriate and resubmit plan to Department Representative within 3 days after receipt of comments from Department Representative.

.3 Department 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.

.4 Medical Surveillance: Within 7 days after date of Notice to Proceed and prior to mobilization to site, submit certification of medical surveillance for site personnel, and submit additional certifications for any new site personnel.

### 1.3 SAFETY ASSESSMENT

.1 Perform site specific safety hazard assessment related to project.

## 1.4 MEETINGS

.1 Schedule and administer Health and Safety meeting with Department Representative prior to commencement of Work.

## 1.5 REGULATORY REQUIREMENTS

.1 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.

## 1.6 GENERAL REQUIREMENTS

.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

.2 Relief from or substitution for any portion or provision of minimum Health and Safety Guidelines specified herein or reviewed site-specific Health and Safety Plan must submitted to Department Representative in writing. Department Representative will respond in writing, either accepting or requesting improvements.

## 1.7 RESPONSIBILITY

.1 Be responsible for safety of persons and property on site and for protection of persons off 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, and local statutes; regulations, and ordinances, and with site-specific Health and Safety Plan.

## 1.8 COMPLIANCE REQUIREMENTS

.1 Comply with Ontario Health and Safety Act, R.S.O.

.2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

## 1.9 UNFORESEEN 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 Ontario having jurisdiction and advise Department Representative verbally and in writing.

## 1.10 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 specific to activities associated with occupational safety and health regulations.

.2 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.

.3 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

.4 Be on site during execution of Work.

.5 Have minimum 2 years site-related working experience.

**1.11 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 Ontario having jurisdiction, and in consultation with Department Representative.

**1.12 CORRECTION OF NON-COMPLIANCE**

.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Department Representative.

.2 Provide Department Representative with written report of action taken to correct non-compliance of health and safety issues identified.

.3 Department Representative may stop work if non-compliance of health and safety regulations is not corrected.

**1.13 BLASTING**

.1 Blasting or other use of explosives is not permitted.

**1.14 POWDER ACTUATED DEVICES**

.1 Use of powder actuated devices is not permitted.

**1.15 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.

.2 Assign responsibility and obligation to Health and Safety Officer to stop or start Work when, at. Health and Safety Officer's discretion, it is necessary or- advisable for reasons of health or safety. Department Representative may also stop Work for health and safety considerations.

**PART 2 - PRODUCT** - NOT USED

**PART 3 - EXECUTION** - NOT USED

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 INSTALLATION AND REMOVAL

.1 Provide temporary controls in order to execute Work expeditiously.

.2 Remove from site all such work after use.

.3 Comply with Section 01 11 00 - Summary of Work.

.4 Maintain protection in good condition until all work is complete. Relocate or remove such protection to new area of work following the completion of the clean-up operations and Owner approval of the work.

.5 Design, install, and inspect hoarding, scaffolds and work platforms required for work in accordance with relevant municipal, provincial and other regulations. Provide design drawings stamped by a structural engineer licensed in the Province of Ontario.

### 1.2 HOARDING

.1 Provide barriers around trees and plants. Protect from damage by equipment and construction procedures.

.2 Provide hoarding and overhead protection above pedestrian walkways and entrances to building. Protect public from falling debris at all times.

.3 Design enclosures to withstand wind pressure and snow loading.

### 1.3 WEATHER ENCLOSURES

.1 Provide weather tight, insulated closures to openings to the exterior elements. Such insulated enclosures shall be fabricated with rigid frames made of lumber. Enclosure shall have a minimum R value of 10 ( RSI of 1.8).

.2 Close off adjacent floor areas from area of the Work, using weather tight and dust tight screens. Seal off other openings such as ductwork, grilles, etc.

.3 Design enclosures to withstand wind pressure and snow loading.

### 1.4 DUST TIGHT SCREENS

.1 Provide dust tight partitions to localize dust generating activities, and for protection of workers, building occupants and finished areas of Work.

.2 Construct dust tight partitions from solid lumber stud framing. Cover with minimum 10 mil thick polyethylene plastic sheeting. Seal tightly to floors, walls and ceilings using tape where necessary. Seal all holes that develop as work progresses to prevent migration of dust to other parts of the building.

.3 Provide access doorways through such enclosures for workers. Doorways shall consist of wood doors installed in a wood frame. Door must be equipped with a latching door knob and air tight seals at the perimeter of the door frame. Loose fitting plastic sheets will be rejected.

**1.5 ACCESS TO SITE**

.1 Maintain access roads access roads on site.

**1.6 FIRE ROUTES**

.1 Maintain access to property including overhead clearances for use by emergency response vehicles.

**1.7 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.

**1.8 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 Department Representative locations and installation schedule 3 days prior to installation.

.4 Be responsible for damage incurred due to lack of or improper protection.

.5 Reinstate all surfaces to new condition following the removal of protection.

**PART 2 - PRODUCT** - NOT USED

**PART 3 - EXECUTION** - NOT USED

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 RELATED SECTIONS

.1 Section 01 11 00 - Summary of Work.

### 1.2 PROJECT CLEANLINESS

.1 Maintain Work in clean and tidy condition, free from accumulation of waste products and debris. Conduct cleaning operations to meet the requirements of the Phasing of the Work. Owner will partially occupy the building during the Work.

.2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Department Representative.

.3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.4 Provide on-site containers for collection of waste materials and debris.

.5 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.

.6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

.7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.

.8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.9 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

.10 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.11 Remove waste products and debris and leave Work clean and suitable for occupancy.

.12 Prior to inspection for Final Completion remove surplus products, tools, construction machinery and equipment.

.13 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

.14 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.

.15 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, and floors.

.16 Clean lighting reflectors, lenses, and other lighting surfaces.

.17 Vacuum clean and dust the upper surfaces of ductwork, building interiors, behind grilles, louvres and screens.

.18 Where site was used as a construction staging area, broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds. Sweep and wash clean paved areas.

.19 Remove dirt and other disfiguration from exterior surfaces.

.20 Remove snow and ice from access to building.

.21 Remove debris and surplus materials from crawl spaces and other accessible concealed spaces.

**PART 2 - PRODUCT** - NOT USED

**PART 3 - EXECUTION** - NOT USED

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 REFERENCES

.1 Canadian Standards Association (CSA International)
.1 CSA S350-M1980(R1998), Code of Practice for Safety in Demolition of Structures.

### 1.2 SUBMITTALS

.1 Before proceeding with demolition of load bearing walls, and where required by authority having jurisdiction, submit for review by Department Representative shoring and underpinning drawings prepared by qualified professional engineer registered or licensed in the Province of Ontario, showing proposed method.

### 1.3 STORAGE, HANDLING AND PROTECTION

.1 Store, materials to be reused, recycled and salvaged in locations as directed by Department Representative.

.2 Unless specified otherwise, materials for removal become Contractor's property.

.3 Protect, stockpile, store and catalogue salvaged items.

.4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.

.5 Protect surface drainage, mechanical and electrical from damage and blockage.

.6 Separate and store materials produced during dismantling of structures in designated areas.

.7 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.

.1 On-site source separation is recommended.
.2 Remove co-mingled materials to off-site processing facility for separation.
.3 Provide waybills for separated materials.

### 1.4 SITE CONDITIONS

.1 Review Designated Substance Report and Specifications and take precautions to protect environment.

.2 Notify Department Representative before disrupting building access or services.

.3 Take over the Work space in the condition it existed at the time of job showing during the tender period.

### 1.5 HAZARDOUS SUBSTANCES

.1 Comply with the requirements of specification Sections regarding the removal of Hazardous Materials.

## PART 2 - PRODUCTS (not used)

## PART 3 - EXECUTION

### 3.1 PREPARATION

.1 Inspect building with Department Representative and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.

### 3.2 PROTECTION

.1 Prevent movement, or damage to building elements, utilities, and parts of building to remain in place. Provide bracing and shoring required.

.2 Keep noise, dust, fumes and inconvenience to occupants to minimum to the satisfaction of the Department Representative.

.3 Protect building systems, services and equipment.

.4 Provide temporary dust screens, covers, railings, supports and other protection as required.

.5 Do Work in accordance with Section 01 35 29.06 - Health and Safety Requirements and other specification sections included herein.

### 3.3 SALVAGE

.1 Refer to demolition drawings and specifications for items to be salvaged for reuse.

.2 Remove items to be reused, store as directed by Department Representative, and re-install under appropriate section of specification.

.3 Some items previously removed by others and stored by Department Representative shall to be integrated into the Work. Refer to the drawings for such items.

### 3.4 DEMOLITION

.1 Remove parts of existing building to permit new construction, as noted on drawings.

.2 Trim edges of partially demolished building elements to tolerances as defined by Department Representative to suit future use.

### 3.5 DISPOSAL

.1 Dispose of removed materials, in accordance with authority having jurisdiction.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 REFERENCES

.1 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  .1 Material Safety Data Sheets (MSDS).

.2 Underwriter's Laboratories of Canada (ULC)
  .1 ULC-S115-1995, Fire Tests of Fire stop Systems.

### 1.2 DEFINITIONS

.1 Fire Stop Material: device intended to close off opening or penetration during fire or materials that fill openings in wall or floor assembly where penetration is by cables, cable trays, conduits, ducts and pipes and poke-through termination devices, including electrical outlet boxes along with their means of support through wall or floor openings.

.2 Single Component Fire Stop System: fire stop material that has Listed Systems Design and is used individually without use of high temperature insulation or other materials to create fire stop system.

.3 Multiple Component Fire Stop System: exact group of fire stop materials that are identified within Listed Systems Design to create on site fire stop system.

.4 Tightly Fitted; (ref: NBC Part 3.1.9.1.1 and 9.10.9.6.1): penetrating items that are cast in place in buildings of non-combustible construction or have "0" annular space in buildings of combustible construction.

  .1 Words "tightly fitted" should ensure that integrity of fire separation is such that it prevents passage of smoke and hot gases to unexposed side of fire separation.

### 1.3 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal procedures.

.2 Product Data:

  .1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

  .2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets.

.3 Quality assurance submittals:

  .1 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

### 1.4 DELIVERY, STORAGE AND HANDLING

.1 Packing, shipping, handling and unloading:

  .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

.2 Deliver materials to the site in undamaged condition and in original unopened containers, marked to indicate brand name, manufacturer, ULC markings.

.2 Storage and Protection:

.1 Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Replace defective or damaged materials with new.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 Fire stopping and smoke seal systems: in accordance with CAN-ULC-S115.

.1 Asbestos-free materials and systems capable of maintaining an effective barrier against flame, smoke and gases in compliance with requirements of CAN-ULC-S115 and not to exceed opening sizes for which they are intended.

.2 Fire stop system rating: 1 hour.

.2 Service penetration assemblies: systems tested to CAN-ULC-S115.

.3 Service penetration fire stop components: certified by test laboratory to CAN-ULC-S115.

.4 Fire-resistance rating of installed fire stopping assembly in accordance with NBC.

.5 Fire stopping and smoke seals at openings intended for ease of re-entry such as cables: elastomeric seal.

.6 Fire stopping and smoke seals at openings around penetrations for pipes, ductwork and other mechanical items requiring sound and vibration control: elastomeric seal.

.7 Primers: to manufacturer's recommendation for specific material, substrate, and end use.

.8 Water (if applicable): potable, clean and free from injurious amounts of deleterious substances.

.9 Damming and backup materials, supports and anchoring devices: to manufacturer's recommendations, and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.

.10 Sealants for vertical joints: non-sagging.

## PART 3 - EXECUTION

### 3.1 MANUFACTURER=S INSTRUCTIONS

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

## 3.2 PREPARATION

.1 Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials. Ensure that substrates and surfaces are clean, dry and frost free.

.2 Prepare surfaces in contact with fire stopping materials and smoke seals to manufacturer's instructions.

.3 Maintain insulation around pipes and ducts penetrating fire separation.

.4 Mask where necessary to avoid spillage and over coating onto adjoining surfaces; remove stains on adjacent surfaces.

## 3.3 INSTALLATION

.1 Install fire stopping and smoke seal material and components in accordance with ULC certification and manufacturer's instructions.

.2 Seal holes or voids made by through penetrations, poke-through termination devices, and un-penetrated openings or joints to ensure continuity and integrity of fire separation are maintained.

.3 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing.

.4 Tool or trowel exposed surfaces to a neat finish.

.5 Remove excess compound promptly as work progresses and upon completion.

## 3.4 SEQUENCES OF OPERATION

.1 Proceed with installation only when submittals have been reviewed by Department Representative.

.2 Mechanical pipe insulation: fire stop system component.

.1 Ensure pipe insulation installation precedes fire stopping.

## 3.5 FIELD QUALITY CONTROL

.1 Inspections: notify Department Representative when ready for inspection and prior to concealing or enclosing fire stopping materials and service penetration assemblies.

## 3.6 CLEANING

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

.2 Remove temporary dams after initial set of fire stopping and smoke seal materials.

## 3.7 FIRE STOPPING SCHEDULE

.1 Firestop and smoke seal at:

.1 Around all mechanical and electrical assemblies penetrating the 1-hour fire-resistance rated floor slab assembly.

.2 Around all mechanical and electrical assemblies penetrating fire-rated wall assemblies, regardless of wall composition.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

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

.2 Text to complete other various Sections containing sealant or caulking specifications, including:

.1 Section 07 84 00 - Fire Stopping
.2 Section 09 21 16 - Gypsum Board Assemblies.

### 1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM)

.1 ASTM C 919-02, Standard Practice for Use of Sealants in Acoustical Applications.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.

### 1.3 DELIVERY, STORAGE, AND HANDLING

.1 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.

### 1.4 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.

### 1.5 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 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 Department Representative will arrange for ventilation system to be operated on maximum outdoor air and exhaust during installation of caulking and sealants.

## 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 off-gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off-gas time.

.3 Where sealants are qualified with primers use only these primers.

### 2.2 SEALANT MATERIAL DESIGNATIONS

.1 Acrylic Latex One Part.
- .1 To CAN/CGSB-19.17.

.2 Acoustical Sealant.
- .1 To ASTM C 919, approved for use in return air plenums.

.3 Preformed Compressible and Non-Compressible back-up materials.
- .1 Polyethylene, Urethane, Neoprene or Vinyl Foam.
  - .1 Extruded open or closed cell foam backer rod.
  - .2 Size: oversize 30 to 50 %.
- .2 Neoprene or Butyl Rubber.
  - .1 Round solid rod, Shore A hardness 70.
- .3 High Density Foam.
  - .1 Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m; density, or neoprene foam backer, size as recommended by manufacturer.
- .4 Bond Breaker Tape.
  - .1 Polyethylene bond breaker tape which will not bond to sealant.

### 2.3 SEALANT SELECTION

.1 Perimeters of interior frames and penetrations of pipes and services through interior partitions: Sealant type: Acrylic Latex.

### 2.4 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 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 Cleanup.

.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**

| DOOR | | | | | FRAME | | | ULC | HARDWARE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| NO. | TYPE | SIZE | MAT. | FIN. | MAT. | FIN. | TYPE | RATING | GROUP | |

## PART 1 - GENERAL

### 1.1 RELATED SECTIONS

.1 Section 07 92 00 - Joint Sealants
.2 Section 08 00 00 - Door and Frame Schedule
.3 Section 08 14 16 - Flush Wood Doors

### 1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM A 653/A 653M-06a, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 Canadian Standards Association (CSA International)

.1 CSA-G40.20-04/G40.21-04, General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel.

.2 CSA W59-03, Welded Steel Construction (Metal Arc Welding).

.3 Canadian Steel Door Manufacturers' Association (CSDMA)

.1 CSDMA, Recommended Specifications for Commercial Steel Doors and Frames, 2000.

### 1.3 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal procedures.

.2 Provide shop drawings: in accordance with Section 01 33 00 - Submittal procedures.

.1 Indicate each type frame material, core thickness, reinforcements, glazing stops, location of anchors and exposed fastenings and finishes.

.2 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 Cold rolled stretcher levelled steel sheet: to ASTM A526M, coating designation to ASTM A653M, ZF75 except where specified otherwise, minimum base steel thickness in accordance with CSDFMA Table 1 - Thickness for Component Parts.

.2 Hot dipped galvanized steel sheet for door frames where indicated: to ASTM A 653M, Z275, minimum base steel thickness in accordance with CSDMA Table 1 - Thickness for Component Parts.

.3 Reinforcement: to CSA G40.20/G40.21, Type 44W, coating designation to ASTM A 653M, ZF75 and Z275.

## 2.2 PRIMER

.1 Touch-up prime CAN/CGSB-1.181.

## 2.3 PAINT

.1 Field paint steel frames in accordance with Section 09 91 99 - Painting for Minor Works. Provide final finish free of scratches

## 2.4 ACCESSORIES

.1 Door Silencers: Three (3) single stud rubber/neoprene type per door frame.

.2 Metallic paste filler: to manufacturer's standard.

## 2.5 FRAMES FABRICATIONS GENERAL

.1 Fabricate frames in accordance with CSDMA specifications and articles below.

.2 Fabricate frames to profiles and maximum face sizes as indicated.

.3 Interior frames: 1.6 mm welded type construction.

.4 Blank, reinforce, drill and tap frames for mortised, templated hardware, using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.

.5 Protect mortised cut-outs with steel guard boxes.

.6 Prepare frame for door silencers, 3 for single door.

.7 Manufacturer's nameplates on frames and screens are not permitted.

.8 Conceal fastenings except where exposed fastenings are indicated.

.9 Provide factory-applied touch up primer at areas where zinc coating has been removed during fabrication.

## 2.6 FRAME ANCHORAGE

.1 Provide appropriate anchorage to floor and wall construction.

.2 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.

.3 Provide 2 anchors for rebate opening heights up to 1520 mm and 1 additional anchor for each additional 760 mm of height or fraction thereof.

.4 Locate anchors for frames in existing openings not more than 150 mm from top and bottom of each jambs and intermediate at 660 mm o.c. maximum.

## 2.7 FRAMES: WELDED TYPE

.1 Welding in accordance with CSA W59.

.2 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.

.3 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.

.4 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.

.5 Securely attach floor anchors to inside of each jamb profile.

.6 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.

## PART 3 - EXECUTION

### 3.1 MANUFACTURER=S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.

### 3.2 FRAME INSTALLATION

.1 Set frames plumb, square, level and at correct elevation.

.2 Secure anchorages and connections to adjacent construction.

.3 Brace frames rigidly in position while building-in. Install temporary horizontal wood spreader at third points of door opening to maintain frame width. Remove temporary spreaders after frames are built-in.

.4 Make allowances for deflection of structure to ensure structural loads are not transmitted to frames.

.5 Caulk perimeter of frames between frame and adjacent material.

### 3.3 FINISH REPAIRS

.1 Touch up with primer finishes damaged during installation.

.2 Fill exposed frame anchors and surfaces with imperfections with metallic paste filler and sand to a uniform smooth finish.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 RELATED SECTIONS

.1 Section 08 00 00 - Door & Frame Schedule
.2 Section 08 11 00 - Metal Frames
.3 Section 08 80 50 - Glazing

### 1.2 REFERENCES

.1 Architectural Woodwork Manufacturers Association of Canada (AWMAC).
  .1 Quality Standards for Architectural Woodwork 1998.

.2 Canadian General Standards Board (CGSB).
  .1 CAN/CGSB-71.19-M88, Adhesive, Contact, Sprayable.
  .2 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.

.3 Canadian Standards Association (CSA International).
  .1 CAN/CSA O132.2 Series-90(R1998), Wood Flush Doors.

### 1.3 SUBMITTALS

.1 Product Data:
  .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Shop Drawings:
  .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

  .2 Indicate door types and cutouts for lights, sizes, and core construction.

### 1.4 DELIVERY, STORAGE AND HANDLING

.1 Storage and Protection:

  .1 Protect doors from dampness. Arrange for delivery after work causing abnormal humidity has been completed.

  .2 Store doors in well ventilated room, off floor, in accordance with manufacturer's recommendations.

  .3 Protect doors from scratches, handling marks and other damage.

  .4 Store doors away from direct sunlight.

## PART 2 - PRODUCTS

### 2.1 WOOD FLUSH DOORS

.1 Solid core: to CAN/CSA-O132.2.1. institutional grade.

.2 Construction:

.1 Solid particleboard core: stile and rail frame bonded to particleboard core with wood lock blocks, stiles and rails of laminated low density wood, 44 mm thickness.

.2 Face Panels:
.1 Hardwood; veneer grades: Grade I Premium, White Birch species for stain and varnish finish.

.3 Top rails shall be 115 mm high and bottom rails shall be 70 mm high, of laminated low density wood of the same species.

.4 Stiles shall be minimum 85 mm in width made of laminated low density wood of the same species as the rails plus 12 mm hardwood edging matching the face veneer, for a total minimum width of 107 mm.

.5 Adhesive: Type II water resistant for interior doors.

## 2.2 GLAZING

.1 Refer to Section 08 80 50 - Glazing.

## 2.3 FABRICATION

.1 Vertical edge strips to match face veneer.

.2 Prepare doors for glazing. Provide hardwood species to match face veneer glazing stops with mitred corners.

.3 Bevel vertical edges of single acting doors 3 mm in 50 mm on lock side and 1.5 mm in 50 mm on hinge side.

# PART 3 - EXECUTION

## 3.1 MANUFACTURER=S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.

## 3.2 INSTALLATION

.1 Unwrap and protect doors in accordance with CAN/CSA-O132.2 Series, Appendix A.

.2 Install doors and hardware in accordance with manufacturer's printed instructions and CAN/CSA-O132.2 Series, Appendix A.

.3 Adjust hardware for correct function.

.4 Install glazing in accordance with Section 08 80 50 - Glazing.

.5 Install stops.

## 3.3 ADJUSTMENTS

.1 Re-adjust doors and hardware just prior to completion of the project to function freely and properly.

## 3.4 CLEANING

.1 Perform cleaning as soon as possible after installation to remove construction and accumulated environmental dirt.

.2 Remove traces of primer, caulking; clean doors and frames.

.3 Clean glass and glazing materials with approved non-abrasive cleaner.

.4 On completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 RELATED WORK

.1 Section 08 14 16 - Flush Wood Doors.

### 1.2 SUBMITTALS

.1 Product Data:
  .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 00 10 - General Instructions.

.2 Hardware List:
  .1 Submit contract hardware list in accordance with Section 01 00 10 - General Instructions.

  .2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.

### 1.3 DELIVERY, STORAGE AND HANDLING

.1 Packing, Shipping, Handling and Unloading:
  .1 Package each item of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

.2 Storage and Protection:
  .1 Store finishing hardware in locked, clean and dry area.

## PART 2 - PRODUCTS

### 2.1 HARDWARE ITEMS

.1 Use one manufacturer's products only for all similar items.

.2 All hardware shall be equal to or better than the building standard. Standard of quality shall be "Institutional". All hardware shall be ULC listed and stamped for use in fire rated assemblies. Ascertain quality and types on site.

### 2.2 FASTENINGS

.1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.

.2 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

.3 Exposed fastening devices to match finish of hardware.

.4 Use fasteners compatible with material through which they pass.

## PART 3 - EXECUTION

### 3.1 MANUFACTURER=S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

.2 Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.

.3 Furnish manufacturers' instructions for proper installation of each hardware component.

### 3.2 INSTALLATION

.1 Install hardware to standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.

.2 Where door stop contacts door pulls, mount stop to strike bottom of pull.

.3 Use only manufacturer's supplied fasteners. Failure to comply may void manufacturer's warranties and applicable licensed labels. Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.

.4 Install hardware to hardware location dimensions in accordance with the existing building.

### 3.3 ADJUSTING

.1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.

.2 Lubricate hardware, operating equipment and other moving parts.

.3 Adjust door hardware to provide tight fit at contact points with frames.

### 3.4 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacture's instructions.

.3 Remove protective material from hardware items where present.

.4 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

## 3.5 HARDWARE SCHEDULE

.1 Refer to the following for the hardware requirements to determine quantities. Refer to drawings for handedness.

**ITEM # 01**

1 SINGLE DR. 2130.1 FROM OFFICE 2130 TO LAN ROOM
914 X 2134 X 45 SCW / PRESSED STEEL FRAME

PROVIDE:

| | | |
|---|---|---|
| 3 EA. HINGES | 114 X 101 | C26D |
| 1 EA. LOCKSET | STOREROOM FUNCTION, LEVER | 626 |
| 1 EA. CYLINDER | MEDECO BY OWNER | |
| 1 EA. FLOOR STOP | DOME FOR VCT FLOORING | 630 |
| 1 (SET) GASKETING | ACOUSTIC 1 / 914 X 2 / 2134 | |

**ITEM # 02**

1 SINGLE DR. 2132.1 OFFICE 2130 TO STORAGE ROOM 2132
914 X 2134 X 45 SCW / PRESSED STEEL FRAME

PROVIDE:

| | | |
|---|---|---|
| 3 EA. HINGES | 114 X 101 | C26D |
| 1 EA. LOCKSET | STOREROOM FUNCTION, LEVER | 626 |
| 1 EA. CYLINDER | MEDECO BY OWNER | |
| 1 EA. FLOOR STOP | DOME FOR VCT FLOORING | 630 |

**ITEM#03**

1 SINGLE DR. 2128.1 OFFICE 2130 TO MEETING ROOM 2128
1 SINGLE DR. 2138.1 OFFICE 2130 TO OFFICE 2138
914 X 2134 X 45 SCW / PRESSED STEEL FRAME

PROVIDE:

| | | |
|---|---|---|
| 6 HINGES | 114 X 101 | C26D |
| 2 LOCKSETS | OFFICE FUNCTION, LEVER | 626 |
| 2 CYLINDERS | MEDECO BY OWNER | |
| 2 FL STOPS | DOME FOR VCT FLOORING | 630 |
| 2 (SET) GASKETING | ACOUSTIC 1 / 914 X 2 / 2134 | |

**ITEM#04**

1 SINGLE DR. 2126 CORRIDOR TO OFFICE 2126
1 SINGLE DR. 2130 CORRIDOR TO OFFICE 2130
1 SINGLE DR. 2136 CORRIDOR TO OFFICE 2136

914 X 2134 X 45 WOOD DOOR / WOOD FRAME
EXISTING HARDWARE TO REMAIN. REINSTATE PUSH BUTTON CAM LOCK AND KEYWAY TO FUNCTIONAL CONDITION.
ADD:

| | | |
|---|---|---|
| 3 FL STOPS | DOME FOR VCT FLOORING | 630 |

**ITEM#05**

1 SINGLE DR. 2128 CORRIDOR TO OFFICE 2128
1 SINGLE DR. 2132 CORRIDOR TO OFFICE 2132
1 SINGLE DR. 2134 CORRIDOR TO OFFICE 2134
1 SINGLE DR. 2138 CORRIDOR TO OFFICE 2138

914 X 2134 X 45 WOOD DOOR / WOOD FRAME

REMOVE INTERIOR SIDE OF EXISTING PUSH BUTTON CAM LOCKS AND PLATES. PROVIDE STAINLESS STEEL WRAP-AROUND PLATES TO CONCEAL ALL HOLES. MATCH BUILDING STANDARD.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 RELATED SECTIONS

.1 Section 08 00 00 - Door & Frame Schedule
.2 Section 08 14 16 - Flush Wood Doors

### 1.2 REFERENCES

.1 Canadian General Standards Board (CGSB).
  .1 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 Safety glass: to CAN/CGSB-12.1, transparent 6 mm thick.
  .1 Type 2 - tempered.

### 2.2 ACCESSORIES

.1 Setting blocks: Neoprene Shore A durometer hardness to ASTM D 2240,to suit glazing method, glass light weight and area.

.2 Glazing tape: Preformed butyl compound, 10-15 Shore A durometer hardness to ASTM D 2240; coiled on release paper; black colour.

## PART 3 - EXECUTION

### 3.1 MANUFACTURER=S INSTRUCTIONS

.1 Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

### 3.2 EXAMINATION

.1 Verify that openings for glazing are correctly sized and within tolerance.

.2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.

### 3.3 PREPARATION

.1 Clean contact surfaces with solvent and wipe dry.

.2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.

### 3.4 INSTALLATION

.1 Perform work in accordance with GANA Glazing Manual for glazing installation methods.

.2 Cut glazing tape to length and set against permanent stops, projecting 1.6 mm above sight line.

.3 Place setting blocks at 1/3 points, with edge block maximum 150 mm from corners.

.4 Rest glazing on setting blocks and push against tape for full contact at perimeter of light or unit.

.5 Place glazing tape on free perimeter of glazing in same manner described.

.6 Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

.7 Knife trim protruding tape.

## 3.5 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Remove traces of primer, caulking.

.3 Remove glazing materials from finish surfaces.

.4 Remove labels after work is complete.

.5 Clean glass using approved non-abrasive cleaner in accordance with manufacture's instructions.

.6 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 REFERENCES

.1 American Society for Testing and Materials International, (ASTM)

.1 ASTM C 36/C 36M-01, Specification for Gypsum Wallboard.
.2 ASTM C 475-01, Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
.3 ASTM C 840-01, Specification for Application and Finishing of Gypsum Board.
.4 ASTM C 1002-01, Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
.5 ASTM C 1047-99, Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.

### 1.2 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials in original packages, containers or bundles bearing manufacturers brand name and identification.

.2 Store materials inside, level, under cover. Keep dry. Protect from weather, other elements and damage from construction operations and other causes.

.3 Handle gypsum boards to prevent damage to edges, ends or surfaces. Protect metal accessories and trim from being bent or damaged.

### 1.3 SITE ENVIRONMENTAL REQUIREMENTS

.1 Maintain temperature minimum 10 degrees C, maximum 21 degrees C for 48 hours prior to and during application of gypsum boards and joint treatment, and for at least 48 hours after completion of joint treatment.

.2 Apply board and joint treatment to dry, frost free surfaces.

.3 Ventilation: Ventilate building spaces as required to remove excess moisture that would prevent drying of joint treatment material immediately after its application..

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 Gypsum board: to ASTM C 36/C 36M:
.1 Regular, 13 mm thick, 1200 mm wide x maximum practical length, ends square cut, edges bevelled.
.2 Fire rated (Type X), 16 mm thick, 1200 mm wide x maximum practical length, ends square cut, edges bevelled.

.2 Metal furring runners, hangers, tie wires, inserts, anchors: to CSA A82.30, galvanized.

.3 Drywall furring channels: 0.5 mm core thickness galvanized steel channels for screw attachment of gypsum board.

.4 Steel drill screws: to ASTM C 1002.

.5 Laminating compound: as recommended by manufacturer, asbestos-free.

.6 Casing beads, corner beads, control joints and edge trim: to ASTM C 1047, metal, zinc-coated by hot-dip process, 0.5 mm base thickness, perforated flanges, one piece length per location.

.7 Sealants: in accordance with Section 07 92 00 - Joint Sealants

.8 Acoustical sealant: to CAN/CGSB-19.21-M87.

.9 Joint compound: to ASTM C 475, asbestos-free.

.10 Insulating strip: rubberized, moisture resistant, 3 mm thick closed cell neoprene strip, 12 mm wide, with self sticking permanent adhesive on one face, lengths as required.

.11 Sound attenuation batts: friction fit, fibrous rock blanket insulation with minimum density of 40 kg/m3 and with fire hazard classification of: flame spread 0 and smoke developed 0. Thicknesses as indicated or implied on drawings.

## PART 3 - EXECUTION

### 3.1 ERECTION

.1 Do application and finishing of gypsum board in accordance with ASTM C 840 except where specified otherwise.

.2 Erect hangers and runner channels for suspended gypsum board ceilings in accordance with ASTM C 840 except where specified otherwise.

.3 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.

.4 Install work level to tolerance of 1:1200.

.5 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers and grilles.

.6 Install 19 x 64 mm furring channels parallel to, and at exact locations of steel stud partition header track.

.7 Furr for gypsum board faced vertical bulkheads within and at termination of ceilings.

.8 Furr above suspended ceilings for gypsum board fire and sound stops and to form plenum areas as indicated.

.9 Install wall furring for gypsum board wall finishes in accordance with ASTM C 840, except where specified otherwise.

.10 Furr openings and around built-in equipment, cabinets, access panels, on four sides. Extend furring into reveals. Check clearances with equipment suppliers.

.11 Furr duct shafts, beams, columns, pipes and exposed services where indicated.

.12 Install sound attenuation batts where indicated on drawings. Press in tightly and staple to back side of one face of partition.

## 3.2 APPLICATION

.1 Do not apply gypsum board until bucks, anchors, blocking, sound attenuation, electrical and mechanical work are approved.

.2 Apply single layer gypsum board to metal furring or framing using screw fasteners. Maximum spacing of screws 300 mm on centre
- .1 Single-Layer Application:
  - .1 Apply gypsum board vertically or horizontally, providing sheet lengths that will minimize end joints.

.3 Apply single layer to concrete or concrete block surfaces, where indicated, using laminating adhesive.
- .1 Comply with gypsum board manufacturer's recommendations.
- .2 Brace or fasten gypsum board until fastening adhesive has set.
- .3 Mechanically fasten gypsum board at top and bottom of each sheet.

.4 Apply 12 mm diameter bead of acoustic sealant continuously around periphery of each face of partitioning to seal gypsum board/structure junction where partitions abut fixed building components. Seal full perimeter of cut-outs around electrical boxes and ducts, in partitions where perimeter sealed with acoustic sealant.

.5 Install gypsum board on walls vertically to avoid end-butt joints, except where local codes or fire-rated assemblies require vertical application.

.6 Install gypsum board with face side out.

.7 Do not install damaged or damp boards.

.8 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.

## 3.3 INSTALLATION

.1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges. Secure at 150 mm on centre.

.2 Install casing beads around perimeter of suspended ceilings.

.3 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated. Seal joints with sealant.

.4 Splice corners and intersections together and secure to each member with 3 screws.

.5 Install access doors to electrical and mechanical fixtures specified in respective sections. Rigidly secure frames to furring or framing systems.

.6 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces. Finish joints of panels installed within the ceiling space as well as in exposed locations.

.7 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with Association of the Wall and Ceiling Industries (AWCI) International Recommended Specification on Levels of Gypsum Board Finish:

.1 Levels of finish:

.1 Level 1 (In Concealed Areas, eg: Baffles above Ceiling): Embed tape for joints and interior angles in joint compound. Surfaces to be free of excess joint compound; tool marks and ridges are acceptable.

.2 Level 5 (All Other / Exposed Areas): Embed tape for joints and interior angles in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads and accessories; apply a thin skim coat of joint compound to entire surface; surfaces smooth and free of tool marks and ridges.

.8 Finish corner beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.

.9 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.

.10 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.

.11 Apply one coat of white primer sealer over surface to be textured. When dry apply textured finish in accordance with manufacturer's instructions.

.12 Mix joint compound slightly thinner than for joint taping.

.13 Apply thin coat to entire surface using trowel or drywall broadknife to fill surface texture differences, variations or tool marks.

.14 Allow skim coat to dry completely.

.15 Remove ridges by light sanding or wiping with damp cloth.

.16 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.

.17 Provide protection that ensures gypsum drywall work will remain without damage or deterioration at time of substantial completion.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 RELATED SECTIONS

.1 Section 06 10 00 - Rough Carpentry, for wood blocking in walls.
.2 Section 09 21 16 - Gypsum Board Assemblies

### 1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM).

.1 ASTM C 645-00, Specification for Non-structural Steel Framing Members.

.2 ASTM C 754-00, Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 Non-load bearing channel stud framing: to ASTM C 645, 92 mm stud size, roll formed from 0.53 mm thickness hot dipped galvanized steel sheet, for screw attachment of gypsum board. Knock-out service holes at 460 mm centres.

.2 Floor and ceiling tracks: to ASTM C 645, in widths to suit stud sizes, 32 mm flange height.

.3 Acoustical sealant: to CGSB 19-GP-21M.

## PART 3 - EXECUTION

### 3.1 ERECTION

.1 Align partition tracks at floor and ceiling and secure at 600 mm o.c. maximum.

.2 Place studs vertically at 400 mm oc and not more than 50 mm from abutting walls, and at each side of openings and corners. Position studs in tracks at floor and ceiling. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.

.3 Erect metal studding to tolerance of 1:1000.

.4 Attach studs to tracks using screws.

.5 Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.

.6 Co-ordinate erection of studs with installation of door/window frames and special supports or anchorage for work specified in other Sections.

.7 Provide two studs extending from floor to ceiling at each side of openings wider than stud centres specified. Secure studs together, 50 mm apart using column clips or other approved means of fastening placed alongside frame anchor clips.

.8 Install heavy gauge single jamb studs at openings.

.9 Erect track at head of door openings to accommodate intermediate studs. Secure track to

studs at each end, in accordance with manufacturer's instructions. Install intermediate studs above and below openings in same manner and spacing as wall studs.

.10 Frame openings and around built-in equipment, cabinets, access panels, on four sides. Extend framing into reveals. Check clearances with equipment suppliers.

.11 Provide 40 mm stud or furring channel secured between studs for attachment of items attached to steel stud partitions.

.12 Install steel studs or furring channel between studs for attaching electrical and other boxes.

.13 Extend partitions to underside of slab except where noted otherwise on drawings.

.14 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs. Use double track slip joint.

.15 Install two continuous beads of acoustical sealant under studs and tracks around perimeter of sound control partitions.

## 3.2 CLEANING

.1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 RELATED SECTIONS

.1 Section 09 53 00.01 - Acoustical Suspension

### 1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM C 423-02a, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method

.2 ASTM E 1264-98, Standard Classification for Acoustical Ceiling Products.

.3 ASTM E 1477-98a(2003), Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-92.1-M89, Sound Absorptive Prefabricated Acoustical Units.

### 1.3 SUBMITTALS

.1 Submit duplicate samples of each type acoustical units.

### 1.4 DELIVERY STORAGE AND HANDLING

.1 Protect on site stored or installed absorptive material away from moisture damage.

.2 Store extra materials required for maintenance, where directed by Department Representative.

### 1.5 ENVIRONMENTAL REQUIREMENTS

.1 Permit wet work to dry before beginning to install.

.2 Maintain uniform minimum temperature of 15 degrees C and humidity of 20 - 40% before and during installation.

.3 Store materials in work area 48 hours prior to installation.

### 1.6 EXTRA MATERIALS

.1 Provide extra materials of acoustic units in accordance with Section 01 33 00 - Submittal Documents.

.2 Provide acoustical units amounting to 10% of gross ceiling area for each pattern and type required for project.

.3 Ensure extra materials are from same production run as installed materials.

.4 Clearly identify each type of acoustic unit, including colour and texture.

.5 Deliver to Departmental Representative upon completion of the work of this section.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 All material shall be new. Acoustic units for suspended ceiling systems shall meet CAN/CGSB-92.1 and ASTM E 1264.

.1 Surface: Non-directional fissures
.2 Type: 1
.3 Pattern: CD
.4 Colour: White.
.5 Size 1220 x 610 x 16 mm thick.
.6 Shape: flat.
.7 NRC: .50.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

.1 Do not install acoustical panels and tiles until work above ceiling has been inspected by Department Representative.

### 3.2 INSTALLATION

.1 Install acoustical panels and tiles in ceiling suspension system.

### 3.3 APPLICATION

.1 Install acoustical units. Refer to reflected ceiling plan for orientation of acoustical units.

.2 Scribe acoustic units to fit adjacent work. Butt joints tight, terminate edges with moulding.

### 3.4 INTERFACE WITH OTHER WORK

.1 Co-ordinate with Section 09 53 00.01 - Acoustical Suspension.

.2 Co-ordinate ceiling work to accommodate components of other sections, such as light fixtures, diffusers, sprinkler heads, to be built into acoustical ceiling components.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 RELATED SECTIONS

.1 Section 09 51 13 - Acoustical Panel Ceilings

### 1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM C 635-04, Standard Specifications for the Manufacture, Performance and Testing of Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.

.2 ASTM C 636/C 636M-06, Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels.

### 1.3 DESIGN REQUIREMENTS

.1 Maximum deflection: 1/360th of span to ASTM C 635 deflection test.

### 1.4 SUBMITTALS

.1 Provide samples in accordance with Section 01 33 00 - Submittal Procedures.

.1 Submit one representative model of each type ceiling suspension system.

.2 Ceiling system to show basic construction and assembly, treatment at walls, recessed fixtures, splicing, interlocking, finishes, acoustical unit installation.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 Heavy duty system to ASTM C 635.

.2 Basic materials for suspension system: commercial quality cold rolled steel tee, hot dipped galvanized and painted finish with aluminum cap in a white polyester paint finish.

.3 Suspension system: non fire-rated, made up as follows:

.1 Two directional exposed tee bar 610 mm x 1220 mm grid.
.2 For use in extreme environments.

.4 Exposed tee bar grid components: factory painted flat white. Components die cut. Main tee with double web, rectangular bulb and 25 mm rolled cap on exposed face. Cross tee with rectangular bulb; web extended to form positive interlock with main tee webs; lower flange extended and offset to provide flush intersection.

.5 Hanger wire: stainless steel wire:

.1 3.6 mm diameter for access tile ceilings.

.6 Hanger inserts: purpose made.

.7 Carrying channels: 38 mm channel, of galvanized steel.

.8 Accessories: splices, clips, wire ties, retainers and flush wall moulding, to complement suspension system components, as recommended by system manufacturer.

## PART 3 - EXECUTION

### 3.1 MANUFACTURER=S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.

### 3.2 INSTALLATION

.1 Installation: in accordance with ASTM C 636 except where specified otherwise.

.2 Do not erect ceiling suspension system until work above ceiling has been inspected by Department Representative.

.3 Secure hangers to overhead structure using attachment methods acceptable to Department Representative.

.4 Install hangers spaced at maximum 1200 mm centres and within 150 mm from ends of main tees.

.5 Lay out system according to reflected ceiling plan.

.6 Ensure suspension system is co-ordinated with location of related components.

.7 Install wall moulding to provide correct ceiling height.

.8 Completed suspension system to support super-imposed loads, such as lighting fixtures, diffusers, grilles and speakers.

.9 Support light fixtures and diffusers with additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.

.10 Interlock cross member to main runner to provide rigid assembly.

.11 Frame at openings for light fixtures, air diffusers, speakers and at changes in ceiling heights.

.12 Finished ceiling system to be square with adjoining walls and level within 1:1000.

### 3.3 CLEANING

.1 Touch up scratches, abrasions, voids and other defects in painted surfaces.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 REFERENCES

.1 CSA A126.1-M1984, Vinyl Asbestos and Vinyl Composition Floor Tile.

.2 CAN/CSA-A126.5-87, Resilient Wall Base.

### 1.2 SAMPLES

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit box of samples of complete colour range for selection by Department Representative. Submit duplicate 300 x 300 mm samples of selected colour in specified pattern.

### 1.3 CLOSEOUT SUBMITTALS

.1 Provide maintenance data for resilient flooring for incorporation into manual specified in Section 01 33 00 - Submittal Procedures.

### 1.4 ENVIRONMENTAL REQUIREMENTS

.1 Maintain air temperature and structural base temperature at flooring installation area above 20EC for 48 hours before, during and for 48 hours after installation.

### 1.5 EXTRA MATERIALS

.1 Provide extra materials of resilient tile flooring in accordance with Section 01 33 00 - Submittal Documents.

.2 Provide quantity amounting to 10% of gross floor area for each colour and type required for the project. The material shall be delivered in the original packaging boxes.

.3 Ensure extra materials are from same production run and dye lot as installed materials.

.4 Clearly identify each type of tile, including colour and texture.

.5 Deliver to Departmental Representative upon completion of the work of this section.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 Vinyl composition tile: to CSA A126.1 and ASTM F 1066, COMP 1, CLASS 2 – Through Pattern.

- .1 Colour: A total of three (3) colours will be selected from the manufacturer's commercial range of colours.
- .2 Size: 305 mm x 305 mm x 3.2 mm thick
- .3 Material: Vinyl composition
- .4 Commercial traffic static load limit: ASTM F 970 minimum 150 psi (10.54kg / cm2)

.2 Resilient base: to CAN/CSA-A126.5, Type 1, rubber Style B-cove supplied in coils of 18 metre lengths, and 100 mm high x 3 mm thick, of colour to match existing.

.3 Rubber Transitions Strips: rubber strips, minimum thickness 3mm. Four colours shall be selected from the manufacturer=s standard range.

.4 Primers and adhesives: waterproof, recommended by flooring manufacturer for specific material on applicable substrate, above, at or below grade.

.5 Sub-floor filler and leveller: as recommended by flooring manufacturer for use with their product.

.6 Sealer: type recommended by flooring manufacturer.

## PART 3 - EXECUTION

### 3.1 INSPECTION

.1 Ensure concrete floors are dry, by using test methods recommended by tile manufacturer.

### 3.2 SUB-FLOOR TREATMENT

.1 Remove old adhesives to prevent residual, old flooring adhesives from ghosting through to new flooring and/or interfering with the bonding of new adhesives.

.2 Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.

.3 Clean floor and apply filler; trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry.

.4 Prime concrete to flooring manufacturer's printed instructions.

### 3.3 TILE APPLICATION

.1 Apply adhesive uniformly using recommended trowel in accordance with flooring manufacturer's instructions. Do not spread more adhesive than can be covered by flooring before initial set takes place.

.2 Lay flooring with joints parallel to building lines to produce symmetrical tile pattern. Border tiles minimum half tile width.

.3 Install flooring to square grid pattern with all joints aligned with pattern grain parallel for all units and parallel to width of room. Joints or any part of a joint shall be no more than 1.0 mm wide. Clean off excess adhesive as work progresses.

.4 As installation progresses, and after installation, roll flooring in 2 directions with 45 kg minimum roller to ensure full adhesion.

.5 Cut tile and fit neatly around fixed objects.

.6 Terminate flooring at centerline of door in openings where adjacent floor finish or colour is dissimilar.

.7 Supply and install a rubber edge strip where tiled areas abut other floor finishes unless otherwise specified in other floor finish specifications.

## 3.4 BASE APPLICATION

.1 Lay out base to keep number of joints at minimum. Base joints at maximum length available.

.2 Clean substrate and prime with one coat of adhesive.

.3 Apply adhesive to back of base.

.4 Set base against wall and floor surfaces tightly by using 3 kg hand roller.

.5 Install straight and level to variation of 1:1000.

.6 Scribe and fit to door frames and other obstructions.

.7 Cope internal corners. Use formed straight base material for external corners, minimum 300 mm each leg.

## 3.5 CLEANING

.1 Remove excess adhesive from floor, base and wall surfaces without damage.

.2 As soon as the adhesive has set, but not less than three days after installation, clean the vinyl reinforced tile flooring and rubber base. Wash with a neutral cleanser and rinse.

.3 Wax application shall be by Owner. Coordinate date of final cleaning to occur immediately prior to Owner's scheduled waxing schedule.

## 3.6 PROTECTION OF FINISHED WORK

.1 Protect new floors from time of final set of adhesive until final inspection.

.2 Prohibit traffic on floor for 48 hours after installation.

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 REFERENCES

.1 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
- .1 Material Safety Data Sheets (MSDS).

.2 Master Painters Institute (MPI)
- .1 MPI Architectural Painting Specifications Manual, 2004.
- .2 MPI - Maintenance Repainting Manual, 1998.

### 1.2 SUBMITTALS

.1 Submittals in accordance with Section 01 33 00 - Submittal procedures.

.2 Product Data:

- .1 Submit product data and instructions for each paint and coating product to be used.
- .2 Submit two copies of Workplace Hazardous Materials Information System (WHMIS) Material Safety Data Sheets (MSDS) in accordance with Section 01 33 00 - Submittal procedures. Indicate VOCs during application and curing.
- .3 Submit manufacturer's installation and application instructions.

### 1.3 DELIVERY, STORAGE AND HANDLING

.1 Storage and Protection:

- .1 Provide and maintain dry, temperature controlled, secure storage.
- .2 Store materials and supplies away from heat generating devices.
- .3 Store materials and equipment in well ventilated area within temperature as recommended by manufacturer.

.2 Fire Safety Requirements:

- .1 Provide one 9 kg Type ABC fire extinguisher adjacent to storage area.
- .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
- .3 Handle, store, use and dispose of flammable and combustible materials in accordance with National Fire Code of Canada requirements.

.3 Waste Management and Disposal:

- .1 Separate waste materials for reuse and recycling.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Place materials defined as hazardous or toxic in designated containers.

.4 Handle and dispose of hazardous materials in accordance with Regional and Municipal, regulations.

.5 Ensure emptied containers are sealed and stored safely.

.6 Unused paint and coating materials must be disposed of at official hazardous material collections site.

.7 Paint, stain and wood preservative finishes and related materials (thinners, and solvents) are regarded as hazardous products and are subject to regulations for disposal. Information on these controls can be obtained from Provincial Ministries of Environment and Regional levels of Government.

.8 Material which cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.

.9 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.

.10 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into ground follow these procedures:

.1 Retain cleaning water for water-based materials to allow sediments to be filtered out.
.2 Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.
.3 Return solvent and oil soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.
.4 Dispose of contaminants in approved legal manner in accordance with hazardous waste regulations.
.5 Empty paint cans are to be dry prior to disposal or recycling (where available).

## 1.4 SITE CONDITIONS

.1 Heating, Ventilation and Lighting:

.1 Ventilate enclosed spaces in accordance with Section 01 00 10.

.2 Co-ordinate use of existing ventilation system with Department Representative and ensure its operation during and after application of paint as required.

.3 Provide minimum lighting level of 323 Lux on surfaces to be painted.

.2 Temperature, Humidity and Substrate Moisture Content Levels:

.1 Apply paint finishes when ambient air and substrate temperatures at location of installation can be satisfactorily maintained during application and drying process, within MPI and paint manufacturer's prescribed limits.

.2 Apply paint to adequately prepared surfaces, when moisture content is below paint manufacturer's prescribed limits.

.3 Additional application requirements:

.1 Apply paint finish in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.

.2 Apply paint in occupied facilities during silent hours only. Schedule operations to approval of Department Representative such that painted surfaces will have dried and cured sufficiently before occupants are affected.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

.1 Paint materials listed in the MPI Approved Products List (APL) are acceptable for use on this project. All paint shall be 100% acrylic latex.

.2 Use Zero V.O.C. (Volatile Organic Compound) paint and paint products from approved manufacturers. All paint used on the project shall be from a single manufacturer. Paint material shall meet or exceed the criteria set forth by the Canadian Green Building Council LEED-CI version 2.0 and LEED-NC Version 2.2 for VOC content.

.3 Provide a transition primer-sealer at existing painted surfaces. Transition primer shall be tinted light grey.

.4 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) in accordance with MPI - Architectural Painting Specification Manual and MPI - Maintenance Repainting Manual "Approved Product" listing.

.5 Trisodium phosphate, shall be used as a cleaning and surface preparation agent on ALL existing surfaces.

.6 Conform to latest MPI requirements for all painting work including preparation and priming.

### 2.2 COLOURS

.1 Colour schedule will be based upon selection of one base colour and four accent colours.

### 2.3 MIXING AND TINTING

.1 Perform colour tinting operations prior to delivery of paint to site, in accordance with manufacturer's written instructions.

.2 Use and add thinner in accordance with paint manufacturer's recommendations. Do not use kerosene or similar organic solvents to thin water-based paints.

.3 Thin paint for spraying in accordance with paint manufacturer's instructions.

.4 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

### 2.4 PAINT FORMULAS

.1 Formula 1: for gypsum board and plaster walls and ceilings apply:

.1 one coat primer to MPI 50
.2 two coats finish paint to MPI 52 eggshell sheen

.2 Formula 2: for shop primed ferrous metal surfaces apply:

.1 touch up with shop primer as provided by fabricator.
.2 one coat primer MPI 134
.3 two coats finish paint to MPI 153 semi gloss.

.3 Formula 3: for concrete and masonry walls apply:

.1 one coat primer to MPI 50
.2 two coats finish paint to MPI 52 eggshell sheen

.4 Formula 4: for galvanized and zinc coated metal apply:

.1 one coat cementitious primer to MPI 134
.2 two coats finish paint to MPI 153

## PART 3 - EXECUTION

### 3.1 GENERAL

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheet.

.2 Perform preparation and operations for interior painting in accordance with MPI - Architectural Painting Specifications Manual and MPI - Maintenance Repainting Manual except where specified otherwise.

### 3.2 EXAMINATION

.1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Department Representative damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.

### 3.3 PREPARATION

.1 Protection:

.1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore surfaces as directed by Department Representative.

.2 Protect items that are permanently attached such as Fire Labels on doors and frames.

.3 Protect factory finished products and equipment.

.2 Surface Preparation:

.1 Remove electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings prior to undertaking painting operations. Identify and store items in secure location and re-installed after painting is completed.

.2 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.

.3 Place "WET PAINT" signs in occupied areas as painting operations progress. Signs to approval of Department Representative.

.3 Clean and prepare surfaces in accordance with MPI - Architectural Painting Specification Manual and MPI - Maintenance Repainting Manual specific requirements and coating manufacturer's recommendations.

.4 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pre-treatment as soon as possible after cleaning and before deterioration occurs.

.5 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.

.6 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements.

.7 Touch up of shop primers with primer as specified.

.8 Do not apply paint until prepared surfaces have been accepted by Department Representative.

## 3.4 APPLICATION

.1 Method of application to be as approved by Department Representative. Apply paint by brush or roller. Conform to manufacturer's application instructions unless specified otherwise.

.2 Apply coats of paint continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.

.3 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.

.4 Sand and dust between coats to remove visible defects.

.5 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.

.6 Finish inside of cupboards and cabinets as specified for outside surfaces.

.7 Finish closets and alcoves as specified for adjoining rooms.

.8 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

## 3.5 MECHANICAL AND ELECTRICAL EQUIPMENT

.1 Paint conduits, piping, hangers, ductwork and other mechanical and electrical equipment exposed in finished areas, to match adjacent surfaces, except as indicated.

.2 Do not paint over nameplates.

.3 Keep sprinkler heads free of paint.

.4 Paint inside of ductwork where visible behind grilles, registers and diffusers with primer and one coat of matt black paint.

.5 Paint fire protection piping red.

.6 Paint disconnect switches for fire alarm system and exit light systems in red enamel.

## 3.6 SITE TOLERANCES

.1 Walls: no defects visible from a distance of 1000 mm at 90 degrees to surface.

.2 Ceilings: no defects visible from floor at 45 degrees to surface when viewed using final lighting source.

.3 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

.4 Advise Department Representative when surfaces and applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.

.5 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Department Representative.

## 3.7 RESTORATION

.1 Clean and re-install hardware items removed before undertaken painting operations.

.2 Remove protective coverings and warning signs as soon as practical after operations cease.

.3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.

.4 Protect freshly completed surfaces from paint droppings and dust to approval of Department Representative . Avoid scuffing newly applied paint.

.5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Department Representative .

**END OF SECTION**

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

.1 Section 09 21 16 - Gypsum Board Assemblies
.2 Section 09 22 16 - Non-Structural Metal Framing

### 1.2 SUBMITTALS

.1 Product Data:
  .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Shop Drawings:

  .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

  .2 Submit shop drawings showing the shade sizes, locations, operation, methods of attachment, and description of components, indicating for each component, the size, shape, material, thickness, gauge, finish, methods of joining, joint locations, and methods of attachment.

.3 Submit for approval, a sample shade fully representing the shades to be provided. Submit samples of fabrics and finish colours for selection and approval.

## PART 2 - PRODUCTS

### 2.1 MATERIALS PRODUCTS, FABRICATION AND OPERATION

.1 Shades shall be chain operated, manual roller shade systems.

  .1 Shade system with snap-in mounting detail, with fabric Type AF as listed below.

  .2 For each window in the area of Work, provide a one piece full width and full height shade. Provide all components and parts and accessories for a complete shade installation with valance cover.

.2 Provide factory assembled shade units consisting of two end brackets, shade roller tube, cassette, fabric, hembar, fastenings, anchorages and accessories specified and required, including valance.

.3 Operation: easy lifting, manually chain operated, finger tip control, with infinite positioning and lift assist mechanism so that shade is capable of stopping and holding at any position within window opening.

.4 Mounting: recessed.

.5 Cassette: One piece aluminum extruded box closed, 111 x114 mm square minimum.

.6 Side Channels: Telescopic, two piece compensating inside mount slim line 50 X 13.

.7 Shade roller tube: extruded aluminum nominally 38 mm outside diameter and minimum 1.5 mm thick with three internal continuous fins at 120 apart for strength and drive capability when attached to the nylon sprocket.

.8 Drive assembly: factory set for size and travel of shade, capable of being field adjusted from exterior of the shade without having to disassemble the hardware, with built-in shock absorber system to prevent chain breakage under normal usage, and balancing spring or lift assist mechanism.

.9 Drive chain: stainless steel, bright finish bead chain formed in a continuous loop.

.10 Hembar: provide a seamed and weighted bottom hem using rust resistant concealed hem bar. Provide double fabric thickness on room side with hem sewn horizontally and at ends.

.11 Fasteners: non-corrosive metal screws for attachment to windows or wall, concealed in completed installation.

.12 Fabric:

.1 Type AF: vinyl coated opaque polyester yarn, basket weave design, 1% openness factor, consisting of approximately 75% vinyl and 25% polyester core yarn.

.2 Fabric colours: selected by Architect from full colour range of the specified manufacturer. A maximum of one colour to be selected of fabric type AF. Fabric type AF shall be white on the exterior facing side.

.3 Fabric performance: Fabric shall be dimensionally stable, tensioned in the finishing range prior to heat setting to keep the warp ends straight and minimize or eliminate weave distortion and keep fabric flat without buckling or distortion. The edge, when trimmed, shall hang straight without ravelling. Unguided roller shade cloth shall roll true and straight without shifting sideways more than ∀3 mm in either direction due to warp distortion or weave design.

.4 Flame retardant: fabric shall be certified by an independent laboratory to pass the Small Scale Vertical Burn Requirements of CAN/ULC-S109-M87 and NFPA 701.

.13 Provide stops at highest and lowest shade positions to prevent over-winding and unrolling.

.14 Fabricate shade units to attach to framing members or supplementary framing and blocking at interior face of windows, designed and fabricated so that fabric width exceeds glass width to prevent light leaks at sides.

.15 Do not attach shades directly to the face of the traditional wood window casings.

## 2.2 EXTENT OF BLIND INSTALLATION

.1 Supply and install window blinds on the following exterior windows:

.1 <u>Shade with Fabric Type AF</u>:

.1 Every window located in an exterior wall in the Area of Work of this contract.

# PART 3 - EXECUTION

## 3.1 INSTALLATION

.1 Coordinate installation and fastenings with window trade, and trades providing adjacent

finishes.

.2 Provide, as part of the work of this Section, custom trim components to accommodate adjacent ceiling systems and finishes.

.3 Install shades in accordance with manufacturer's instructions and as indicated, in true, flat planes.

## 3.2 ADJUSTMENT AND CLEANING

.1 Adjust shades for smooth operation and correct alignment.

.2 Clean shades and remove finger marks and smudges from shades and adjacent surfaces.

.3 Leave shades in raised position at completion of work of this Section.

**END OF SECTION**

## PART 1 - GENERAL

1.1 References .1 American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
- .1 ANSI/ASHRAE/IESNA 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings.

.2 Ontario Regulation
- .1 ONTARIO OBC-2012, 2012 Ontario Building Code Compendium.

.3 National Fire Protection Association (NFPA)
- .1 NFPA (Fire) 13, Installation of Sprinkler Systems, 2007 edition.

1.2 General .1 This section covers items common to all sections of Divisions 21 & 23.

.2 Coordinate location & installation of all equipment with all trades to ensure the equipment is serviceable.

.3 Prime mechanical contractor shall be responsible to ensure that all requirements of Divisions 21 & 23 are met and comply with all other divisions and contract documents.

.4 The word "provide" shall mean "supply and install".

.5 Conform to the requirements of Division 00, Division 01 and Instructions to Tenderers.

1.3 Equipment .1 General:
- .1 Mechanical equipment that is not regulated by the Green Energy Act, shall carry a permanent label installed by the manufacturers stating the equipment complies with the requirement of ANSI/ASHRAE/IESNA 90.1.
- .2 The minimum equipment efficiency, standard rating and operating conditions shall be as per ANSI/ASHRAE/IESNA 90.1, superceded by Ontario Building Code (OBC) Supplementary Standard SB -10, unless indicated otherwise on contract documents. The higher of the energy efficiencies of the listed equipment shall prevail.
- .3 Provide new materials and equipment of proven design, quality and of current models with published ratings for which replacement parts are readily available.
- .4 Uniformity: Use product of one manufacturer unless otherwise specified, for equipment or material of the same type of classification.

.2 Installation:
- .1 Unions, flanges and/or couplings: provide for ease of maintenance and disassembly.
- .2 Space for servicing, disassembly and removal of equipment and components: provide as recommended by manufacturer, Code or as indicated; whichever is the more stringent.
- .3 Equipment drains: pipe to floor drains in a manner which is non-obstructing.
- .4 Install equipment, rectangular cleanouts and similar items parallel to or perpendicular to building lines.
- .5 Unless otherwise specified, follow manufacturer's recommendations for safety, adequate access for inspection, maintenance and repairs.

1.3 Equipment (Cont'd)

.2 Installation:(Cont'd)
- .6 Permit equipment maintenance and disassembly with minimum disturbance to connecting piping and duct systems without interference with building structure or other equipment.
- .7 Lubrication: Provide accessible lubricating means for bearings, including permanent lubrication "Lifetime" bearings. Extended grease nipples to be supplied.

1.4 Anchor Bolts and Templates

.1 Supply anchor bolts and templates for installation by other divisions.

1.5 Protection of Openings

.1 Protect equipment and systems openings from dirt, dust, and other foreign materials with materials appropriate to system.

1.6 Electrical

.1 Electrical work to conform to Division 26 including the following:
- .1 Control wiring and conduit is specified in Division 26 except for conduit, wiring and connections below 50 V which are related to control systems. Refer to Division 26 for quality of materials and workmanship.

.2 Any costs associated with deviation of mechanical equipment rating affecting electrical Division 26 shall be carried by the mechanical contractor.

1.7 Waste Management and Disposal

.1 Waste Reduction Workplan (WRW):
- .1 Perform work in accordance with project's WRW. If one does not exist, provide the following:
  - .1 Identify opportunities for reduction, re-use and/or recycling of materials.
  - .2 Post workplan or summary where workers on site are able to review it's content.

.2 Materials Source Separation Program (MSSP):
- .1 Perform all work in accordance with project's MSSP. If one does not exist, provide the following:
  - .1 Provide containers for collection of re-useable and/or recycleable materials.
  - .2 Transport off-site salvaged materials to authorized recycling facility or to users of material for re-use.

.3 Disposal of Waste:
- .1 Disposal of waste, volatile materials, mineral spirits, oil, paint thinner, etc. into waterways, storm or sanitary sewers is prohibited.

.4 Storage, Handling and Protection:
- .1 Store materials for re-use in a secure area as directed by project manager, where they will not be damaged. Provide protection of materials as necessary.
- .2 Unless otherwise specified, removed materials become the Contractor's property. Contractor shall be responsible for transport & delivery of non-salvageable items to a licensed disposal facility.

1.8 Acceptable Products

.1 Design is based on first manufacturer's name under acceptable products. Subsequent manufacturer's names indicate that those named are acceptable providing they meet specifications and space limitations and are subject to acceptance by Shop Drawing Review.

1.9 Cleaning

.1 Prior to turnover to client, clean interior and exterior of all new systems. Replace all air & hydronic filters on new & modified systems. Vacuum interior of new and modified ductwork and air handling units.

1.10 As-built Drawings

.1 Site records:
- .1 Mechanical sub-contractor shall mark all changes as work progresses and as changes occur.
- .2 On a weekly basis, transfer information to record set of documents, revising to show all work as actually installed.
- .3 Use different colour waterproof ink for each service.
- .4 Make available for reference purposes and inspection at all times.

.2 As-built drawings:
- .1 Prior to start of Testing, Adjusting and Balancing (TAB), finalize production of as-built drawings.
- .2 Identify each drawing in lower right hand corner in letters at least 12 mm high as follows: - "AS BUILT DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW MECHANICAL SYSTEMS AS INSTALLED" (Signature of Contractor) (date).

.3 Submit copies of as-built drawings for inclusion in final TAB report.

1.11 Fees and work. Permits

.1 Pay all fees and obtain all permits, taxes relating to the mechanical scope of

1.12 Warranty

.1 Unless indicated otherwise provide one (1) year warranty starting at substantial completion for all new systems including materials, equipment & labour.

1.13 Location of Mechanical Equipment

.1 Allow for 1500 mm of adjustment for exact location of air handling units, pumps, ducts, piping, etc. at no extra cost or credit.

1.14 Electronic drawings Drawings

.1 Goodkey, Weedmark & Associates Limited will agree to supply the mechanical in the form of electronic documents for the project to the User for the convenience of the User in carrying out it's work. The User shall sign a License Agreement before drawings will be released.

1.15 Cutting, Patching & Coring

.1 Provide cutting, patching and coring of all walls, ceiling & concrete slabs and other surfaces as required for mechanical work. Check with Owner or Building Management prior to core drilling and cutting of structure regarding building requirements and policies. Provide notification, clearance & protection.

.2 The following procedure shall be followed for cutting & core drilling:

- .1 Contractor to coordinate and summarize all new cores and openings in building structure. Contractor to investigate on site and locate any existing available hole which may be re-used for new systems.
- .2 Contractor to prepare a layout sketch showing all existing openings & holes and required new openings & holes, with size and locations to the closest grid line in both directions, and submit for review and approval by the architect & structural engineer.
- .3 Structural engineer to provide written report outlining acceptance of the openings, as well as specific requirements for reinforcing at each location.
- .4 Contractor to proceed with reinforcing tracing as per report and scanning for electrical conduit. Scanning to be completed using ground penetrating Radar (GPR) technology.
- .5 Contractor shall identify at each location prior to coring and cutting the location, direction and layer of each reinforcing bar and conduit.
- .6 Any core or opening where reinforcing steel was cut during the cutting & coring process must be retained on site, and the Contractor must inform the engineer with the following information: size of the reinforcing bar, reinforcing layer location (top steel or bottom slab steel) and direction of the bar (east - west or north - south).

.3 Patch and make good surfaces cut, damaged or disturbed, to Engineer's approval. Match existing material, colour, finish and texture or as indicated otherwise.

.4 Provide dust tight screens or partitions to localize dust generating activities and for protection of finished areas of work, workers and public.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections
.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 References
.1 American Society for Testing and Materials (ASTM).
- .1 ASTM B16/B16M-10, Standard Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines.
- .2 ASTM B62-09, Specification for Composition Bronze or Ounce Metal Castings.

1.3 Product Data
.1 Submit product data in accordance with Section 21 05 01 - Mechanical General Requirements.

.2 Submit data for all valves specified in this section.

1.4 Closeout Submittals
.1 Submit maintenance data for incorporation into manual specified in Section 21 05 01 - Mechanical General Requirements.

## PART 2 - PRODUCTS

2.1 General
.1 All valves of the same type to be from one manufacturer.

.2 All valves to have CRN registration numbers.

2.2 Ball Valves
.1 NPS 4 and under:
- .1 Body and cap: cast high tensile bronze to ASTM B62 or brass to ASTM B16/B16M C36000.
- .2 Stem: tamperproof ball drive.
- .3 Stem packing nut: external to body.
- .4 Ball and seat: replaceable chrome plated brass solid full port ball and teflon seats.
- .5 Stem seal: TFE with external packing nut.
- .6 Operator: removable lever handle.

## PART 3 - EXECUTION

3.1 Installation

.1 Remove internal parts before soldering or brazing.

.2 Install all valves such that adequate clearance is provided to allow for obstruction free operation.

.3 Install valves at all branch take-offs and to isolate each piece of equipment, and as indicated.

.4 Install all valves as per manufacturer's recommendation.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections

.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 References

.1 American Society for Testing and Materials (ASTM) (latest edition).
- .1 ASTM C335/C335M-10e1, Test Method for Steady State Heat Transfer Properties of Horizontal Pipe Insulation.
- .2 ASTM C449-07(2013), Standard Specification for Mineral Fiber-Hydraulic-Setting Thermal Insulating and Finishing Cement.

.2 Canadian General Standards Board (CGSB)
- .1 CAN/CGSB-51.9-92 Mineral Fibre Thermal Insulation for Piping and Round Ducting.
- .2 CAN/CGSB-51.12-95, Cement, Thermal Insulating and Finishing.
- .3 CGSB 51-GP-52Ma, Vapour Barrier, Jacket and Facing Material for Pipe, Duct and Equipment Thermal Insulation.

.3 Manufacturer's Trade Associations (latest edition).
- .1 Thermal Insulation Association of Canada (TIAC): National Insulation Standards.

.4 Underwriters' Laboratories of Canada (ULC)
- .1 CAN/ULC S102-10, Surface Burning Characteristics of Building Materials and Assemblies.

1.3 Definitions

.1 For purposes of this section:
- .1 "CONCEALED" - insulated mechanical services in suspended ceilings and non-accessible chases and furred-in spaces.
- .2 "EXPOSED" - will mean "not concealed" as defined herein.

.2 TIAC ss:
- .1 CRF: Code Rectangular Finish.
- .2 CPF: Code Piping Finish.

1.4 Shop Drawings

.1 Submit shop drawings in accordance with Section 21 05 01 - Mechanical General Requirements.

.2 Submit for approval manufacturer's catalogue literature related to installation, fabrication for pipe, fittings, valves and jointing recommendations.

1.5 Samples

.1 Submit samples in accordance with Section 21 05 01 - Mechanical General Requirements.

1.5 Samples (Cont'd) .2 Submit for approval: complete assembly of each type of insulation system, insulation, coating, and adhesive proposed. Mount sample on 12 mm (½") plywood board. Affix typewritten label beneath sample indicating service.

1.6 Manufacturer's Instructions .1 Submit manufacturer's installation instructions in accordance with Section 21 05 01 - Mechanical General Requirements.

.2 Installation instructions to include procedures to be used, installation standards to be achieved.

1.7 Qualifications .1 Installer to be specialist in performing work of this section, and have at least 5 years successful experience in this size and type of project, qualified to standards.

1.8 Delivery, name, Storage and Handling .1 Deliver materials to site in original factory packaging, labelled with manufacturer's address.

.2 Protect from weather, construction traffic.

.3 Protect against damage from any source.

.4 Store at temperatures and conditions required by manufacturer.

## PART 2 - PRODUCTS

2.1 Fire and Smoke S102: Rating .1 In accordance with CAN/ULC
.1 Maximum flame spread rating: 25.
.2 Maximum smoke developed rating: 50.

2.2 Insulation .1 Mineral fibre as specified herein includes glass fibre, rock wool, slag wool.

.2 Thermal conductivity ("k" factor) not to exceed specified values at 24°C mean temperature when tested in accordance with ASTM C335/C335M.

.3 TIAC Code A-3: Rigid moulded mineral fibre with factory applied vapour retarder jacket (as scheduled in PART 3 of this section).
.1 Mineral fibre: to CAN/CGSB-51.9.
.2 Jacket: to CGSB 51-GP-52Ma.
.3 Maximum "k" factor: to CAN/CGSB-51.9.

2.3 Insulation Securement

.1 Tape: Self-adhesive, aluminum, reinforced, 50 mm wide minimum.

.2 Contact adhesive: Quick setting.

.3 Canvas adhesive: Washable.

.4 Tie wire: 1.5 mm diameter stainless steel.

.5 Bands: Stainless steel, 19 mm wide, 0.5 mm thick.

2.4 Cement

.1 Thermal insulating and finishing cement:
- .1 To CAN/CGSB-51.12.
- .2 Hydraulic setting or Air drying on mineral wool, to ASTM C449.

2.5 Vapour Retarder insulation. Lap Adhesive

.1 Water based, fire retardant type, compatible with

2.6 Indoor Vapour insulation. Retarder Finish

.1 Vinyl emulsion type acrylic, compatible with

2.7 Jackets

.1 PVC:
- .1 Ontario Building Code compliant for 25/50 flame spread and smoke developed.
- .2 Minimum thickness 0.015 mil.
- .3 Colour white unless otherwise specified.
- .4 Non yellowing UV stabilized.
- .5 Minimum service temperatures: -20°C.
- .6 Maximum service temperature: 65°C.
- .7 Moisture vapour transmission: 0.02 perm.
- .8 Fastenings:
  - .1 Use solvent weld adhesive compatible with insulation to seal laps and joints.
  - .2 Tacks.
  - .3 Pressure sensitive vinyl tape of matching colour.

## PART 3 - EXECUTION

3.1 Pre-Installation certified. Requirement

.1 Pressure testing of piping systems and adjacent equipment to be complete, witnessed and

.2 Surfaces to be clean, dry, free from foreign material.

3.2 Installation

.1 Install in accordance with TIAC National Standards.

.2 Apply materials in accordance with manufacturers instructions and this specification.

.3 Use two layers with staggered joints when required nominal wall thickness exceeds 75 mm.

.4 Maintain uninterrupted continuity and integrity of vapour retarder jacket and finishes.
- .1 Hangers, supports to be outside vapour retarder jacket.
- .2 Saddles to have ridges to limit movement while in hanger.
- .3 To be edge flared to prevent cutting/damage to insulation coverage.

.5 Supports, Hangers:
- .1 Apply high compressive strength insulation, suitable for service, at oversized saddles and shoes where insulation saddles have not been provided.

3.3 Removable, Pre-fabricated, Insulation and Enclosures

.1 Application: At expansion joints, valves, primary flow measuring elements flanges and unions at equipment.

.2 Design: To permit movement of expansion joint and to permit periodic removal and replacement without damage to adjacent insulation.

.3 Insulation:
- .1 Insulation, fastenings and finishes: same as system.
- .2 Jacket: PVC.

3.4 Piping Insulation Schedules

.1 Includes valves, valve bonnets, strainers, flanges and fittings unless otherwise specified.

.2 TIAC Code: A-3.
- .1 Securements: Tape at 300 mm oc.
- .2 Seals: VR lap seal adhesive, VR lagging adhesive.
- .3 Installation: TIAC Code: 1501-C.

3.4 Piping Insulation Schedules (Cont'd)

.3 Thickness of insulation to be as listed in following table.

| Application | Temp °C | TIAC code | Pipe sizes (NPS) and insulation thickness (mm) | | | |
|---|---|---|---|---|---|---|
| | | | 1/2 to 2 | 2-1/2 to 4 | 5 to 6 | 8 & over |
| Chilled Water with Vapour Barrier (Interior) | 5 - 13 | A-3 | 25 | 25 | 25 | 25 |

.4 Finishes:
.1 Exposed indoors: PVC.

.5 Domestic hot & cold piping shall be completely thermally insulated to fixtures, except exposed supply assembly at fixtures.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections .1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 Shop Drawings .1 Submit shop drawings in accordance with Section 21 05 01 - Mechanical General Requirements.

## PART 2 - PRODUCTS

2.1 Control Air Tubing .1 Plastic: flame retardant PVC tubing with minimum burst gauge pressure of 1.4 MPa at 80 degrees C.

2.2 Thermostats .1 Wall mounted, direct or reverse acting, to match existing.

## PART 3 - EXECUTION

3.1 Manufacturer's specifications, Instructions instructions, and .1 Compliance: comply with manufacturer's written recommendations or including product technical bulletins, handling, storage and installation datasheet.

3.2 Installation .1 Identify and code pneumatic tubing at every branch and at each piece of equipment and components.

.2 Follow building lines. Do not cover with insulation. Install drip legs and drains at low points.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections
.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 References
.1 American Society of Mechanical Engineers (ASME)
- .1 ASME B16.15-2011, Cast Bronze Threaded Fittings: Classes 125 and 250.
- .2 ASME B16.18-2012, Cast Copper Alloy, Solder Joint Pressure Fittings.
- .3 ASME B16.22-2012, Wrought Copper and Copper-Alloy Solder Joint Pressure Fittings.

.2 American Society for Testing and Materials (ASTM)
- .1 ASTM B32-08, Specification for Solder Metal.
- .2 ASTM B88M-05(2011), Specification for Seamless Copper Water Tube Metric.

.3 American Welding Society (AWS)
- .1 AWS A5.8/A5.8M:2011, Specification Filler Metals for Brazing and Bronze Welding.

1.3 Shop Drawings
.1 Submit shop drawings in accordance with Section 21 05 01 - Mechanical General Requirements.

1.4 Maintenance Data
.1 Provide maintenance data for incorporation into manual specified in Section 21 05 01 - Mechanical General Requirements.

## PART 2 - PRODUCTS

2.1 Piping
.1 Type L hard drawn copper tubing: to ASTM B88M.

2.2 Fittings
.1 Cast bronze threaded fittings: to ASME B16.15.

.2 Wrought copper and copper alloy solder joints pressure fittings: to ASME B16.22.

.3 Cast copper alloy solder joint pressure fittings: to ASME B16.18.

2.3 Di-Electric jointed. Couplings

.1 Provide wherever pipes of dissimilar metals are

.2 For pipe sizes 2 NPS and under, provide di-electric unions or couplings.

2.4 Joints

.1 Solder, tin-antimony, 95:5: to ASTM B32.

.2 Silver solder BCUP: to AWS A5.8.

.3 Brazing: as indicated.

.4 Application: All closed loop hydronic systems except steam & condensate systems.

2.5 Valves

.1 Refer to Section 23 05 23 - Valves.

**PART 3 - EXECUTION**

3.1 Piping Installation

.1 Connect to equipment in accordance with manufacturer's instruction unless otherwise indicated.

.2 Install concealed pipes close to building structure to keep furring space to minimum. Install to conserve headroom and space. Run exposed piping parallel to walls. Group piping wherever practical.

.3 Slope piping in direction of drainage and for positive venting.

.4 Use eccentric reducers at pipe size change installed to provide positive drainage or positive venting.

.5 Provide clearance for installation of insulation and access for maintenance of equipment, valves and fittings.

.6 Ream pipes, clean scale and dirt, inside and outside, before and after assembly.

.7 Assemble piping using fittings manufactured to ASME standards.

.8 Saddle type branch fittings may be used on mains if branch line is no larger than half the size of main. Hole saw or drill and ream main to maintain full inside diameter of branch line prior to welding saddle.

3.2 Filling of System

.1 Refill system with clean water adding water treatment as required.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections

.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 References

.1 SMACNA HVAC Duct Construction Standards, Metal and Flexible.

.2 SMACNA HVAC Duct Leakage Test Manual.

.3 Canadian Standards Association (CSA)
- .1 CSA B228.1-1968, Pipe, Ducts and Fittings for Residential Type Air Conditioning Systems.

.4 American Society for Testing and Materials (ASTM)
- .1 ASTM A924/A924M-13, Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.

.5 National Fire Protection Association (NFPA)
- .1 NFPA (Fire) 90A, Installation of Air Conditioning and Ventilating Systems, 2012 Edition.
- .2 NFPA (Fire) 90B, Installation of Warm Air Heating and Air Conditioning Systems, 2012 Edition.

1.3 Shop Drawings and Product Data

.1 Submit shop drawings and product data in accordance with Section 21 05 01 - Mechanical General Requirements.

.2 Indicate following:
- .1 Sealants
- .2 Tape
- .3 Proprietary Joints

1.4 Certification by of Ratings

.1 Catalogue or published ratings shall be those obtained from tests carried out manufacturer or independent testing agency signifying adherence to codes and standards.

## PART 2 - PRODUCTS

2.1 Seal follows: Classification

.1 Classification as

| Maximum System Total Pressure Pa | SMACNA Seal Class |
|---|---|
| 500 | A |
| 250 | A |
| 125 | A |

.2 Seal classification:
- .1 Class A: longitudinal seams, transverse joints, duct wall penetrations and connections made airtight with sealant.

.3 Application:
- .1 All new & existing supply ductwork.
- .2 All new return & exhaust ductwork.

2.2 Sealant

.1 Sealant: oil resistant, polymer type flame resistant duct sealant. Temperature range of minus 22°F to plus 200°F.

2.3 Fittings

.1 Fabrication: to SMACNA.

.2 Radiused elbows:
- .1 Rectangular: standard radius: 1.5 times width of duct.
- .2 Round: 1.5 times diameter.

.3 Mitred elbows, rectangular:
- .1 To 400 mm (16"): with single thickness turning vanes.
- .2 Over 400 mm (16"): with double thickness turning vanes.

.4 Branches:
- .1 Rectangular main and branch: with 45° entry on branch.
- .2 Round main and branch: enter main duct at 45° with conical connection.
- .3 Provide volume control damper in branch duct near connection to main duct.
- .4 Main duct branches: with splitter damper.

.5 Transitions:
- .1 Diverging: 20° maximum included angle.
- .2 Converging: 30° maximum included angle.

.6 Offsets:
- .1 Full radiused elbows.

.7 Obstruction deflectors: maintain full cross- sectional area. Maximum included angles: as for transitions.

2.4 Firestopping

.1 Retaining angles all around duct, on both sides of fire separation.

.2 Firestopping material and installation must not distort duct.

2.5 Galvanized coating. Steel

.1 Lock forming quality: to ASTM A924/A924M, Z90 zinc

.2 Thickness, fabrication and reinforcement: to SMACNA.

.3 Joints: to SMACNA.

2.6 Escutcheon ducts, Angles

.1 40 mm x 40 mm angle iron frame on both sides of exposed rectangular or round on both sides of non-rated partitions. Escutcheon angles material & gauge shall be equal to base material.

2.7 Hangers and duct. Supports

.1 Strap hangers: of same material as duct but next sheet metal thickness heavier than Maximum size duct supported by strap hanger:. 500 mm (20").

.2 Hanger configuration: to SMACNA.

.3 Hangers: black steel angle with black steel rods to SMACNA and following table:

| Duct Size (in.) | Angle Size (in.) | Rod Size (in.) |
|---|---|---|
| up to 30 | 1 x 1 x 1/8 | ¼ |
| 31 to 42 | 1½ x 1½ x 1/8 | ¼ |
| 43 to 60 | 1½ x 1½ x 1/8 | 2/5 |
| 61 to 84 | 2 x 2 x 1/8 | 2/5 |
| 85 to 96 | 2 x 2 x 1/5 | 2/5 |
| 97 and over | 2 x 2 x ¼ | 2/5 |

.4 Upper hanger attachments:

.1 For concrete: manufactured concrete inserts.

.2 For steel joist: manufactured joist clamp or steel plate washer.

.3 For steel beams: manufactured beam clamps.

## PART 3 - EXECUTION

3.1 General

.1 Do work in accordance with NFPA (Fire) 90A, NFPA (Fire) 90B, CSA B228.1 and SMACNA.

.2 Do not break continuity of insulation vapour barrier with hangers or rods. Insulate strap hangers 100 mm (4") beyond insulated duct.

.3 Support risers in accordance with ASHRAE and SMACNA.

.4 Install breakaway joints in ductwork on each side of fire separation.

.5 Install proprietary manufactured flanged duct joints in accordance with manufacturer's instructions.

.6 Manufacture duct in lengths to accommodate installation of acoustic duct lining.

.7 Install escutcheon sheet metal angles on both sides of exposed rectangular or round ducts on both sides of non-rated partitions. Seal void with acoustic sealant.

3.2 Hangers

.1 Strap hangers: install in accordance with SMACNA.

.2 Angle hangers: complete with locking nuts and washers.

.3 Hanger spacing: in accordance with SMACNA as follows:

| Duct Size mm (in.) | Spacing m (ft.) |
|---|---|
| to 1500 (60) | 3 (10) |
| 1525 (61) and over | 2.5 (8) |

3.3 Sealing and Taping

.1 Apply sealant to outside of joint to manufacturer's recommendations.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections
.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 References
.1 Sheet Metal and Air Conditioning Contractors' National Association (SMACNA)
.1 SMACNA - HVAC Duct Construction Standards - Metal and Flexible, 2005.

1.3 Action and Informational Submittals
.1 Submit in accordance with Section 21 05 01 - Mechanical General Requirements.

## PART 2 - PRODUCTS

2.1 General
.1 Manufacture in accordance with SMACNA - HVAC Duct Construction Standards.

2.2 Access Doors in Ducts
.1 Non-Insulated Ducts: sandwich construction of same material as duct, one sheet metal thickness heavier, minimum 0.6 mm thick complete with sheet metal angle frame.

.2 Insulated Ducts: sandwich construction of same material as duct, one sheet metal thickness heavier, minimum 0.6 mm thick complete with sheet metal angle frame and 25 mm thick rigid glass fibre insulation.

.3 Gaskets: neoprene.

.4 Hardware:
.1 Up to 300 x 300 mm: two sash locks.
.2 301 to 450 mm: four sash locks.
.3 451 to 1000 mm: piano hinge and minimum two sash locks.
.4 Doors over 1000 mm: piano hinge and two handles operable from both sides.

## PART 3 - EXECUTION

3.1 Installation .1 Access Doors and Viewing Panels:

- .1 Size:
  - .1 450 x 450 mm for person size entry.
  - .2 450 x 450 mm for servicing entry.
- .2 Locations:
  - .1 Fire dampers.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections
.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 References
.1 National Fire Protection Association (NFPA)
.1 NFPA (Fire) 90A, Standard for the Installation of Air Conditioning and Ventilating Systems, 2015 Edition.

.2 Underwriters Laboratories of Canada (ULC)
.1 CAN/ULC S112-10, Standard Test Method of Fire Test of Fire Damper Assemblies.

1.3 Action and Informational Submittals
.1 Submit in accordance with Section 21 05 01 - Mechanical General Requirements.

1.4 Closeout Requirements. Submittals
.1 Submit in accordance with Section 21 05 01 - Mechanical General

## PART 2 - PRODUCTS

2.1 Fire Dampers
.1 Fire dampers: arrangement Type B, listed and bear label of ULC, meet requirements of NFPA (Fire) 90A and authorities having jurisdiction. Fire damper assemblies fire tested in accordance with CAN/ULC S112.

.2 Mild steel, factory fabricated for fire rating requirement to maintain integrity of fire wall and/or fire separation.
.1 Fire dampers: 1-1/2 hour fire rated unless otherwise indicated.

.3 Top hinged: offset single damper, round or square; interlocking type; sized to maintain full duct cross section as indicated.

.4 Fusible link actuated, weighted to close and lock in closed position when released.

.5 40 x 40 x 3 mm retaining angle iron frame, on full perimeter of fire damper, on both sides of fire separation being pierced.

.6 Equip fire dampers with steel sleeve or frame installed disruption ductwork or impair damper operation.

.7 Equip sleeves or frames with perimeter mounting angles attached on both sides of wall or floor opening. Construct ductwork in fire-rated floor-ceiling or roof-ceiling assembly systems with air ducts that pierce ceiling to conform with ULC.

2.1 Fire Dampers (Cont'd)

.8 Design and construct dampers to not reduce duct or air transfer opening cross-sectional area.

.9 Dampers shall be installed so that the centerline of the damper depth or thickness is located in the centerline of the wall, partition of floor slab depth or thickness.

.10 The installation details given in manufacturer's instructions for fire dampers shall be followed.

## PART 3 - EXECUTION

3.1 Installation

.1 Install in accordance with NFPA 90A and in accordance with conditions of ULC listing.

.2 Maintain integrity of fire separation.

.3 After completion and prior to concealment obtain approvals of complete installation from authority having jurisdiction.

.4 Install access door adjacent to each damper. See Section 23 33 00 - Air Duct Accessories.

.5 Co-ordinate with installer of fire stopping.

.6 Ensure access doors/panels, fusible links, damper operators are easily observed and accessible.

.7 Install break-away joints of approved design on each side of fire separation.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections

.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 References

.1 National Fire Protection Association (NFPA)
- .1 NFPA (Fire) 90A, Installation of Air Conditioning and Ventilating Systems, 2012 Edition.
- .2 NFPA (Fire) 90B, Installation of Warm Air Heating and Air Conditioning Systems, 2012 Edition.

.2 Underwriters Laboratories of Canada (ULC)
- .1 CAN/ULC S110-13, Tests for Air Ducts.

.3 Underwriters Laboratories (UL)
- .1 UL 181, Factory Made Air Ducts and Connectors.

.4 SMACNA HVAC Duct Construction Standards - Metal and Flexible, 3rd edition.

1.3 Product Data

.1 Submit product data in accordance with Section 21 05 01 - Mechanical General Requirements.

.2 Indicate the following:
- .1 Thermal properties.
- .2 Friction loss.
- .3 Acoustical loss.
- .4 Leakage.
- .5 Fire rating.

1.4 Certification by of Ratings

.1 Catalogue or published ratings shall be those obtained from tests carried out manufacturer or independent testing agency signifying adherence to codes and standards.

## PART 2 - PRODUCTS

2.1 General .1 Factory fabricated to CAN/ULC S110.

.2 Pressure drop coefficients listed below are based on relative sheet metal duct pressure drop coefficient of 1.00.

.3 Flame spread rating not to exceed 25. Smoke developed rating not to exceed 50.

2.2 Metallic - joints. Uninsulated .1 Type 2: spiral wound flexible aluminum with triple lock mechanical

.2 Performance:
- .1 Factory tested to 2.5 kPa without leakage.
- .2 Maximum relative pressure drop coefficient: 3.

## PART 3 - EXECUTION

3.1 Duct 90A, Installation .1 Install in accordance with: CAN/ULC S110, UL 181 Amendment 1, NFPA (Fire) NFPA (Fire) 90B and SMACNA.

.2 Maximum length of flexible duct: 1500 mm (5 feet).

3.2 Application .1 Branch ductwork to diffuser where concealed.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections
.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 References
.1 American Society for Testing and Materials (ASTM)
- .1 ASTM C177-10, Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.

.2 National Fire Protection Association (NFPA)
- .1 NFPA (Fire) 90A, Installation of Air Conditioning and Ventilating Systems, 2012 Edition.
- .2 NFPA (Fire) 90B, Installation of Warm Air Heating and Air Conditioning Systems, 2012 Edition.

.3 Underwriters Laboratories of Canada (ULC)
- .1 CAN/ULC S102-10, Surface Burning Characteristics of Building Materials and Assemblies.

1.3 Product Data
.1 Submit product data in accordance with Section 21 05 01 - Mechanical General Requirements.

## PART 2 - PRODUCTS

2.1 Duct Liner
.1 General:
- .1 Fibrous glass or "textile" fibrous glass duct liner: air stream side faced with mat facing.
- .2 Flame spread rating shall not exceed 25. Smoke development rating shall not exceed 50 when tested in accordance with CAN/ULC-S102.

.2 Rigid:
- .1 Use on flat surfaces where indicated.
- .2 25 mm (1") thick, fibrous glass rigid board duct liner.
- .3 Density: 36 kg/$m^3$ minimum.
- .4 Thermal resistance to be minimum 0.76 $m^2$.°C/W for 25 mm thickness when tested in accordance with ASTM C177, at 24°C mean temperature.

2.2 Fasteners
.1 Weld pins 2.0 mm diameter, length to suit thickness of insulation. Metal retaining clips, 32 mm square.

2.3 Joint Tape .1 Poly-Vinyl treated open weave fiberglass membrane 50 mm wide.

2.4 Sealer .1 Meet requirements of NFPA (Fire) 90A and NFPA (Fire) 90B.

.2 Flame spread rating shall not exceed 25. Smoke development rating shall not exceed 50. Temperature range minus 68°C to plus 93°C.

## PART 3 - EXECUTION

3.1 General .1 Do work in accordance with recommendations of SMACNA duct liner standards as indicated in SMACNA HVAC Duct Construction Standards, Metal and Flexible, except as specified otherwise.

.2 Line inside of ducts where indicated.

.3 Duct dimensions, as indicated, are clear inside duct lining.

3.2 Duct Liner .1 Install in accordance with manufacturer's recommendations, and as follows:
.1 Fasten to interior sheet metal surface with 100% coverage of adhesive.
.2 In addition to adhesive, install weld pins not less than 2 rows per surface and not more than 425 mm on centres.

3.3 Joints .1 Seal all butt joints, exposed edges, weld pin and clip penetrations and all damaged areas of liner with joint tape and sealer. Install joint tape in accordance with manufacturer's recommendations, and as follows:
.1 Bed tape in sealer.
.2 Apply 2 coats of sealer over tape.

.2 Replace badly damaged areas of liner at discretion of Engineer.

.3 Protect leading and trailing edges of each duct section with sheet metal nosing having 25 mm overlap and fastened to duct.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections

.1 This section shall be read in conjunction with specification Section 21 05 01 - Mechanical General Requirements, all mechanical sections, and all other disciplines related to the project.

1.2 Product Data

.1 Submit product data in accordance with Section 21 05 01 - Mechanical General Requirements.

.2 Indicate the following:
- .1 Capacity.
- .2 Throw and terminal velocity.
- .3 Noise criteria.
- .4 Pressure drop.
- .5 Neck velocity.

1.3 Maintenance Materials

.1 Provide maintenance materials in accordance with Section 21 05 01 - Mechanical General Requirements.

.2 Include:
- .1 Keys for volume control adjustment.
- .2 Keys for air flow pattern adjustment.

1.4 Manufactured manufacturer. Items

.1 Grilles, registers and diffusers of same generic type to be product of one

1.5 Certification by of Ratings

.1 Catalogued or published ratings shall be those obtained from tests carried out manufacturer or those ordered by him from independent testing agency signifying adherence to codes and standards.

## PART 2 - PRODUCTS

2.1 General

.1 To meet capacity, pressure drop, terminal velocity, throw, noise level, neck velocity as indicated.

.2 Frames:
- .1 Full perimeter gaskets.
- .2 Plaster frames where set into plaster or gypsum board and as specified.
- .3 Concealed fasteners.

.3 Concealed operators.

2.2 Supply Diffusers

.1 Type SD1: steel, square diffuser with adjustable pattern 600 mm x 600 mm, T-bar mounting as indicated, off-white.

2.3 Return and Exhaust Grilles and Registers

.1 Type RG1: aluminum, 13 mm x 13 mm egg crate type face bars, baked white enamel finish, ducted where indicated, T-bar mounted. Size 600 mm x 200 mm unless otherwise indicated.

## PART 3 - EXECUTION

3.1 Installation

.1 Install in accordance with manufacturers instructions.

.2 Install with flat head cadmium plated screws in countersunk holes where fastenings are visible.

- END OF SECTION -

1.1 General

.1 Inspection authorities shall mean Electrical Safety Authority.

.2 Supply authority shall mean Hydro Ottawa.

.3 Provide shall mean supply, install, test and commission.

.4 Refer to General Instructions, Contract Requirements, Amendments and Divisions 00 & 01 and be governed by same.

1.2 Codes and Standards

.1 Provide complete installation in accordance with the latest edition of the National Electrical Safety Code and Electrical Bulletins.

.2 Comply with the following additional codes as a minimum:
- .1 CSA Standards.
- .2 ULC Standards.
- .3 National Building Code - Latest Edition.
- .4 Fire Code.
- .5 NFPA.

1.3 Care, Operation and Start-up

.1 Instruct operating personnel in the operation, care and maintenance of equipment.

.2 Arrange and pay for services of manufacturer's factory service engineer to supervise start-up of installation, check, adjust, balance and calibrate components.

.3 Provide these services for such period, and for as many visits as necessary to put equipment in operation, and ensure that operating personnel are conversant with all aspects of its care and operation.

1.4 Time of Completion

.1 Commence work upon notification of acceptance of offer, or as outlined in the approved construction schedule.

.2 Verify equipment delivery times immediately and notify Departmental Representative within two (2) weeks of contract award of any deliveries which would affect schedule.

1.5 Shop Drawings

.1 Submit single electronic format (pdf) of shop drawings and product data along with transmittal. Hard copy shop drawings shall not be accepted.

.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.

1.5 Shop Drawings (Cont'd)

.4 Shop drawings shall clearly indicate:
- .1 Name of Contractor.
- .2 Name of component.
- .3 Name of service or system.
- .4 Contractors signed review stamp.

.5 Shop drawings shall include, but is not limited to, the following information:
- .1 Arrangement of specific system.
- .2 Electrical characteristics, volts, phase, amps, etc.
- .3 Dimensions of equipment and required clearances.
- .4 Performance data.
- .5 Finish.
- .6 Gauge of materials.
- .7 Wiring diagrams (where applicable).
- .8 Product data (where applicable).

.6 Review relevant shop drawings of other Divisions to ensure interface of systems with respect to wiring, voltages, ampacities, phases, size, controls, etc. Notify Departmental Representative of any discrepancies immediately.

.7 Provide shop drawings for the equipment listed below and/or as indicated in this specification:
- .1 Light fixtures.
- .2 Fire alarm.

1.6 Fire & Safety Requirements

.1 Comply with National Building Code (Part 8, Health and Safety Measures at Construction and Demolition Sites) and Provincial Regulations for Construction Projects.

1.7 Existing Services

.1 Existing services required for work may be used by the Contractor with the Owners written consent. Ensure capacity is adequate prior to imposing additional loads. Connect and disconnect at own expense and responsibility.

.2 Notify the Owner a minimum of 72 hours in advance of intended interruption of services; obtain requisite permissions.

.3 Keep duration of these interruptions to a minimum. Carry out all interruptions after normal working hours of the occupants, preferably on weekends or as approved by the Owner in writing.

.4 Any unscheduled disruption to services to be immediately reinstated.

.5 Existing fire alarm and security systems are to remain fully functional, throughout, provide conduit and wire as required to maintain services during construction.

1.8 Demolition

.1 Unless otherwise specified, materials for removal become the Contractor's property and shall be taken from site, and disposed of in accordance with all applicable codes, standards and regulations.

1.8 Demolition (Cont'd)

.2 Existing lighting ballasts may contain P.C.B.'s. Contact the local Ministry of Environment (M.O.E.) office for confirmation of ballasts containing P.C.B. material. Submit written confirmation from M.O.E. verifying the presence or non-presence of P.C.B.'s. If P.C.B.'s are found to be present, provide removal of ballasts from light fixtures and place in approved 45 gallon drums for storage on site. Handle P.C.B. contaminated equipment in accordance with codes, standards and guidelines.

.3 Disconnect and make safe all systems to be demolished by other Divisions. Refer to other Divisions for extent.

.4 Maintain existing remaining circuits, systems, etc., which pass through construction/demolition areas. Provide additional wire and conduit as required to maintain systems. Additional wire and conduit to be concealed when construction is complete.

.5 Reinstate immediately, any existing remaining systems, inadvertently interrupted during construction or demolition.

.6 Remove all redundant wiring and conduit in ceiling spaces, (power, communications, systems, etc.).

1.9 Protection

.1 Protect access areas through existing building (lobby, elevator, corridor stairwell, etc.) from damage. Clean area daily or more frequently if directed by Departmental Representative.

.2 Protect exterior areas (roof, walls, etc.) against damage during handling of new and removed materials.

.3 Repair and make good all damaged equipment, etc. to satisfaction of the Departmental Representative.

.4 Protect stored materials, work in process and finished work against damage until take-over.

.5 Protect adjacent areas against spread of dust and dirt beyond work areas.

.6 Protect operatives and other users of site from all hazards.

1.10 Powder Actuated Fastening (Use Devices

.1 Do not use powder actuated tools using explosives, unless permitted expressly by the Departmental Representative and if so, comply with requirement of CAN3-Z166.2 and Handling of Powder Actuated Tools).

1.11 Use of Site premises. and Facilities

.1 Execute work with least possible interference or disturbance to normal use of Make arrangements with Building Owner to facilitate work as stated.

.2 Particular attention shall be given to minimizing dust, noise and other forms of contamination from occupied areas.

.3 Maintain existing services to building and provide for personnel and vehicle access.

1.11 Use of Site and Facilities (Cont'd)

.4 Where security is reduced by work, provide temporary means to maintain security.

1.12 Cutting, Patching & Making Good

.1 Provide cutting & patching of 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 Departmental Representative's approval. Match existing material, colour, finish and texture or as indicated otherwise.

.4 Provide dust tight screens or partitions to localize dust generating activities and for protection of finished areas of work, workers and public.

.5 Scan slabs before coring or drilling deeper than 25 mm. Provide all required notification, clearance & protection for scanning process. Adjust coring & drilling locations as necessary to avoid rebar & conduits.

1.13 Examination

.1 Examine site and conditions which will affect the work. Submission of tender shall be deemed as confirmation that tenderer has inspected site and is conversant with conditions, and shall not constitute additional costs as a result of site conditions.

.2 Verify existing conditions including but not limited to, structural elements, roof drains and storm sewer piping, electrical conduit and wiring, process utility piping, ductwork and other building services.

.3 The fact that not all existing conditions discussed in Item .2 above are shown on the drawings does not relieve the responsibility of coordinating the work with the existing construction.

1.14 Co-ordination

.1 Co-ordinate the work with all other Divisions, especially Divisions 21 & 23, to ensure systems compatibility, and to ensure schedules and requirements are maintained.

.2 Where perceived interferences occur, prepare detailed sketches indicating proposed solution for review and acceptance by Departmental Representative.

1.15 Operating and Maintenance Instructions Manual

.1 Submit electronic format (pdf) copy of draft Operation and Maintenance Manual to Departmental Representative for approval, compiled as follows:

.1 Enclose title sheet labelled "Operating and Maintenance Instructions", project name, date and list of contents. Project name must appear on binder face and spine.

.2 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.

1.15 Operating and Maintenance Instructions Manual (Cont'd)

.2 Include following information plus data specified.
- .1 Installation and maintenance instructions for equipment and materials.
- .2 Description: Operation of the equipment and systems defining start-up, shut-down and emergency procedures, and any fixed or adjustable set points that affects the equipment operation. Include nameplate information such as make, size, capacity and serial number.
- .3 Maintenance: Use clear drawings, diagrams or manufacturers' literature which specifically apply and detail the following:
  - .1 Lubrication products and schedules.
  - .2 Trouble-shooting procedures.
  - .3 Adjustment techniques.
  - .4 Operational checks. Suppliers names, addresses and telephone numbers and components supplied by them must be included in this section. Components must be identified by a description and manufacturer's part number.

.3 Spare Parts: List all recommended spares to be maintained on site to ensure optimum efficiency. List all special tools appropriate unique application. All parts/tools detailed must be identified as to manufacturer, manufacturer part number and supplier (including address).

.4 Include shop drawings, operation and maintenance instructions (bound as one) in accordance with the above for all equipment specified.

.5 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

.6 Within four (4) weeks of acceptance of draft manuals, submit four (4) copies.

.7 Include appropriate wiring diagrams, schematics, elevations, mounting requirements, options included, etc. as it pertains to each system and/or device.

.8 Information in manuals is to be specific to this project. Generic information is unacceptable.

1.16 As-built Drawings

.1 Site records:
- .1 Electrical sub-contractor shall mark all changes as work progresses and as changes occur.
- .2 On a weekly basis, transfer information to record set of documents, revising to show all work as actually installed.
- .3 Use different colour waterproof ink for each service.
- .4 Make available for reference purposes and inspection at all times.

.2 As-built drawings:
- .1 Identify each drawing in lower right hand corner in letters at least 12 mm high as follows: - "AS BUILT DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW ELECTRICAL SYSTEMS AS INSTALLED" (Signature of Contractor) (date).

1.17 Guarantees and and Warranties

.1 Before completion of work, collect all manufacturer's guarantees and warranties submit to the Departmental Representative.

.2 Identify, bind and index material in maintenance manuals.

.3 Division 26's Contractor to submit a written, signed guarantee stating that all systems and components have been installed to manufacturers recommendations and that systems are operating satisfactorily and meet the design requirements, and all material and labour deficiencies will be corrected, at no cost, for a period of one year after substantial completion.

1.18 Final Inspection

.1 Do not request final inspection until:
- .1 Deficiencies are less than 25 items.
- .2 All systems have been tested and are ready for operation.
- .3 All balancing of loads has been completed.
- .4 The Owner's operating personnel have been instructed in the operation of all systems and equipment.
- .5 The complete operation and maintenance data books have been delivered to the Departmental Representative.
- .6 All inspection certificates have been furnished.
- .7 All record drawings have been completed and approved.
- .8 All spare parts and replacement parts have been provided and receipt of same acknowledged.
- .9 The cleaning up is finished in all respects.
- .10 Fire alarm verification certificates submitted.

.2 Final inspection shall be subjected to the approval of the Departmental Representative.

1.19 Clean Up

.1 Clean-up work area as work progresses.

.2 At the end of each work period, and more often if ordered by the Departmental Representative, remove debris from site.

.3 Clean areas under contract to a condition at least equal to that previously existing and to approval of Departmental Representative.

.4 Provide cleaning of light fixture reflectors, lamps and lenses, vacuum panelboards, cabinets switchgear, etc., upon completion of contract, to Departmental Representative's satisfaction.

1.20 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.

.2 The contract documents are intended to describe complete fully functional systems although not all components are indicated. Division 26 shall provide all required conduits, wiring, equipment, etc. to provide fully functional systems which meet the design intent.

1.20 Contract Documents (Cont'd)

.3 Discrepancies in the design documents, or doubt as to the full intent of the design shall be brought to the Departmental Representative's attention prior to tender close. Failure to do this means that the Contractor is fully aware and shall be responsible of design intent and requirements and shall provide fully functional and coordinated systems.

1.21 Project Schedule

.1 On award of contract and upon Departmental Representative 's request, submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion.

.2 All building operations must be maintained during all phases of construction.

.3 All plant shutdowns causing interruption of services to the building occupants will be scheduled for unoccupied hours (nights or weekends) as approved by the Owner and Departmental Representative. Provide minimum of 72 hours notice.

.4 When schedule has been reviewed by the Owner and Departmental Representative, take necessary measures to complete work within scheduled time. Any change of schedule must be authorized by Owner and the Departmental Representative.

1.22 Cost Breakdown

.1 Within one (1) week of award of contract, submit breakdown of costs as separate amounts of labour, materials, etc. of each system. Break down electrical systems generally as follows:

.1 Start-up.
.2 Permits and inspections.
.3 Branch circuit roughing.
.4 Wiring devices.
.5 Lighting:
  .1 Interior.
  .2 Exit Lights.
.6 Fire alarm.
.7 Testing, commissioning and job cleanup. (Generally 1.5 to 3% of total cost). Indicate material & labour costs separately for each item.

.2 After acceptance by Departmental Representative, cost breakdown will be used as the basis of progress payments.

1.23 Permits, Fees of and Inspection

.1 Submit to Electrical Inspection Department and Supply Authority necessary number drawings and specifications for examination and approval prior to commencement of work.

.2 Pay associated fees.

.3 Notify Departmental Representative of changes required by Electrical Inspection Department prior to making changes.

.4 Furnish Certificates of Acceptance from Electrical Inspection Department and authorities having jurisdiction on completion of work to Departmental Representative and include in manuals. Final payment will not be made until certificates have been submitted.

1.24 Materials and Equipment

.1 Equipment and material to be new CSA certified. Where there is no alternative to supplying equipment which is not CSA certified, obtain special approval from Electrical Inspection Department.

.2 Factory assemble control panels and component assemblies.

1.25 Trade Qualifications

.1 The work shall be carried out by licensed electricians with minimum five years experience who hold Ontario Certificates of Qualifications, and current contractors license.

.2 Installation methods and materials to be of strictest quality, and conform to Canadian General Standards Board, Canadian Standards Association, National Building Code and all Local and Provincial Codes and Standards. Discrepancy in Codes to mean strictest rule applies.

.3 The ratio of Journeymen to Apprentices shall not exceed the ratio in the Trade Qualifications and Apprenticeship Act of Ontario.

1.26 Finishes

.1 Shop finish metal enclosure surfaces by application of rust resistant primer inside and outside, and at least two coats of finish enamel.
- .1 Paint outdoor electrical equipment "equipment green" finish to EEMAC Y1-1.
- .2 Paint indoor switchgear and distribution enclosures light grey to EEMAC 2Y-1.

.2 Clean and touch up surfaces of shop-painted equipment scratched or marred during shipment or installation, to match original paint.

.3 Clean and prime exposed non-galvanized hangers, racks and fastenings to prevent rusting.

1.27 Equipment follows: Identification

.1 Identify electrical equipment with nameplates as

- .1 Nameplates:
  - .1 Lamicoid 3 mm thick plastic engraving sheet, black face, white core, mechanically attached with self tapping screws.

NAMEPLATE SIZES

| | | | |
|---|---|---|---|
| Size 6 | 25 x 100 mm | 1 line | 12 mm high letters |
| Size 7 | 25 x 100 mm | 2 lines | 6 mm high letters |

- .2 Labels:
  - .1 Electronically printed, self-adhesive plastic labels with 6 mm high letters unless specified otherwise.
- .3 Wording on nameplates to be as indicated c/w volts, phase, amps, HP, etc.
- .4 Allow for average of twenty-five (25) letters per nameplate.
- .5 Identification to be English and French.
- .6 Nameplates for terminal cabinets and junction boxes to indicate system and/or voltage characteristics.
- .7 Disconnects, starters and contactors: indicate equipment being controlled and voltage, Size 7.
- .8 Terminal cabinets and pull boxes: indicate system and voltage, Size 7.
- .9 Provide typed circuit directory for each panelboard.

1.27 Equipment Identification (Cont'd)

.1 (Cont'd)

.10 Identify all receptacle outlets by panel, circuit number and voltage, with Brother P-Touch labeller.

.11 Provide system, circuit, voltage, phase, etc., on all ceiling space junction box covers, red for fire alarm & emergency circuits, black for others.

.12 All circuit protective devices to be c/w a lamacoid label mounted inside door of device listing all fuse type and ratings, circuit breaker settings and minimum interrupting ratings.

1.28 Wiring Identification

.1 Identify wiring with permanent indelible identifying markings, either numbered or coloured plastic tapes, on both ends of phase conductors of feeders and branch circuit wiring.

.2 Maintain phase sequence and colour coding throughout.

.3 Colour code: to CSA C22.1.

.4 Use colour coded wires in communication cables, matched throughout system.

1.29 Conduit and Cable Identification

.1 Colour code conduits, boxes and metallic sheathed cables.

.2 Code with plastic tape or paint at points where conduit or cable enters wall, ceiling, or floor, and at 15 m intervals.

.3 Colours: 25 mm wide prime colour and 20 mm wide auxiliary colour.

| | Prime | Auxiliary |
|---|---|---|
| up to 250 V | blue | |
| Fire alarm | red | |
| Emergency power | red | |

1.30 Wiring Terminations

.1 Lugs, terminals, screws used for termination of wiring to be suitable for either copper or aluminum conductors.

1.31 Manufacturers and CSA Labels

.1 Visible and legible after equipment is installed.

1.32 Warning Signs

.1 As specified and to meet requirements of Electrical Inspection Department and Departmental Representative.

.2 Porcelain enamel signs, minimum size 175 x 250 mm.

1.33 Location of Outlets

.1 Locate outlets as indicated.

.2 Do not install outlets back-to-back in wall; allow minimum 150 mm horizontal clearance between boxes.

.3 Change location of outlets at no extra cost or credit, providing distance does not exceed 3000 mm, and information is given before installation.

.4 Locate light switches on latch side of doors.

1.34 Mounting Heights

.1 Mounting height of equipment is from finished floor to centreline of equipment unless specified or indicated otherwise.

.2 If mounting height of equipment is not specified or indicated, verify before proceeding with installation.

.3 Install electrical equipment at following heights unless indicated otherwise.

.1 Local switches: 1200 mm.
.2 Wall receptacles:
  .1 General: 400 mm.
  .2 Above top of counters or counter back splashes: 175 mm.
.3 Telephone and interphone outlets: 400 mm.
.4 Fire alarm bells: 2100 mm.
.5 Thermostats: 1200 mm.

1.35 Load Balance

.1 Measure phase current to panelboards with normal loads operating. Do tests after space is fully occupied and operational. Adjust branch circuit connections as required to obtain best balance of current between phases and record changes.

.2 Measure phase voltages at loads and adjust transformer taps to within 2% of rated voltage of equipment, after space is fully occupied and operational.

.3 Submit, at completion of work, report listing phase and neutral currents on panelboards, dry-core transformers and motor control centres, operating under normal load. State hour and date on which each load was measured, and voltage at time of test.

1.36 Conduit and concrete: Cable Installation

.1 Install conduit and sleeves prior to pouring of concrete. Sleeves through plastic, sized for free passage of conduit, and protruding 50 mm.

.2 If plastic sleeves are used in fire rated walls or floors, remove before conduit installation.

.3 Install cables, conduits and fittings to be embedded or plastered over, neatly and close to building structure so furring can be kept to minimum.

.4 Provide all required accessories, inserts, hangers, toggle bolts, support channels, anchors etc. as required to complete systems.

1.37 Field Quality Control

.1 Conduct and pay for following tests:
- .1 Circuits originating from branch distribution panels.
- .2 Lighting and its control.
- .3 Systems: fire alarm system.

.2 Furnish manufacturer's certificate or letter confirming that entire installation as it pertains to each system has been installed to manufacturer's instructions.

.3 Insulation resistance testing.
- .1 Megger circuits, feeders and equipment up to 350 V with a 500 V instrument.
- .2 Check resistance to ground before energizing.

.4 Carry out tests in presence of Departmental Representative.

.5 Provide instruments, meters, equipment and personnel required to conduct tests during and at conclusion of project.

.6 Submit test results for Departmental Representative's review.

1.38 Co-ordination of Protective Devices

.1 Ensure circuit protective devices such as overcurrent trips, relays and fuses are installed to values and settings, as per approved coordination study.

1.39 Fire and Smoke Stopping

.1 Provide fire and smoke stopping where conduits, cables, trays, etc., penetrate floor slabs or fire rated walls with an approved ULC listed putty.

.2 Installation of fire stops by trained manufacturers representative.

1.40 Related Work

.1 Painting - Division 09.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections .1 This section shall be read in conjunction with specification Section 26 05 00 - Electrical General Requirements, all electrical sections, and all other disciplines related to the project.

1.2 Definitions .1 SRS: acronym for Seismic Restraint System.

1.3 General systems, Description .1 This section covers design, supply and installation of complete SRS for all equipment specified for installation on this project by Division 26. This includes, but is not limited to, electrical light fixtures, conduit, communications, electrical equipment and systems, both vibration isolated and statically supported.

.2 Cable restraint systems, rod stiffener clamps and seismic isolator capacities to be verified by an independent test laboratory. Connection materials and site specific designs to be by the Seismic Engineer. The Seismic Engineer may specify material and anchors provided by the contractor where this is appropriate. It is the contractors' responsibility to ensure that the Seismic Engineers' requirements and specification have been met.

1.4 References .1 Canadian Standards Association (CSA)
.1 CSA S832-06(R2011), Seismic Risk Reduction of Operational and Functional Components (OFCs) of Buildings.

.2 National Research Council Canada
.1 NRCC NBCC-2010, National Building Code of Canada 2010.

1.5 Submittals .1 Submit shop drawings and product data in accordance with Section 26 05 00 - Electrical General Requirements.

.2 Submit seismic restraint shop drawings, c/w seal of Professional Engineer, clearly identifying equipment/systems reviewed and the equipment/systems requiring restraint. Shop drawings must clearly show all forces transferred to structure.

.3 Seismic Design Engineer shall provide a spreadsheet identifying all equipment and systems requiring or not requiring seismic restraints and include all circulations.

.4 Submit additional copy of shop drawings and product data to project Structural Engineer for review of connection points to building structure.

1.6 Maintenance Data .1 Provide maintenance data including monitoring requirements for incorporation into manuals specified in Section 26 05 00 - Electrical General Requirements.

1.7 Seismic Force .1 The Importance Factor for this project is:
.1 I = 1.0 - All other buildings i.e.: Office & General Buildings.

Note: As per NBCC.

## PART 2 - PRODUCTS

2.1 SRS Manufacturer .1 SRS to be from one manufacturer regularly engaged in production of same, 5 years experience.

2.2 General .1 Design to be by Professional Engineer specializing in design of SRS. Division 26 to include all costs associated with this work as it relates to Division 26 installations.

.2 SRS to be fully integrated into, compatible with:
.1 Noise and vibration controls specified elsewhere in this project specification, telecommunications.
.2 Structural, mechanical, electrical design of project.

.3 During seismic event, SRS to prevent systems and equipment from causing personal injury, interfering with other systems, and from moving from normal position.

.4 Design and installation in accordance with NBCC, CSA S832.

.5 SRS to provide gentle and steady cushioning action and avoid high impact loads

.6 SRS to restrain seismic forces in all directions.

.7 Fasteners and attachment points to resist same load as seismic restraints.

.8 SRS of conduit systems to be compatible with:
.1 Expansion, anchoring and guiding requirements.
.2 Equipment vibration isolation and equipment SRS.

.9 SRS utilizing cast iron, threaded pipe, other brittle materials not permitted.

.10 Attachments to RC structure:
.1 Use high strength mechanical expansion anchors.
.2 Drilled or power driven anchors not permitted.

.11 Seismic control measures not to interfere with integrity of firestopping.

2.3 SRS for Static Equipment, Systems

.1 Floor-mounted equipment, systems:
- .1 Anchor equipment to equipment supports.
- .2 Anchor equipment supports to structure.
- .3 Use size of bolts scheduled in approved shop drawings.

.2 Suspended equipment, systems:
- .1 Use one or combination of following methods:
  - .1 Install tight to structure.
  - .2 Cross-brace in all directions.
  - .3 Brace back to structure.
  - .4 Slack cable restraint system.
- .2 SRS to prevent sway in horizontal plane, "rocking" in vertical plane, sliding and buckling in axial direction.
- .3 Hanger rods to withstand compressive loading and buckling.

2.4 SRS for Vibration methods: Isolated Equipment

.1 Floor mounted equipment, systems:
- .1 Use one or combination of following
  - .1 Vibration isolators with built-in snubbers.
  - .2 Vibration isolators and separate snubbers.
  - .3 Built-up snubber system approved by Departmental Representative, consisting of structural elements and elastomeric layer.
- .2 SRS to resist complete isolator unloading.
- .3 SRS not to jeopardize noise and vibration isolation systems. Provide 4-8 mm clearance between seismic restraint snubbers and equipment during normal operation of equipment and systems.
- .4 Cushioning action to be gentle and steady by utilizing elastomeric material or other means in order to avoid high impact loads.

.2 Suspended equipment, systems:
- .1 Use one or combination of following methods:
  - .1 Slack cable restraint system.
  - .2 Brace back to structure via vibration isolators and snubbers.

## PART 3 - EXECUTION

3.1 Installation

.1 Install Seismic Restraint Systems in accordance with Seismic Engineer's and manufacturer's recommendations.

.2 Install SRS at least 25 mm from all other equipment, systems, services.

.3 Co-ordinate connections with all disciplines.

3.2 Inspection and installation. Certification

.1 SRS to be inspected and certified by Manufacturer upon completion of

.2 Seismic Design Engineer shall provide written report to Departmental Representative certifying that SRS has been installed in accordance with the SRS drawings. The report shall bear the seal and signature of the SRS Design Engineer.

| | | |
|---|---|---|
| 3.3 Commissioning Documentation | .1 | Upon completion and acceptance of certification, hand over to Departmental Representative complete set of construction documents, revised to show "as-built" conditions. |

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections
.1 This section shall be read in conjunction with specification Section 26 05 00 - Electrical General Requirements, all electrical sections, and all other disciplines related to the project.

1.2 Location of Conduit
.1 Drawings do not indicate all conduit runs. Those indicated are in diagrammatic form only.

.2 Conduit to be concealed.

1.3 References
.1 Canadian Standards Association (CSA)
- .1 CSA C22.1HB-12, CE Code Handbook, an Explanation of Rules of the Canadian Electrical Code, Part 1.
- .2 CAN/CSA C22.2 No. 65-13, Wire Connectors.

## PART 2 - PRODUCTS

2.1 Conduits
.1 Electrical metallic tubing EMT, with steel set screw couplings and connectors.

2.2 Conduit Fastenings
.1 One hole steel straps to secure surface conduits 50 mm and smaller. Two hole steel straps for conduits larger than 50 mm.

.2 Beam clamps to secure conduits to exposed steel work.

.3 Channel type supports for two or more conduits at 1.5 m oc.

.4 Six mm dia threaded rods to support suspended channels.

2.3 Conduit conduit. Fittings
.1 Fittings: manufactured for use with conduit specified. Coating: same as

.2 Factory "ells" where 90° bends are required for 25 mm and larger conduits.

2.4 Expansion Fittings for Rigid directions. Conduit
.1 Watertight expansion fittings with integral bonding jumper suitable for linear expansion and 19 mm deflection in all

2.5 Fish Cord .1 Polypropylene.

2.6 Building Wires .1 Conductors: stranded for 10 AWG and larger. Minimum size: 12 AWG (including ground wires).

.2 Copper conductors: size as indicated, with 1000 V insulation of chemically cross-linked thermosetting polyethylene material rated RW90. RWU-90 for buried services.

2.7 Armoured Cables .1 Conductors: insulated, copper, size as indicated.

.2 Type: AC90 XLPE insulation, 600 V rated.

.3 Armour: interlocking type fabricated from aluminum.

2.8 Fixture Wire .1 Use type GTF for installation in lighting fixtures.

2.9 Outlet and Conduit Boxes General .1 Size boxes in accordance with CSA C22.2.1HB.

.2 100 mm square or larger outlet boxes as required for special devices.

.3 Gang boxes where wiring devices are grouped.

.4 Blank cover plates for boxes without wiring devices.

.5 120 V outlet boxes for 120 V switching devices.

.6 Combination boxes with barriers where outlets for more than one system are grouped.

2.10 Sheet Steel Outlet Boxes .1 Electro-galvanized steel single and multi gang flush device boxes for flush installation, minimum size 76 x 50 x 38 mm or as indicated. 102 mm square outlet boxes when more than one conduit enters one side with extension and plaster rings as required.

.2 102 mm square or octagonal outlet boxes for lighting fixture outlets.

.3 102 mm square outlet boxes with extension and plaster rings for flush mounting devices in finished plaster or tile walls.

2.11 Floor Boxes .1 Concrete tight electro-galvanized sheet steel floor boxes with adjustable finishing rings to suit floor finish with brass faceplate. Device mounting plate to accommodate short or long ear duplex receptacles. Minimum depth: 28 mm for receptacles; 73 mm for communication equipment.

2.12 Conduit Boxes .1 Cast FS boxes with factory-threaded hubs and mounting feet for surface wiring of all devices.

2.13 Box Fittings-General .1 Bushing and connectors with nylon insulated throats.

.2 Knock-out fillers to prevent entry of debris.

.3 Conduit outlet bodies for conduit up to 32 mm and pull boxes for larger conduits.

.4 Double locknuts and insulated bushings on sheet metal boxes.

2.14 Wire and Box Connectors .1 Pressure type wire connectors: with current carrying parts of copper sized to fit copper conductors as required.

.2 Bushing stud connectors: to EEMAC 1Y-2 to consist of:
.1 Connector body and stud clamp for stranded copper conductors.

.3 Clamps or connectors for armoured cable as required.

2.15 Support suspended. Channels .1 U shape, size 41 x 41 mm, 2.5 mm thick, surface mounted or

## PART 3 - EXECUTION

3.1 Installation .1 Conduit Systems
.1 Install conduits to conserve headroom in exposed locations and cause minimum interference in spaces through which they pass.
.2 Conceal conduits except in mechanical and electrical service rooms.
.3 Use electrical metallic tubing EMT except in where indicated or specified elsewhere.
.4 Use liquid tight flexible metal conduit for connection to motors which may vibrate or must be moved for servicing.
.5 Install conduit sealing fittings in hazardous areas. Fill with compound.
.6 Minimum conduit size 21 mm.
.7 Bend conduit cold. Replace conduit if kinked or flattened more than 1/10th of its original diameter.
.8 Mechanically bend steel conduit over 21 mm dia.
.9 Field threads on rigid conduit must be of sufficient length to draw conduits up tight.
.10 Install fish cord in empty conduits.
.11 Where conduits become blocked, remove and replace blocked section. Do not use liquids to clean out conduits.
.12 Dry conduits out before installing wire.
.13 Run parallel or perpendicular to building lines.
.14 Locate conduits behind infrared or gas fired heaters with 1.5 m clearance.
.15 Run conduits in flanged portion of structural steel.

3.1 Installation (Cont'd)

.1 (Cont'd)
- .16 Group conduits wherever possible on channels.
- .17 Do not pass conduits through structural members except as indicated.
- .18 Do not locate conduits less than 75 mm parallel to steam or hot water lines with minimum of 25 mm at crossovers.
- .19 Do not install horizontal conduits runs in masonry walls.
- .20 Do not install conduits in terrazzo or concrete toppings.
- .21 Locate conduits in concrete to suit reinforcing steel. Install in centre one third of slab.
- .22 Protect conduits from damage where they stub out of concrete.
- .23 Install sleeves where conduits pass through slab or wall.
- .24 Do not place conduits in slabs in which slab thickness is less than 4 times conduit diameter.
- .25 Encase conduits completely in concrete with minimum 25 mm concrete cover.
- .26 Organize conduits in slab to minimize cross-overs.
- .27 Slope conduits to provide drainage.
- .28 Install rigid galvanized steel conduit at roof areas, if exposed.
- .29 Ream raceways to remove burrs.
- .30 Provide nylon pull cord in all empty raceways.

.2 Wiring
- .1 Install RW-90 conductors in raceways except as otherwise indicated.
- .2 Installation of type AC-90 will be permitted from:
  - .1 Conduit system junction boxes to recessed lighting fixtures in suspended ceilings, maximum length 2.5 m each run.
  - .2 Conduit system junction boxes to hollow gypsum partitions, maximum length 2.5 m each run.
  - .3 AC-90 is permitted in hollow gypsum partitions.
  - .4 AC-90 is not permitted in insulated masonary walls or concrete walls.
- .3 Leave minimum 200 mm length of conductor at junction and outlet boxes.
- .4 Splices shall not be pulled into conduits.
- .5 Group AC-90 cables where possible. Do not bundle.
- .6 Provide approved wire pulling lubricants for cable installations in conduits.

.3 Outlet boxes
- .1 Support boxes independently of connecting conduits.
- .2 Fill boxes with paper, sponges or foam or similar approved material to prevent entry of debris during construction. Remove upon completion of work.
- .3 For flush installations mount outlets flush with finished wall using plaster rings to permit wall finish to come within 6 mm of opening.
- .4 Provide correct size of openings in boxes for conduit, mineral insulated and armoured cable connections. Reducing washers are not allowed.
- .5 Provide circuit number identification on all junction boxes with black marker.

.4 Wire and Box Connections
- .1 Remove insulation carefully from ends of conductors and:
  - .1 Install mechanical pressure type connectors and tighten screws with appropriate compression tool recommended by manufacturer. Installation shall meet secureness tests in accordance with CAN/CSA C22.2 No. 65.
  - .2 Install fixture type connectors and tighten. Replace insulating cap.
  - .3 Install bushing stud connectors in accordance with EEMAC 1Y-2.

.5 Fastenings and Supports
- .1 Secure equipment to hollow masonry, tile and plaster surfaces with lead anchors or nylon shields.

3.1 Installation (Cont'd)

.5 (Cont'd)

.2 Secure equipment to poured concrete with expandable inserts.

.3 Secure surface mounted equipment with twist clip fasteners to inverted T-bar ceilings. Ensure that T-bars are adequately supported to carry weight of equipment specified before installation. Provide additional supports to T-bar ceiling as required.

.4 Support equipment, conduit or cables using clips, spring loaded bolts, cable clamps designed as accessories to basic channel members.

.5 Fasten exposed conduit or cables to building construction or support system using straps.

.1 One-hole steel straps to secure surface conduits and cables 50 mm and smaller.

.2 Two-hole steel straps for conduits and cables larger than 50 mm.

.3 Beam clamps to secure conduit to exposed steel work.

.6 Suspended support systems.

.1 Support individual cable or conduit runs with 6 mm dia threaded rods and spring clips.

.2 Support 2 or more cables or conduits on channels supported by 6 mm dia threaded rod hangers where direct fastening to building construction is impractical.

.7 For surface mounting of two or more conduits use channels at 1.5 m oc spacing.

.8 Provide metal brackets, frames, hangers, clamps and related types of support structures where indicated or as required to support conduit and cable runs.

.9 Ensure adequate support for raceways and cables dropped vertically to equipment where there is no wall support.

.10 Do not use wire lashing or perforated strap to support or secure raceways or cables.

.11 Do not use supports or equipment installed for other trades for conduit or cable support except with permission of other trade and approval of Departmental Representative.

.12 Install fastenings and supports as required for each type of equipment cables and conduits, and in accordance with manufacturer's installation recommendations.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections
.1 This section shall be read in conjunction with specification Section 26 05 00 - Electrical General Requirements, all electrical sections, and all other disciplines related to the project.

1.2 References
.1 Canadian Standards Association (CSA International) / National Standard of Canada.

1.3 Shop Drawings Electrical and Product Data
.1 Submit shop drawings and product data in accordance with Section 26 05 00 - General Requirements.

## PART 2 - PRODUCTS

2.1 Moulded Case Circuit Breakers
.1 Bolt-on moulded case circuit breaker: quick- make, quick-break type, for manual and automatic operation with temperature compensation for 40°C ambient.

.2 Common-trip breakers: with single handle for multi-pole applications.

.3 Circuit breakers with interchangeable trips as indicated.

.4 Moulded case circuit breaker to operate automatically by means of thermal and magnetic tripping devices to provide inverse time current tripping and instantaneous tripping for short circuit protection.

## PART 3 - EXECUTION

3.1 Installation
.1 Secure floor and wall mounted equipment plumb and square.

.2 Check factory made connections for secureness and electrical continuity.

.3 Ensure adequate clearances around equipment for ventilation requirements and code.

.4 Provide auxilliary equipment and connections as required.

.5 Provide typed, dated panel directory for each affected panelboard on this project.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections .1 This section shall be read in conjunction with specification Section 26 05 00 - Electrical General Requirements, all electrical sections, and all other disciplines related to the project.

1.2 Shop Drawings Electrical and Product Data .1 Submit shop drawings and product data in accordance with Section 26 05 00 - General Requirements.

1.3 Equipment .1 Receptacle and switch devices shall be of a single manufacturer.

1.4 References .1 Canadian Standards Association (CSA.

## PART 2 - PRODUCTS

2.1 Switches .1 15 or 20 A, 120 V, single pole, double pole, three-way, as required.

.2 Manually-operated general purpose ac switches with following features:
- .1 Silver alloy contacts.
- .2 Urea or melamine molding for parts subject to carbon tracking.
- .3 Suitable for back and side wiring.
- .4 White toggle.
- .5 Specification Grade.

2.2 Receptacles .1 Duplex receptacles, CSA type, voltage, ampacity, phase as indicated, with following features:
- .1 White urea molded housing.
- .2 Suitable for No. 10 AWG for back and side wiring.
- .3 Break-off links for use as split receptacles.
- .4 Eight back wired entrances, four side wiring screws.
- .5 Triple wipe contacts and rivetted grounding contacts.
- .6 Ground fault interrupter 5 mA, Class 'A' type where indicated.
- .7 Specification grade.

2.3 Cover Plates .1 Sheet steel utility box cover for wiring devices installed in surface-mounted utility boxes.

.2 Stainless steel, vertically brushed, 1 mm thick cover plates for wiring devices mounted in flush-mounted outlet box.

2.3 Cover Plates (Cont'd) .3 Cast cover plates for wiring devices mounted in surface-mounted FS or FD type conduit boxes.

2.4 Telephone, Data & Cable TV Outlet .1 Provide 100 x 100 mm outlet box c/w plaster ring and 21 mm EMT to accessible ceiling space at indicated locations.

.2 Coverplates to be provided by respective companies or as specified in other sections.

2.5 Flush Floor Service Fittings .1 Receptacle/telephone/data: as indicated on drawings.

## PART 3 - EXECUTION

3.1 Installation .1 Switches:

- .1 Install single throw switches with handle in "UP" position when switch closed.
- .2 Install switches in gang type outlet box when more than one switch is required in one location.
- .3 Mount toggle switches at height specified in Section 26 05 00 - Electrical General Requirements or as indicated.

.2 Receptacles:

- .1 Install receptacles in gang type outlet box when more than one receptacle is required in one location.
- .2 Mount receptacles at height specified in Section 26 05 00 - Electrical General Requirements or as indicated.
- .3 Where split receptacle has one portion switched, mount vertically and switch upper portion.

.3 Coverplates:

- .1 Protect stainless steel cover plate finish with paper or plastic film until painting and other work is finished.
- .2 Install suitable common cover plates where wiring devices are grouped.
- .3 Do not use coverplates meant for flush outlet boxes on surface-mounted boxes.

.4 Install service poles to manufacturers recommendations and secure to ceiling and floor. Make electrical connections and test.

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections .1 This section shall be read in conjunction with specification Section 26 05 00 - Electrical General Requirements, all electrical sections, and all other disciplines related to the project.

1.2 Shop Drawings General and Product Data .1 Submit shop drawings in accordance with Section 26 05 00 - Electrical Requirements.

1.3 References .1 Canadian Standards Association (CSA).

.2 National Building Code.

.3 National Research Council Canada (NRCC)

.4 Illuminating Engineering Society
- .1 IESNA LM-79-08, Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products.
- .2 IESMA LM-80-08, Approved Method: Measuring Lumen Maintenance of LED Light Sources.

## PART 2 - PRODUCTS

2.1 Luminaires .1 Provide light fixtures as per lighting fixture schedule, c/w LED light source, dimming driver and all mounting accessories.

.2 Long-life LED system coupled with electrical driver. 4000K with CRI > 85. Projected life

2.2 Construction .1 Rigid housing formed of code gauge prime cold rolled steel and features full length die-formed stiffeners and unibody end plated. One-piece molded frosted acrylic lens incorporates basket and luminous panels into a single component.

.2 Unibody end plates shall be securely attached with interlocking tabs and screws.

.3 Shall include ample knock outs for continuous row wiring.

.4 All replaceable components shall be accessible from below.

2.3 Controls .1 The fixture to be equipped with standard 0-10 V continuous dimming driver, that works with any standard 0-10V control dimmer.

2.4 Finishes .1 Multistage, iron phosphate pretreatment. Housing to be finished with 90% reflective white enamel.

.2 Positive cam action steel latches and safety-lock T-hinges to latch either side.

2.5 Compliance .1 Indoor luminaires are cUL listed for 25°C ambient environments, RoHS compliant and LED modules comply with IESNA LM-79 and LM-80 standards.

2.6 Performance .1 Fixture delivered Lumens shall be > 4500. Input wattage of > 46 W.

2.7 Exit Lights .1 Housing die cast aluminum, faceplates die cast aluminum stencilled faceplate c/w green pictogram and white graphic symbol "Running Man" meeting the visibility specifications referred to in ISO 3864-1.

.2 Die cast mounting bracket for indicated mounting.

.3 LED light source with 25-years rated life.

.4 Suitable for 120V normal supply.

.5 Exit lights shall meet NBC and NRCAN registered C860 requirements, illumination and power consumption, CSA certified.

.6 All exit lights shall be circuit identified.

## PART 3 - EXECUTION

3.1 Installation .1 Locate and install luminaires as indicated.

.2 Provide sufficient cable length and/or access panels, to provide access to wiring connections in hard ceiling areas, to the inspection authorities requirements.

.3 Install light fixtures to manufacturers recommendations.

.4 Connect fixtures to indicated circuits and connect exit lights to exit light's circuit.

.5 Verify and coordinate location of light fixtures on site with other trades to verify clearances at indicated locations prior to installation.

3.2 Luminaire Supports .1 For suspended ceiling installations support luminaires independently of ceiling, by means of two chain hangers bolted to fixture and secured to building structure.

.2 Suspend light fixtures on rigid pipe hanger, as indicated.

| | | |
|---|---|---|
| 3.2 Luminaire Supports (Cont'd) | .3 | Installation shall meet manufacturer's recommendation. |
| | .4 | Tie wire to hanger. |
| 3.3 Luminaire line. Alignment | .1 | Align luminaires mounted in continuous rows to form straight uninterrupted |
| | .2 | Align luminaires mounted individually parallel or perpendicular to building grid lines. |
| 3.4 Testing | .1 | Verify operation of lighting systems, and controls. |
| 3.5 Lamp Guarantee | .1 | Replace all light fixtures burnt out within 24 months of final acceptance. |

- END OF SECTION -

## PART 1 - GENERAL

1.1 Related Sections .1 This section shall be read in conjunction with specification Section 26 05 00 - Electrical General Requirements, all electrical sections, and all other disciplines related to the project.

1.2 References .1 Underwriters Laboratories of Canada (ULC)
- .1 CAN/ULC S524-06, Installation of Fire Alarm Systems.
- .2 CAN/ULC S525-07, Audible Signal Devices for Fire Alarm Systems, Including Accessories.
- .3 CAN/ULC S529-09, Smoke Detectors for Fire Alarm Systems.
- .4 CAN/ULC S536-13, Inspection and Testing of Fire Alarm Systems.
- .5 CAN/ULC S537-13, Verification of Fire Alarm Systems.

.2 National Research Council Canada
- .1 NRCC NBCC-2010, National Building Code of Canada 2010.

1.3 Description of 4100es. System .1 Existing system is Simplex

1.4 Shop Drawings .1 Submit shop drawings in accordance with Section 26 05 00 - Electrical General Requirements.

1.5 As-Builts .1 Provide 'as-builts' drawings upon completion showing all devices c/w addresses including line isolator locations and conduit runs.

## PART 2 - PRODUCTS

2.1 Materials .1 Equipment and devices: ULC listed and labelled and supplied by single manufacturer. Addressable type unless otherwise noted.

.2 Power supply: to CAN/ULC S524, and NBCC.

.3 Audible signal devices: to ULC S525.

.4 Heat/Smoke detectors: to CAN/ULC S529.

.5 Fire alarm power boster.

2.2 Automatic Alarm Initiating Devices

.1 All automatic alarm initiating devices shall be addressable.

.2 Heat detectors, fixed temperature, non-restorable, rated 90°C, moisture proof. Low profile.

.3 Thermal fire detectors, combination fixed temperature and rate of rise, non-restorable fixed temperature element, self-restoring rate of rise, fixed temperature 57°C, rate of rise 8.3°C per minute. Low profile type.

.4 Heat detector base to be compatible with smoke detectors.

.5 Smoke detector: ionization type
- .1 Plug-in type.
- .2 Wire-in base assembly with integral continuously lit red LED, when in alarm mode. Flashing or pulsating alarm is not acceptable.
- .3 Base compatible with heat detectors.
- .4 Low profile type.

.6 All devices to be low profile type.

2.3 Audible/Visual Signal Devices

.1 Fire alarm bell to match base building standards.

**PART 3 - EXECUTION**

3.1 Installation

.1 Install systems in accordance with CAN/ULC S524.

.2 Locate and install detectors and connect to the addressable loop. Do not mount detectors within 1 m of air outlets. Maintain at least 600 mm radius clear space on ceiling, below and around detectors.

.3 Locate and install bells and connect to signalling circuits.

.4 Install all wiring for fire alarm system monitoring, control and communication circuits in conduit. Minimum conduit size shall be 21 mm. All wiring must be clear of shorts, opens and grounds on completion of installation. All wires must be clearly identified at all termination points.

.5 Ensure wire and cable are copper conductors with insulation rated at 300 V minimum, as follows:
- .1 Fire alarm addressable circuits shall be #18 AWG twisted shielded pair. Maximum allowable length of run (wire distance) must not exceed 762 m.
- .2 Signal circuit: 300 V 105°C PVC insulated copper conductors. Minimum conductor size #12 AWG. Voltage drop must not exceed the maximum permissible value recommended by the manufacturer.
- .3 All wiring to be in conduit.

.6 All Fire Alarm devices shall have both the device and it's base labeled with p-touch to indicate building(if in a campus), floor, column line, device type. i.e. device labelled as

3.1 Installation (Cont'd)

.6 (Cont'd)
T2-5-G3-SD would indicate tower 2, floor 5, column G3, smoke detector. This description should also be indicated at the annunciator and control panel.

.7 All fire alarm work is to be logged in at the main security station by the contractor, and shall indicate the location of the work, a description of the work, and the name of the contractor performing the work.

.8 The installing contractor shall notify the building owner of verification times, so the owner can include their maintenance contractor in review.

3.2 Field Quality Requirements. Control

.1 Perform tests in accordance with Section 26 05 00 - Electrical General and CAN/ULC S536.

.2 Fire alarm system:

.1 Test each device and alarm circuit to ensure thermal and smoke detectors transmit alarm to control panel and actuate general alarm and ancillary devices.

.2 Test to demonstrate correct operation of each interlock device, auxiliary device, by-pass switches.

.3 Check annunciator panels to ensure zones are shown correctly.

.4 Simulate grounds and breaks on alarm and signalling circuits to ensure proper operation of trouble signals and the capability for providing a subsequent alarm during any imposed single circuit fault condition (open, ground).

.5 Perform the system verification and certification per Clause 3.3 "Verification and Certification".

3.3 Certification S537". and Verification

.1 Verify system to "CAN/ULC

.2 Verification is the responsibility of the manufacturer for testing the wiring in relation to field devices operation.

.3 To avoid unnecessary alarms during testing, the system's program shall be capable of being temporarily disabled to disconnect only the audible signals that are being tested. Reenable the zones after the testing is performed at the end of the day.

.4 Inspect and test wiring to every device to verify the removal of the device or breaking the wire will cause a trouble condition at the Control Panel.

.5 Inspect all equipment installed as part of the system for visible damage or tampering which may be a potential problem with its intended operation.

.6 Activate each manual initiating device to verify and ensure their proper operation.

.7 Test each self-restoring heat detector utilizing a heat source to test the device operation.

.8 Test all audible signals for proper operation. Tests shall be made to determine that the signal is audible throughout the area and above the normal ambient noise level.

.9 Verify all field wiring and terminate on a single conductor per terminals basis.

3.3 Certification and Verification (Cont'd)

.10 Test ancillary equipment connections. Inspect such equipment to ensure that faults and malfunctions will not interfere with the alarm system.

.11 Test the following control functions for proper supervision, operation and annunciation.
- .1 The Central station connection.

.12 Only make changes to the system program or zone identifications as approved by authorized personnel.

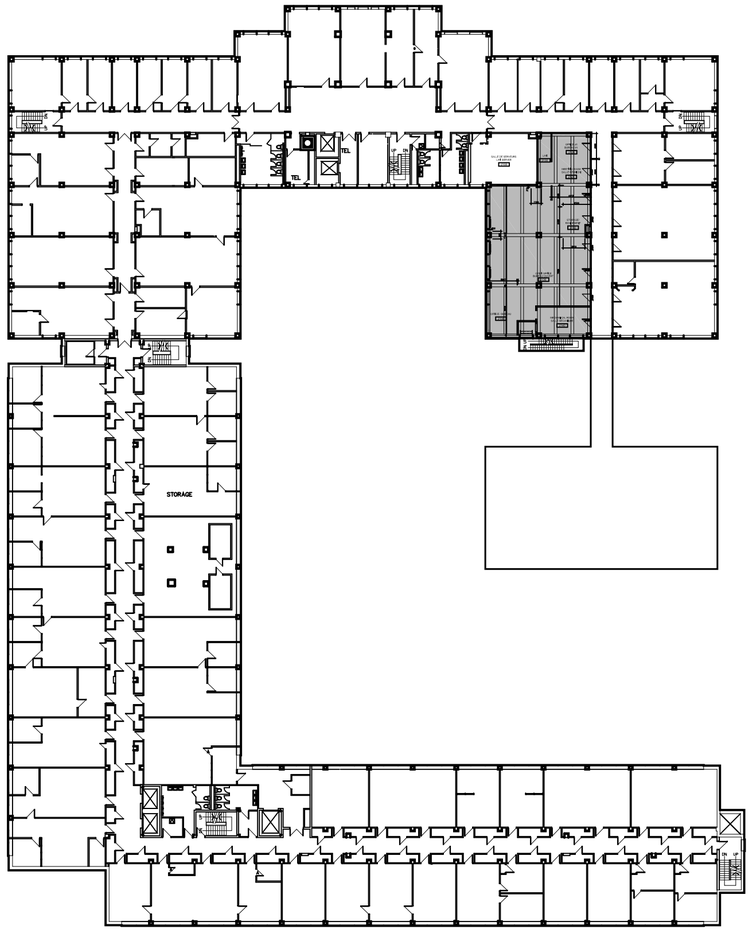
.13 Upon completion of the inspection and when all of the above conditions have been performed and complied with, the manufacturer shall issue to the Owner's representative the following:
- .1 A copy of the inspection report identifying the location of each device and certifying the test results of each device.
- .2 A certificate of verification confirming that the inspection has been completed and outlining the conditions upon which such an inspection and certification have been rendered.
- .3 Proof of liability insurance for the inspection.

.14 All costs involved in this inspection for both the manufacturer's and the Contractor's work shall be included in the overall tender price.

3.4 Verification Records

.1 Complete accurate records of the verification shall be maintained with the following requirements but not limited to:
- .1 Show the date on which each device and equipment has been verified.
- .2 Show the date of all deficiencies encountered in the control system equipment, wiring and field devices.
- .3 Show the date when the deficiencies have been corrected and re-verified.
- .4 Show dB levels measured during verification.

- END OF SECTION -




# Key Plan/ Plan d'ensemble- Level 2/ 2e plancher

1 / A1

Scale/Échelle = 1:400

## LEGEND FOR ALL DRAWINGS/LÉGENDE POUR TOUS LES DESSINS:

- EXISTING WALL TO REMAIN/ MUR EXISTANT À CONSERVER.
- EXISTING WALL TO BE DEMOLISHED/ MUR EXISTANT À DÉMOLIR.
- EXISTING WALL TO BE MODIFIED/ MUR EXISTANT À MODIFIER.
- NEW PARTITION/ NOUVEAU MUR.
- EXISTING DOOR AND FRAME TO REMAIN/ PORTE ET BÂTIS EXISTANTE À CONSERVER.
- SEALED DOOR/ PORTE FERMÉE.
- EXISTING DOOR AND FRAME TO BE DEMOLISHED/ PORTE ET BÂTIS EXISTANTE À DÉMOLIR.
- S/F — EXISTING DOOR TO REMAIN AND BE SEALED SHUT (SEE SPECS) / PORTE EXISTANTE À SCELLER EN POSITION FERMÉE.(VOIR LE DEVIS).
- 0000 — NEW DOOR AND FRAME/ NOUVELLE PORTE ET BÂTIS.
- NEW LIGHT FIXTURE - REFER TO ELECTRICAL DWG/ NOUVEL APPAREIL D'ÉCLAIRAGE - VOIR LES DESSINS EN ÉLECTRICITÉ.
- NEW SUSPENDED ACOUSTIC T-BAR CEILING/NOUVEAU PLAFOND ACOUSTIQUE SUSPENDU.
- AREA OF WORK / ZONE DES TRAVAUX.
- AREA OF WORK - NOT IN CONTRACT/ ZONE DES TRAVAUX NON-INCLUSAN CONTRAT.
- +1234 — CEILING HEIGHT / HAUTEUR DU PLAFOND.

## WALL TYPES FOR DRAWING A3 / TYPES DE MURS POUR LE DESSIN A3:

**1**

16mm GYPSUM BOARD ON BOTH SIDES OF 92mm STEEL STUDS @ 400mm O.C. MAXIMUM.
EXTEND STEEL STUDS TO U/S OF STRUCTURE.
EXTEND GYPSUM BOARD 150mm ABOVE SUSPENDED CEILING.

PLAQUES DE PLÂTRE DE 16 MM DE CHAQUE COTÉ DE MONTANTS MÉTALLIQUES DE 92 MM POSÉS À 400MM D'ENTRAXES.
PROLONGER LES MONTANTS D'ACIER JUSQU'AU DESSOUS DE LA STRUCTURE SUPÉRIEURE.
PROLONGER LES PLAQUES DE PLÂTRE JUSQU'À 150 MM AU DESSUS DU PLAFOND SUSPENDU.

**2**

16mm GYPSUM BOARD ON BOTH SIDES OF 92mm STEEL STUDS @ 400mm O.C. MAXIMUM.
FILL STUDS WITH 75mm SOUND ATTENUATION BATTS.
EXTEND ENTIRE PARTITION TO U/S OF STRUCTURE (PROVIDE A 10mm (MAX) CAULKED JOINT AT TOP OF PARTITION BETWEEN GYPSUM BOARD AND EXISTING STRUCTURE.)

PLAQUES DE PLÂTRE DE 16 MM DE CHAQUE COTÉ DE MONTANTS MÉTALLIQUES DE 92 MM POSÉS À 400MM D'ENTRAXES.
ISOLANT ACOUSTIQUE DE 75mm D'ÉPAISSEUR.
PROLONGER LA PARTITION AU COMPLET JUSQU'AU DESSOUS DE LA STRUCTURE SUPÉRIEURE.
PRÉVOIR UN JOINT CALFEUTRÉ DE 10 MM MAXIMUM AU HAUT DE LA PARTITION ENTRE LES PLAQUES DE PLÂTRE ET LA STRUCTURE.

**3**

16mm GYPSUM BOARD ON ONE SIDE OF 64mm STEEL STUDS @ 400mm O.C. MAXIMUM.
EXTEND STEEL STUDS TO U/S OF STRUCTURE.
EXTEND GYPSUM BOARD 150mm ABOVE SUSPENDED CEILING.

PLAQUES DE PLÂTRE DE 16 MM SUR UN UNE COTÉ DE MONTANTS MÉTALLIQUES DE 64 MM POSÉS À 400MM D'ENTRAXES.
PROLONGER LES MONTANTS D'ACIER JUSQU'AU DESSOUS DE LA STRUCTURE SUPÉRIEURE.
PROLONGER LES PLAQUES DE PLÂTRE JUSQU'À 150 MM AU DESSUS DU PLAFOND SUSPENDU.

**4**

EXISTING STUDS TO REMAIN.
ADD 75mm SOUND ATTENUATION BATTS.
ADD 16mm TYPE X GYPSUM BOARD ON BOTH SIDES OF STUDS.
LES MONTANTS EXISTANTS DOIVENT DEMEURER EN PLACE. AJOUTER DE L'ISOLANT ACOUSTIQUE DE 75 MM D'ÉPAISSEUR.
AJOUTER UNE COUCHE DE PLAQUE DE PLÂTRE DE 16 MM D'ÉPAISSEUR DE TYPE "X". DE CHAQUE COTÉ DE LA PARTITION.

**4a**

EXISTING STUDS TO REMAIN.
ADD 75mm SOUND ATTENUATION BATTS.
ADD 16mm TYPE X GYPSUM BOARD ON ONE SIDE OF STUDS.
LES MONTANTS EXISTANTS DOIVENT DEMEURER EN PLACE. AJOUTER DE L'ISOLANT ACOUSTIQUE DE 75 MM D'ÉPAISSEUR.
AJOUTER UNE COUCHE DE PLAQUE DE PLÂTRE DE 16 MM D'ÉPAISSEUR DE TYPE "X". SUR UN COTÉ DE LA PARTITION.

## GENERAL NOTES FOR ALL DRAWINGS:

A. UNLESS OTHERWISE NOTED, UNLABELLED ITEMS SHOWN ON DRAWINGS ARE INTENDED TO REMAIN IN PLACE. PROTECT FULLY FOR THE DURATION OF WORK.
B. ALL DIMENSIONS MUST BE VERIFIED ON SITE BEFORE THE START OF ANY WORK. REPORT DISCREPANCIES TO DEPARTMENTAL REPRESENTATIVE.
C. KEEP THE CONSTRUCTION SITE AND PUBLIC ACCESS AREAS CLEAN AT ALL TIMES. CLEAN AND REMOVE CONSTRUCTION WASTE AND RESIDUE REGULARLY. AT ALL TIMES, FOLLOW THE OWNER'S INSTRUCTIONS AND GUIDELINES. PREVENT SITUATIONS THAT COULD AFFECT THE SAFETY OF OCCUPANTS.
D. THE STORAGE OF MATERIAL IS NOT ALLOWED IN THE AREA OF WORK. CONTRACTOR SHALL SCHEDULE DELIVERY OF MATERIALS ACCORDINGLY.
E. CUT AND PATCH AS REQUIRED FOR THE WORK OF OTHER TRADES.
F. DEMOLISH THE WORK WITHOUT DAMAGING EXISTING M/E SERVICES INTENDED TO REMAIN. MAKE GOOD ANY DAMAGE.
G. WHERE THE FLOORING IN WORK AREA IS SHOWN TO BE REMOVED, REMOVE ALL GLUE. GRIND AND PREPARE FLOOR SLAB AS REQUIRED TO RECEIVE NEW TILE WITHOUT DEFECTS.
H. CAREFULLY REMOVE AND HANDOVER ALL SIGNAGE TO OWNER.
I. PATCH AND MAKE GOOD CONCRETE SLAB AT DEMOLISHED WORK AND PREPARE FOR NEW FLOOR FINISHES. FEATHER SLAB AS REQUIRED TO CREATE A LEVEL TRANSITION BETWEEN NEW FLOORING AND EXISTING FLOOR. REFER ALSO TO NOTE "G" ABOVE.
J. PATCH AND MAKE GOOD DAMAGES CAUSED BY THE WORK OF THIS CONTRACT TO SURFACES OR ITEMS TO REMAIN.
K. PAINT ALL INTERIOR WALLS AND STAIN/VARNISH DOORS AND FRAMES IN AREA OF WORK UNLESS OTHERWISE NOTED.
L. MAINTAIN A ONE (1) HOUR FIRE RATED SEPARATION AT WALLS BETWEEN THE CORRIDOR AND OFFICES AND BETWEEN OFFICES AND ADJACENT LAN ROOM OR MECHANICAL ROOMS. MAINTAIN A ONE (1) HOUR RATING AT FLOOR SLABS TO FLOOR ABOVE AND BELOW. PATCH, FILL AND REPAIR ALL HOLES AND OPENINGS WITH APPROPRIATE MATERIALS USING WALL TYPE ASSEMBLIES LISTED HEREIN. PROVIDE FIRE STOPPING WORK ACCORDINGLY.
M. EXISTING WOODEN BASE TO BE REMOVED ALONG WALLS AND COLUMNS. SALVAGE AND RE-INSTALL BASE ONCE NEW WORK IS COMPLETE. SAND AND PAINT.
N. IF ANY ORIGINAL WOOD BASE, DOOR FRAME, OR WINDOW FRAME IS DAMAGED DURING WORK, A REPLACEMENT SHALL BE PROVIDED BY THE CONTRACTOR TO MATCH EXISTING.
O. PATCH AND FILL EXISTING WOOD BASEBOARDS AND DOOR AND WINDOW CASINGS. FILL ALL HOLES, CRACKS AND OTHER DEFECTS WITH TINTED WOOD PASTE. SAND AND VARNISH WITH MINIMUM ONE COAT OF STAIN AND 2 COATS OF VARNISH.
P. ALL CORRIDOR WALLS HAVE A ONE HOUR FIRE RESISTANCE RATING (ULC). PERFORM ALL WORK ACCORDINGLY TO ENSURE THE CONTINUITY OF THE FIRE RATING. SEE ALSO ITEM "L" ABOVE.
Q. PATCH AND REPAIR AS REQUIRED EXISTING PARTITIONS TO REMAIN AND PROVIDE NEW PAINT FINISH. PATCHING MATERIAL SHALL BE SIMILAR TO EXISTING SURFACE MATERIAL. FOR EXAMPLE, USE GYPSUM BOARD AT GYPSUM BOARD PARTITIONS AND PLASTER AT PLASTER PARTITIONS.

## NOTES GÉNÉRALES POUR TOUS LES DESSINS:

A. SAUF INDICATION AU CONTRAIRE, LES ARTICLES SANS ÉTIQUETTES SUR LES DESSINS SONT DESTINÉS À DEMEURER EN PLACE. PROTÉGER PLEINEMENT POUR LA DURÉE DES TRAVAUX.
B. TOUTES LES DIMENSIONS DOIVENT ÊTRE VÉRIFIÉES SUR PLACE AVANT DE DÉBUTER LES TRAVAUX. APPORTER TOUS CONFLITS À L'ATTTENTION DU REPRÉSENTANT DU MINISTERE.
C. GARDER LE CHANTIER DE CONSTRUCTION ET LES ZONES D'ACCÈS PUBLIQUES PROPRE EN TOUT TEMPS. NETTOYER ET ENLEVER RÉGULIÈREMENT LES DÉCHETS ET RÉSIDUS DE CONSTRUCTION. SUIVRE LES CONSIGNES ET LES DIRECTIVES DU PROPRIÉTAIRE EN TOUT TEMPS. PRÉVENIR LES SITUATIONS QUI POURRAIENT NUIRE À LA SÉCURITÉ DES OCCUPANTS.
D. L'ENTREPOSAGE DE MATÉRIAUX DANS LA ZONE DES TRAVAUX EST INTERDIT. L'ENTREPRENEUR DOIT PRÉVOIR LA LIVRAISON DES MATÉRIAUX EN CONSÉQUENCE.
E. DÉCOUPER ET RAPIÉCER SELON LES BESOINS POUR LE TRAVAIL DES AUTRES MÉTIERS.
F. DÉMOLIR LES OUVRAGES SANS ENDOMMAGER LES SERVICES M/É EXISTANTS DESTINÉS À ÊTRE CONSERVÉS. REMETTRE EN ÉTAT NEUF SI ENDOMMAGÉ.
G. ENLEVER TOUTE LA COLLE DE PLANCHER SUITE À L'ENLÈVEMENT DES CARREAUX DE PLANCHER. UTILISER DES MÉTHODES TEL LE PONÇAGE POUR PRÉPARER LA DALLE DE PLANCHER DE SORTE À EMPÊCHER LES DÉFAUTS VISIBLES SUITE À LA POSE DE NOUVEAU FINIS DE PLANCHER.
H. ENLEVER SOIGNEUSEMENT TOUTES SIGNALISATION ET REMETTRE AU PROPRIÉTAIRE.
I. RÉPARER ET REMPLIR LA DALLE DE PLANCHER SUITE À LA DÉMOLITION DES OUVRAGES ET PRÉPARER POUR LE NOUVEAU FINIS DE PLANCHER. PRÉVOIR UN PRODUIT D'AFFLEUREMENT AU BESOIN POUR ASSURER UNE TRANSITION IMPERCEPTIBLE À LA RENCONTRE DU NOUVEAU FINIS ET LE FINIS EXISTANT. VOIR AUSSI LA NOTE G CI-HAUT.
J. RAPIÉCER ET REMETTRE EN ÉTAT LES OUVRAGES ENDOMMAGÉS PAR LES TRAVAUX EXÉCUTÉS EN VERTU DU PRÉSENT CONTRAT EN FONCTION DES SURFACES OU ÉLÉMENTS À CONSERVER.
K. À MOINS D'INDICATIONS CONTRAIRES, PEINDRE TOUS LES MURS INTÉRIEURS ET TEINDRE/VERNIR LES BÂTIS DE PORTES ET LES PORTES DANS LA ZONE DES TRAVAUX.
L. MAINTENIR UNE SÉPARATION COUPE-FEU DE UNE (1) HEURE AUX PARTITIONS ENTRE LE CORRIDOR ET LES BUREAUX ET ENTRE LES BUREAUX ET PIÈCES ADJACENTES TEL LA SALLE DE SERVEUR ET LA SALLE DE MÉCANIQUE ADJACENTE. MAINTENIR UNE SÉPARATION COUPE-FEU DE UNE (1) HEURE AUX DALLES DE PLANCHER SUPÉRIEURES ET INFÉRIEURES. RAPIÉCER, REMPLIR ET RÉPARER TOUS LES TROUS ET LES OUVERTURES AVEC DES MATÉRIAUX ACCEPTABLES EN UTILISANT LES ENSEMBLES DE TYPE DE MUR MENTIONNÉS AUX DESSINS. PRÉVOIR LES TRAVAUX DE PROTECTION COUPE-FEU EN CONSÉQUENCE.
M. AUX MURS ET AUX COLONNES, ENLEVER MINUTIEUSEMENT LA PLINTHE DE BOIS EXISTANTE. CONSERVER LA PLINTHE ET RÉINSTALLER LORSQUE LES TRAVAUX SERONT TERMINÉS. SABLER ET PEINDRE.
N. SI L'ENTREPRENEUR ENDOMMAGE LES PLINTHES DE BOIS, LES CADRAGES DE PORTE OU LES CADRAGES DE FENÊTRE DE BOIS DURANT LES TRAVAUX, L'ENTREPRENEUR DOIT EN PRÉVOIR LE REMPLACEMENT. AGENCER LES NOUVEAUX OUVRAGES AU PRODUIT EXISTANT.
O. RÉPARER ET RAPIÉCER LES PLINTHES DE BOIS, LES CADRAGES DE PORTE ET LES CADRAGES DE FENÊTRE DE BOIS. REMPLIR LES TROUS, LES FISSURES ET AUTRES DÉFAUTS EN UTILISANT UNE PÂTE DE BOIS TINTÉE. SABLER ET VERNIR AVEC UNE COUCHE DE TINTURE AU MINIMUM ET DEUX COUCHES DE VERNIS.
P. TOUS LES MURS DE CORRIDOR SONT CONSTRUIT AYANT UN RENDEMENT COUPE-FEU DE UNE HEURE (ULC). PRÉVOIR TOUS LES TRAVAUX NÉCESSAIRES AFIN D'ASSURER LA CONTINUITÉ DU RENDEMENT COUPE-FEU.
VOIR AUSSI L'ITEM "L" CI-HAUT.

Agriculture and Agri-food Canada
Agriculture et Agroalimentaire Canada

CONSTRUCTION NORTH — TRUE NORTH

| No. | ISSUE/REVISION ÉMISSION/RÉVISION | DATE |
|---|---|---|
| 3 | Émis pour Tender<br>Issued for Tender | 13/02/2015 |
| 2 | Émis pour révision du client 99%<br>Issued for client review 99% | 28/01/2015 |
| 1 | ISUED FOR 66% REVIEW | 22/01/15 |

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architectes incorporée
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PROJECT NAME / NOM DU PROJET

Room 2130 Fit-up
K. W. Neatby Building - Central Experimental Farm

Aménagement de la salle 2130
Édifice K.W. Neatby - Ferme Expérimental Centrale
960 Carling Avenue, Ottawa, Ontario

DRAWING TITLE / TITRE DU DESSIN

# Key Plan/ Plan d'ensemble

| JOB No / N° DE PROJET | DATE / DATE |
|---|---|
| 522-14 | 07.01.15 |
| SCALE / ECHELLE: 1:300 | PRINTING SCALE/ ÉCHELLE D'IMPRESSION |
| CONCEPTION BY / CONÇUS PAR: DM | IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PRINTING SCALE. |
| DRAWN BY / DESSINÉ PAR: RW | SI CETTE LIGNE NE MESURE PAS 25mm, AJUSTER VOTRE ÉCHELLE D'IMPRESSION. |
| CHECKED BY / VÉRIFIÉ PAR: DM | |

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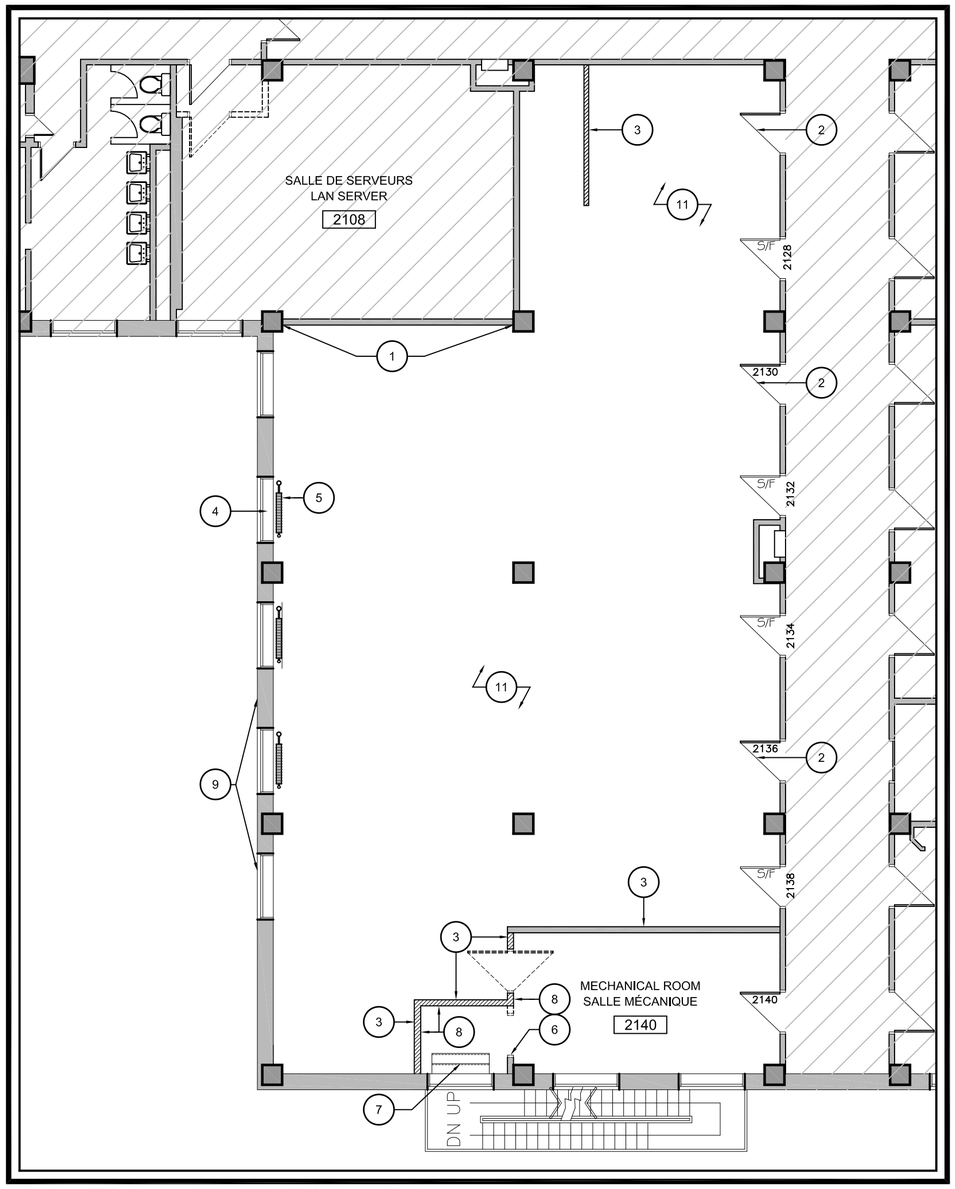
DRAWING No / DESSIN N°: A1

REVISION No / RÉVISION N°: 0

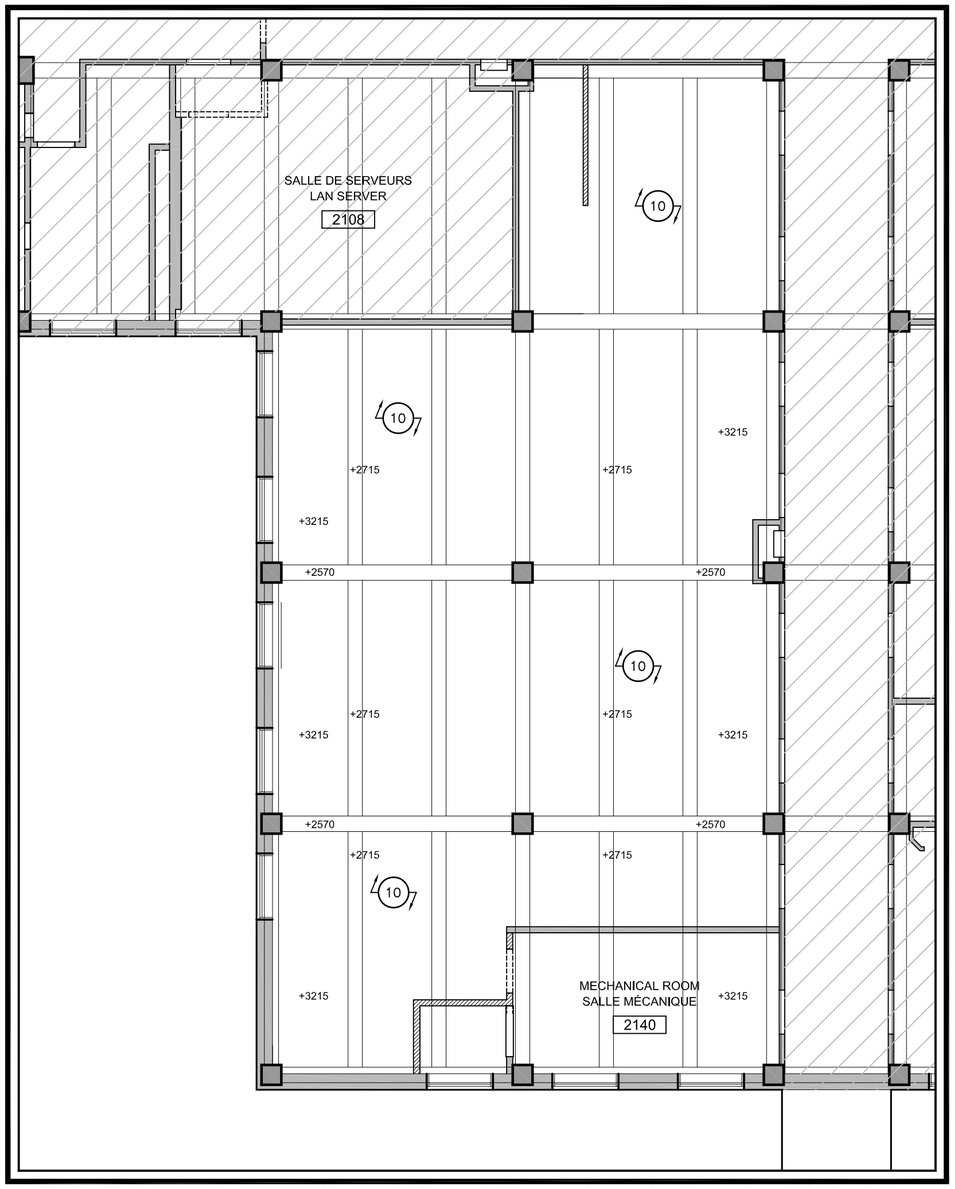
AutoCAD File : H:\revfloo\BMA_A1.dwg Last Updated : Wed 2001/11/21 11:20:23




# Floor Plan/ Plan d'étage

1 / A2

Scale/Échelle = 1:100




# Reflected Ceiling Plan/Plan du plafond réfléchi

2 / A2

Scale/Échelle = 1:100

## NOTES FOR DRAWING A2:

1. PREPARE WALL FOR NEW MATERIALS TO PROVIDE A SMOOTH FINISHED PARTITION FROM COLUMN TO COLUMN.
2. REFER TO DOOR SCHEDULE FOR EXTENT OF WORK AT DOORS.
3. GYPSUM BOARD WAS REMOVED BY OTHERS. PREPARE WALL FOR NEW WORK.
4. TYPICAL: AT EVERY WINDOW, CUT AND REMOVE CRACKED SEALANTS. SAND WINDOW SILLS AND TRIMS AND PREPARE FOR NEW FINISH COATS OF PAINT AND NEW SEALANTS.
5. TYPICAL: AT EVERY EXISTING RADIATOR, TEMPORARILY DISCONNECT IN ORDER TO PRESSURE WASH ALL RADIATORS AND PREPARE FOR NEW SPRAY PAINT FINISH. SCOPE OF WORK ALSO INCLUDES ANY NEW RADIATOR INSTALLED OR RELOCATED FROM ELSEWHERE AS INDICATED ON THE MECHANICAL DRAWINGS.
6. REMOVE DOOR AND FROM MECHANICAL ROOM WALL. PREPARE SURFACES FOR NEW STUD AND GYPSUM BOARD PARTITION WITH A 1 HR FIRE RESISTANCE RATINGS AS PER NEW PLAN.
7. EXISTING EXIT STEPS TO REMAIN. REFER TO NEW WORK PLAN.
8. ON MECHANICAL ROOM SIDE OF PARTITION, REMOVE PERFORATED HARDBOARD PANELS, ANY GYPSUM BOARD AND TRIM TO EXPOSE EXISTING STUD WORK. PREPARE FOR NEW FIRE RATED PARTITION.
9. RESERVED.
10. EXISTING CONCRETE BEAMS AND CONCRETE FLOOR SLAB ABOVE.
11. EXISTING WOOD BASEBOARDS TO REMAIN. REMOVE CAREFULLY AS REQUIRED AS PART OF THIS DEMOLITION WORK AND SALVAGE FOR RE-INSTALLATION. THE OWNER HAS SALVAGED A QUANTITY OF WOOD BASEBOARDS FROM PRIOR DEMOLITION CONTRACT, WHICH ARE AVAILABLE FOR RE-USE. ASCERTAIN QUANTITIES AND CONDITION ON SITE.

## NOTES POUR LE DESSIN A2:

1. PRÉPARER L'OUVERTURE EN VUE DE LA POSE DES NOUVEAUX MATÉRIAUX AFIN DE RÉALISER UNE CLOISON AVEC FINITION LISSE D'UNE COLONNE À L'AUTRE.
2. SE REPORTER À LA NOMENCLATURE DES PORTES POUR L'ÉTENDUE DES TRAVAUX À EXÉCUTER À L'EMPLACEMENT DES PORTES.
3. LES PLAQUES DE PLÂTRE ONT ÉTÉ ENLEVÉS PAR AUTRES. PRÉPARER LE MUR POUR L'EXÉCUTION DES NOUVEAUX TRAVAUX.
4. INSTALLATION TYPE : À L'EMPLACEMENT DE CHAQUE FENÊTRE, DÉCOUPER ET ENLEVER LES PRODUITS D'ÉTANCHÉITÉ FISSURÉS. PONCER LES APPUIS DE FENÊTRE ET LES MOULURES ET PRÉPARER LES SURFACES EN VUE DE L'APPLICATION DES NOUVELLES COUCHES DE PEINTURE DE FINITION ET DE LA MISE EN ŒUVRE DES NOUVEAUX PRODUITS D'ÉTANCHÉITÉ.
5. INSTALLATION TYPE : DÉBRANCHER TEMPORAIREMENT CHAQUE RADIATEUR EXISTANT AFIN DE LE LAVER SOUS PRESSION ET DE LE PRÉPARER POUR LA PULVÉRISATION DE LA PEINTURE DE FINITION. L'ÉTENDUE DES TRAVAUX COMPREND ÉGALEMENT LES NOUVEAUX RADIATEURS QUI ONT ÉTÉ INSTALLÉS ET LES RADIATEURS DÉPLACÉS SELON LES INDICATIONS SUR LES DESSINS DE MÉCANIQUE.
6. ENLEVER LE BÂTI DU MUR DU LOCAL DES INSTALLATIONS MÉCANIQUES. PRÉPARER LES SURFACES POUR LE MONTAGE DE LA NOUVELLE CLOISON À PLAQUES DE PLÂTRE ET POTEAUX AYANT UN INDICE DE RÉSISTANCE AU FEU D'UNE HEURE SELON LES INDICATIONS SUR LE NOUVEAU PLAN.
7. CONSERVER LES MARCHES DE SORTIE EXISTANTES. CONSULTER LE NOUVEAU PLAN DE TRAVAIL.
8. DU CÔTÉ DE LA CLOISON OÙ SE TROUVE LE LOCAL DES INSTALLATIONS MÉCANIQUES, ENLEVER LES PANNEAUX DURS PERFORÉS AINSI QUE LES PLAQUES DE PLÂTRE ET LES MOULURES POUR RENDRE LES OUVRAGES À POTEAUX EXISTANTS APPARENTS. PRÉPARER LES OUVRAGES POUR LE MONTAGE DE LA NOUVELLE CLOISON AVEC INDICE DE RÉSISTANCE AU FEU.
9. RÉSERVÉ.
10. POUTRES EN BÉTON ET DALLE DE PLANCHER EN BÉTON EXISTANTES AU-DESSUS.
11. LES PLINTHES DE BOIS EXISTANTES SONT À CONSERVER. ENLEVER SOIGNEUSEMENT LES PLINTHES SELON LES BESOINS ET LES CONSERVER POUR FIN DE RÉ-INSTALLATION. LE PROPRIÉTAIRE A CONSERVÉ UNE QUANTITÉ DE PLINTHES LORS DU CONTRAT DE DÉMOLITION ANTÉRIEUR. CES PLINTHES SONT DISPONIBLES POUR RÉ-UITLISATION. L'ENTREPRENEUR DOIT DÉTERMINER LES QUANTITÉS ET LA QUALITÉ DES PLINTHES SUR PLACE.



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| 1 | ISUED FOR 66% REVIEW | 22/01/15 |

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PROJECT NAME / NOM DU PROJET

Room 2130 Fit-up

K. W. Neatby Building - Central Experimental Farm

Aménagement de la salle 2130

Édifice K.W. Neatby - Ferme Expérimental Centrale

960 Carling Avenue, Ottawa, Ontario

DRAWING TITLE / TITRE DU DESSIN

Demolition - Floor Plan & Reflected Ceiling Plan/

Démolition - Plan d'étage et plan du plafond réfléchi

| JOB No / N° DE PROJET | DATE / DATE |
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| 522-14 | 07.01.15 |
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| DRAWN BY / DESSINÉ PAR: RW | |
| CHECKED BY / VÉRIFIÉ PAR: DM | |

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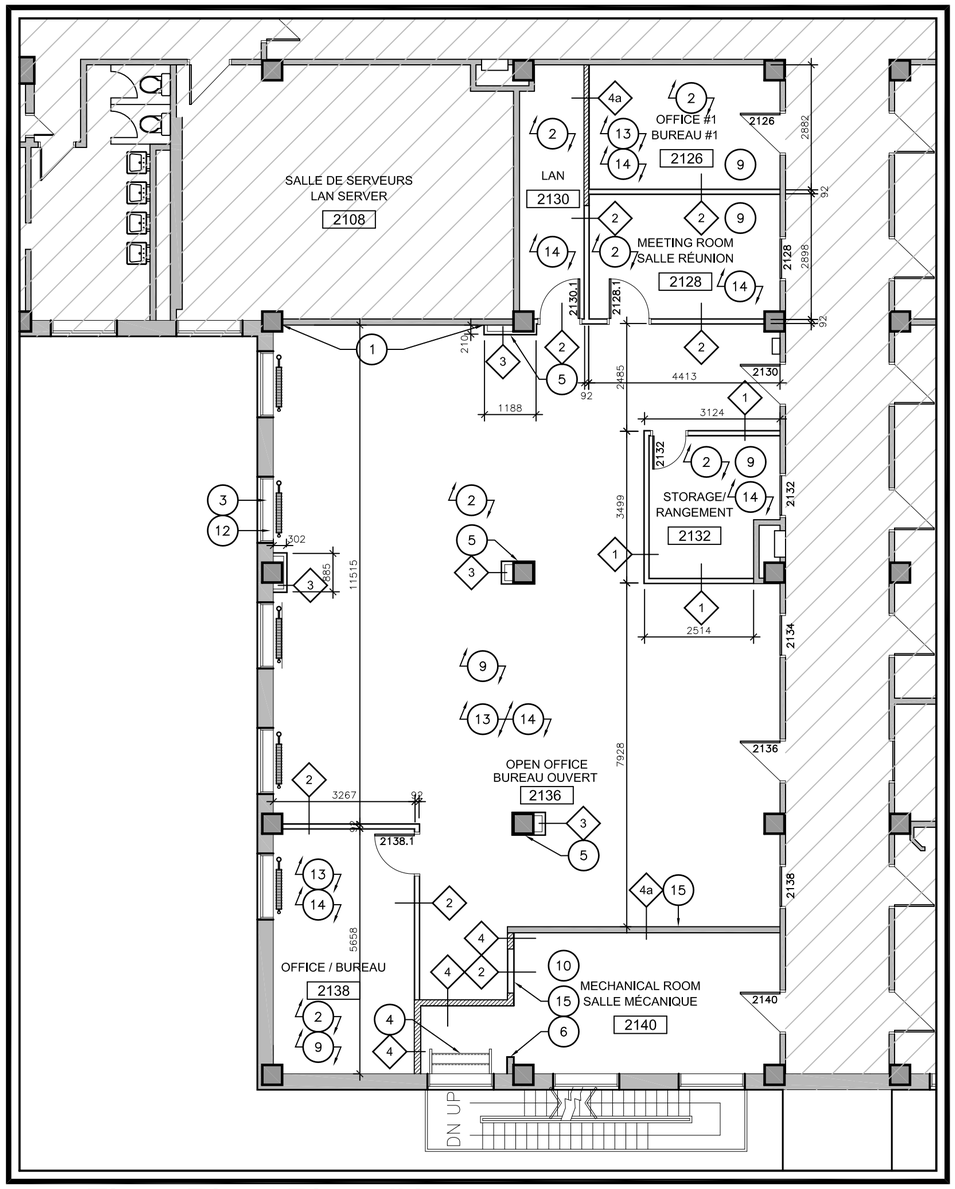
DRAWING No / DESSIN N°

A2

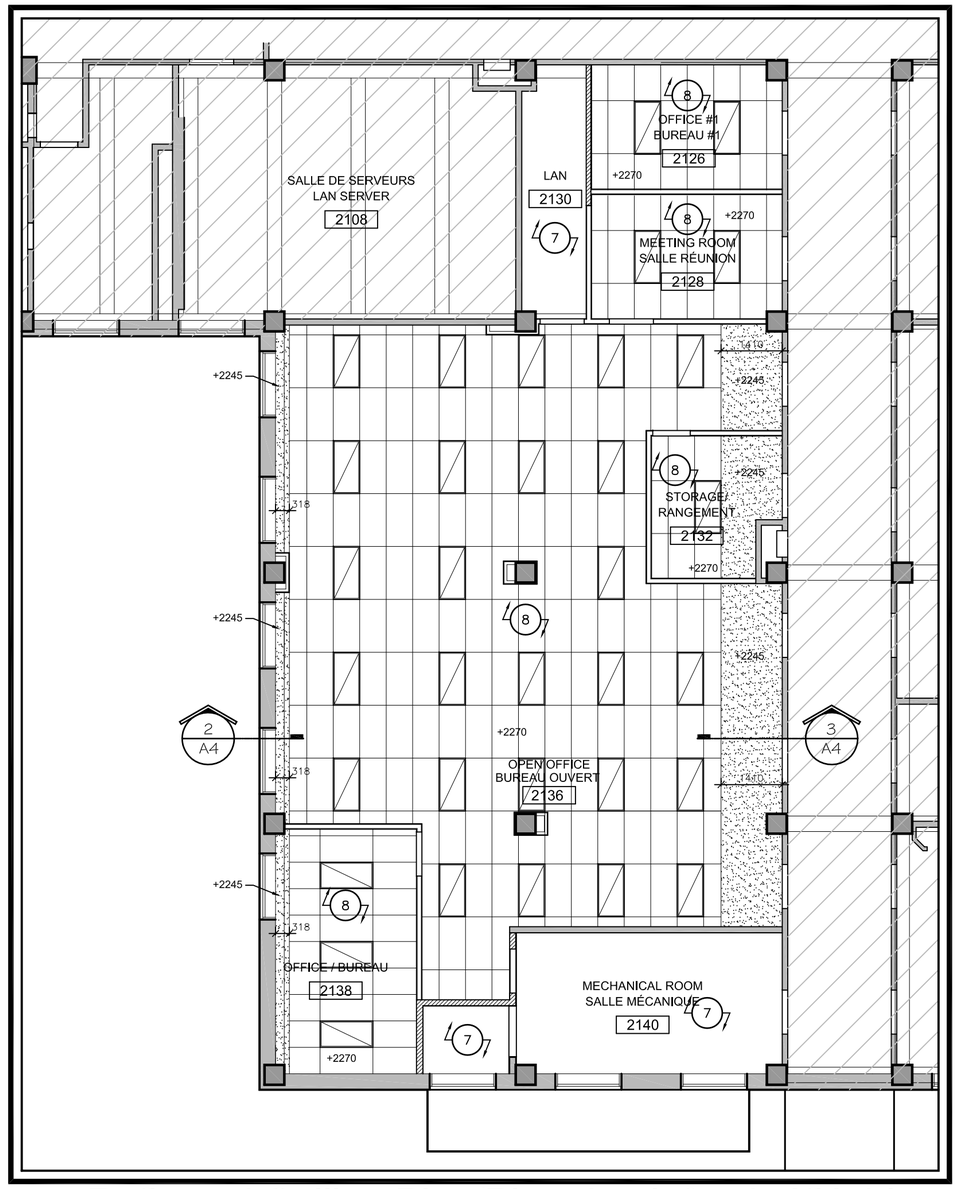
REVISION No / RÉVISION N° 0




# Floor Plan/ Plan d'étage

1 / A3

Scale/Échelle = 1:100




# Reflected Ceiling Plan/Plan de plafond réfléchi

2 / A3

Scale/Échelle = 1:100

## NOTES FOR DRAWING A2:

1. PROVIDE 16mm GYPSUM BOARD FROM COLUMN TO COLUMN.
2. PROVIDE NEW VCT FLOORING. REFER TO NOTES 11 AND 12 FOR SCOPE OF BASEBOARD WORK.
3. TYPICAL: PROVIDE NEW WINDOW SHADES AT EACH WINDOW. REFER TO SPECIFICATIONS.
4. SECURE WOOD STEPS USING CLIP ANGLES. PROVIDE NEW WOOD GUARDRAIL INCLUDING WOOD HANDRAIL, WOOD POSTS AND PICKETS AND STEEL ANCHORS TO FLOOR TO MEET OBC.
5. TYPICAL: LAMINATE 13MM GYPSUM BOARD AND 20MM FURRING TO EACH COLUMN AND EXPOSED COLUMN FACES UNLESS OTHERWISE NOTED.
6. FINISH EXPOSED ENDS OF PARTITION AT REMOVED DOORWAY WITH 16MM TYPE X GYPSUM BOARD ON METAL FURRING OR STUDS.
7. EXISTING OPEN CEILING TO REMAIN.
8. NEW SUSPENDED ACOUSTICAL TILE CEILING. REFER TO SPECIFICATIONS.
9. PROVIDE NEW PAINT FINISH ON ALL NEW AND EXISTING WALLS INCLUDING DOORS AND FRAMES AS PER SPECIFICATIONS. PAINT ALL CEILING BULKHEADS AND EXPOSED CEILING GYPSUM BOARD OR PLASTER ELEMENTS.
10. PROVIDE NEW PAINT FINISH ON ALL NEW AND EXISTING WALLS INCLUDING DOORS AND FRAMES AS PER SPECIFICATIONS.
11. PREPARE AND INSTALL WOOD BASE SALVAGED FROM DEMOLITION. ASCERTAIN QUANTITY REQUIRED. SAND AND REPAINT BASE.
12. TYPICAL: AT EVERY WINDOW SILL, PROVIDE WOOD FILLER PASTE, SAND AND 2 COATS OF PAINT AND NEW SEALANT AT PERIMETER.
13. EXISTING BASE TO REMAIN. CLEAN,SAND, FILL AND PREPARE FOR NEW COATS OF PAINT.
14. INSTALL EXISTING WOOD BASES SALVAGED FROM DEMOLITION AS NOTED ON DEMOLITION DRAWINGS. CLEAN, SAND, FILL AND PREPARE FOR NEW COATS OF PAINT.
15. PROVIDE OPENINGS FOR THE INSTALLATION OF NEW FIRE DAMPERS.

## NOTES POUR LE DESSIN A3:

1. PRÉVOIR UNE COUCHE DE PLACOPLÂTRE DE 16MM ENTRE LES 2 COLONNES.
2. PRÉVOIR UN NOUVEAU PLANCHER EN CARREAUX VINYLIQUES. CONSULTER LES NOTES 11 ET 12 QUANT À L'ÉTENDUE DES TRAVAUX RELATIFS AUX PLINTHES.
3. INSTALLATION TYPE : PRÉVOIR DE NOUVEAUX STORES À ENROULEMENT AUTOMATIQUE POUR CHAQUE FENÊTRE. CONSULTER LE DEVIS.
4. ASSUJETTIR LES MARCHES EN BOIS À L'AIDE DE CORNIÈRES DE FIXATION. PRÉVOIR DE NOUVEAUX GARDE-CORPS EN BOIS, Y COMPRIS DES MAINS COURANTES EN BOIS, DES POTEAUX EN BOIS ET DES PIEUX ET DES DISPOSITIFS D'ANCRAGE EN ACIER AU PLANCHER AFIN DE SE CONFORMER AUX EXIGENCES DU OBC (CODE DU BÂTIMENT DE L'ONTARIO).
5. INSTALLATION TYPE : À MOINS D'INDICATION CONTRAIRE, LAMINER LES PLAQUES DE PLÂTRE DE 13 mm ET LES FOURRURES DE 20 mm À CHAQUE COLONNE ET AUX FACES DE COLONNES APPARENTES.
6. FINIR LES EXTRÉMITÉS APPARENTES DE LA CLOISON À L'EMPLACEMENT DE L'ENTRÉE DE PORTE QUI A ÉTÉ ENLEVÉE À L'AIDE D'UNE PLAQUE DE PLÂTRE DE TYPE X, DE 16 mm D'ÉPAISSEUR, POSÉE SUR DES POTEAUX OU DES FOURRURES EN MÉTAL.
7. FAUX-PLAFOND À CLAIRE-VOIE EXISTANT À CONSERVER.
8. NOUVEAU PLAFOND SUSPENDU À CARREAUX INSONORISANTS. CONSULTER LE DEVIS.
9. APPLIQUER UNE NOUVELLE PEINTURE DE FINITION SUR TOUS LES MURS NEUFS ET EXISTANTS, Y COMPRIS LES PORTES ET LES BÂTIS, SELON LES PRESCRIPTIONS DU DEVIS. APPLIQUER DE LA PEINTURE SUR TOUTES LES RETOMBÉES DE PLAFOND ET LES OUVRAGES EN PLÂTRE OU EN PLAQUES DE PLÂTRE APPARENTS AU PLAFOND.
10. APPLIQUER UNE NOUVELLE PEINTURE DE FINITION SUR TOUS LES MURS NEUFS ET EXISTANTS, Y COMPRIS LES PORTES ET LES BÂTIS, SELON LES PRESCRIPTIONS DU DEVIS.
11. PRÉPARER ET INSTALLER LA PLINTHE EN BOIS QUI A ÉTÉ RÉCUPÉRÉE AU MOMENT DE LA DÉMOLITION. DÉTERMINER LA QUANTITÉ REQUISE. PONCER ET APPLIQUER UNE NOUVELLE PEINTURE SUR LA PLINTHE.
12. INSTALLATION TYPE: À CHAQUE FENÊTRE, REMPLIR LES DÉFAUTS EN UTILISANT UNE PÂTE BOUCHE-PORE POUR LE BOIS, SABLER ET PEINDRE AVEC 2 COUCHES DE PEINTURE. CALFEUTRER LE PÉRIMETRE.
13. PLINTHE EXISTANTE À CONSERVER. NETTOYER, SABLER, REMPLIR ET PRÉPARER LES PLINTHES POUR DES NOUVELLES COUCHES DE PEINTURE.
14. INSTALLER LES PLINTHES DE BOIS EXISTANTES CONSERVÉES LORS DE LA DÉMOLITION, TEL QUE NOTÉ AUX DESSINS DE DÉMOLITION. NETTOYER, SABLER, REMPLIR ET PRÉPARER LES PLINTHES POUR DES NOUVELLES COUCHES DE PEINTURE.
15. PRÉVOIR LES OUVERTURES REQUISES POUR LES CLAPETS COUPE-FEU.

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| 1 | ISSUED FOR 66% REVIEW | 22/01/15 |


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PROJECT NAME / NOM DU PROJET

Room 2130 Fit-up

K. W. Neatby Building - Central Experimental Farm

Aménagement de la salle 2130

Édifice K.W. Neatby - Ferme Expérimental Centrale

960 Carling Avenue, Ottawa, Ontario

DRAWING TITLE / TITRE DU DESSIN

New Work - Floor Plan & Reflected Ceiling Plan/
Nouveau - plan d'étage & plan du plafond réfléchi

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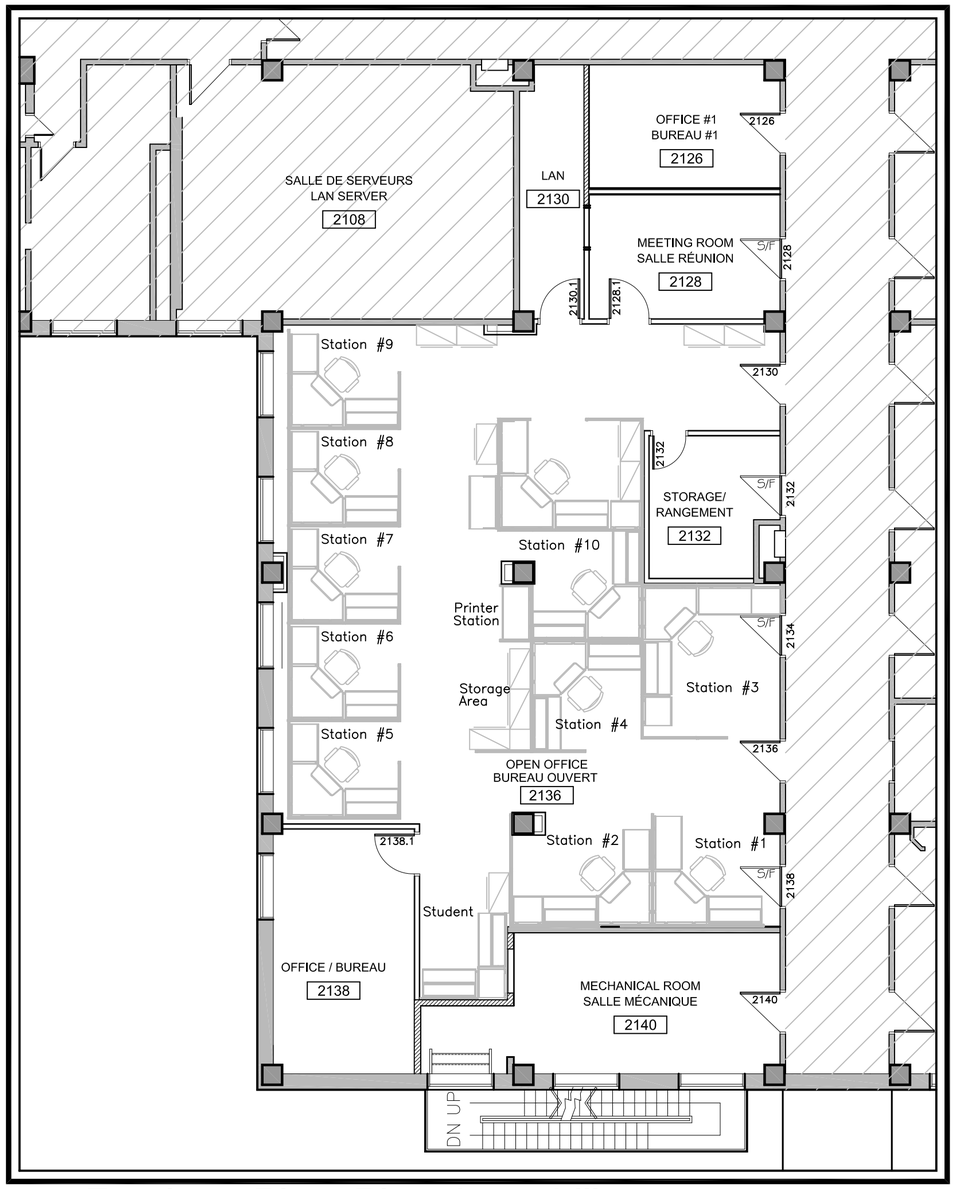
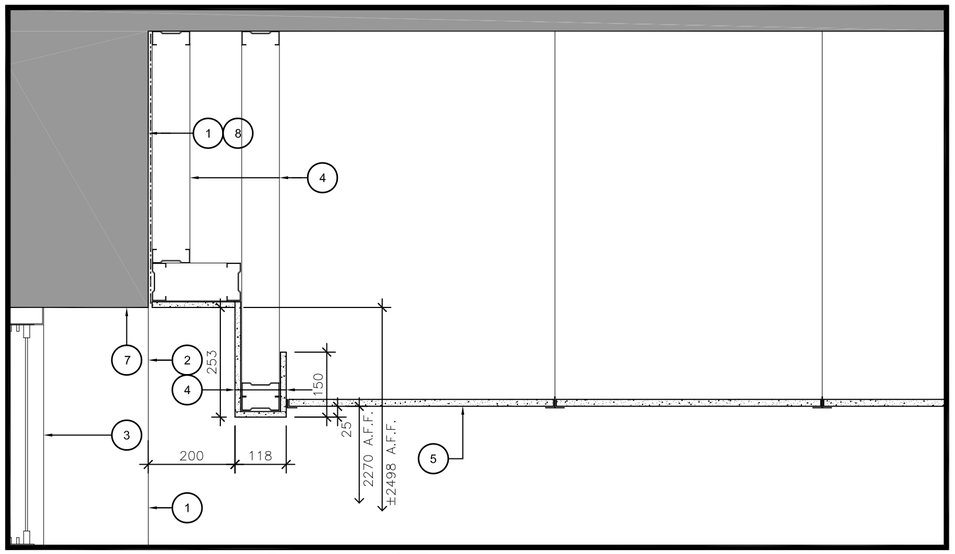


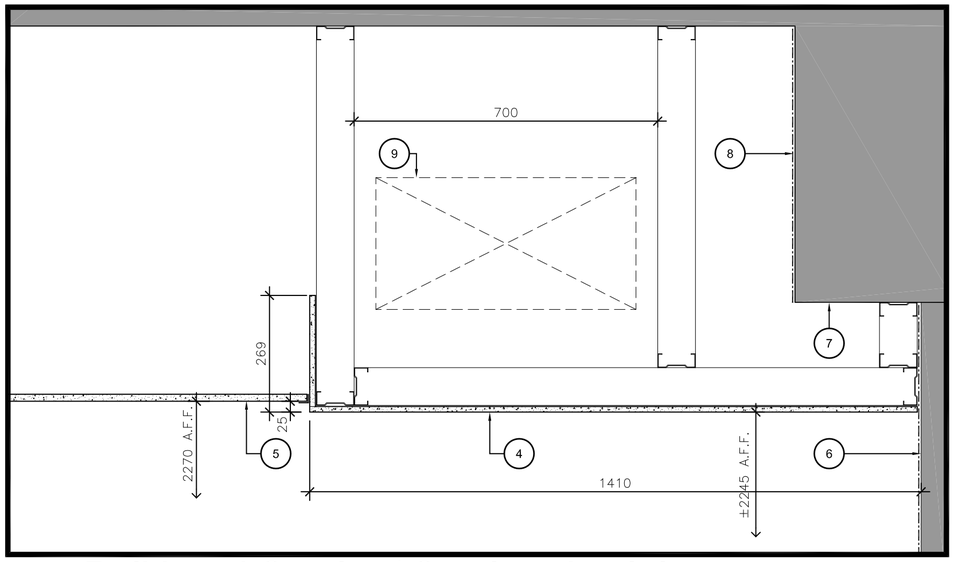

1 / A4 **Furniture Plan/ Plan de mobilier**

Scale/Échelle = 1:100




2 / A4 **Bulkhead Section/ Section de cloisonnement**

Scale/Échelle = 1:10




3 / A4 **Bulkhead Section/ Section de cloisonnement**

Scale/Échelle = 1:10

## GENERAL NOTES FOR DRAWING A4:

A. THE FURNITURE PLAN IS PROVIDED FOR INFORMATION PURPOSES ONLY.
B. REFER TO SPECIFICATIONS GENERAL INSTRUCTIONS, ITEM 1.5 REGARDING THE EXTENT OF HAZARDOUS SUBSTANCES.

## NOTES FOR DRAWING A4:

1. EXISTING EXTERIOR WALL PLASTER KNOWN TO CONTAIN HAZARDOUS SUBSTANCES. DO NOT DRILL OR DAMAGE THE PLASTER.
2. EXISTING WALL BEYOND.
3. EXISTING WINDOW.
4. GYPSUM BULKHEAD CONSTRUCTED WITH 64MM STEEL STUDS @ 400 O/C (MAXIMUM) FASTENED TO U/S OF CONCRETE SLAB OR BEAM C/W 13mm GYPSUM BOARD. DO NOT ATTACH STUDS TO SURFACES CONTAINING HAZARDOUS SUBSTANCES. USE ADHESIVES WHERE NECESSARY.
5. NEW SUSPENDED CEILING.
6. EXISTING INTERIOR WALL KNOWN TO CONTAIN HAZARDOUS SUBSTANCES. DO NOT DRILL OR DAMAGE THE PLASTER.
7. U/S OF EXISTING BEAM DOES NOT CONTAIN HAZARDOUS SUBSTANCES.
8. FACE OF EXISTING CONCRETE BEAM KNOWN TO CONTAIN HAZARDOUS SUBSTANCES. DO NOT DRILL OR OTHERWISE PIERCE THE PLASTER.
9. SUPPLY AIR DUCTWORK. COORDINATE SIZE OF BULKHEAD ACCORDINGLY

## NOTES GÉNÉRALES POUR LE DESSIN A4:

A. LE PLAN DE MEUBLES EST FOURNI À TITRE D'INFORMATION SEULEMENT.
B. SE RÉFÉRER AU DEVIS, INSTRUCTIONS GÉNÉRALES, ARTICLE 1.5 CONCERNANT DE MATÈRES DANGEREUSES.

## NOTES POUR LE DESSIN A1:

1. LE MUR EXTÉRIEUR EXISTANT EST RECOUVERT DE PLÂTRE CONTENANT DES MATIÈRES DANGEREUSES. IL EST INTERDIT DE PERCER OU ENDOMMAGER LE PLÂTRE.
2. MUR EXISTANT AU-DELÀ.
3. FENÊTRE EXISTANTE.
4. RETOMBÉE DE PLAFOND COMPOSÉE DE PLAQUES DE PLÂTRES DE 13mm D'ÉPAISSEUR SUR DES MONTANTS D'ACIER DE 64mm D'ÉPAISSEUR ESPACÉS À 400mm MAXIMUM ET ANCRÉS À LA DALLE DE PLAFOND. IL EST INTERDIT D'ANCRER LES MONTANTS AUX SURFACES CONTENANT DES MATIÈRES DANGEREUSES. UTILISER DES PRODUITS ADHÉSIFS AU BESOIN.
5. NOUVEAU PLAFOND SUSPENDU.
6. LE MUR INTÉRIEUR EXISTANT EST RECOUVERT DE PLÂTRE CONTENANT DES MATIÈRES DANGEREUSES. IL EST INTERDIT DE PERCER OU ENDOMMAGER LE PLÂTRE.
7. LE DESSOUS DE LA POUTRE EXISTANTE NE CONTIENT AUCUNES MATIÈRES DANGEREUSES.
8. LA FACE DE LA POUTRE EST RECOUVERTE DE PLÂTRE CONTENANT DES MATIÈRES DANGEREUSES. IL EST INTERDIT DE DRILLER OU AUTREMENT PERCER LE PLÂTRE.
9. GAINE DE VENTILATION D'AIR. COORDONNER LA DIMENSION DE LA RETOMBÉE EN CONSÉQUENCE.

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PROJECT NAME / NOM DU PROJET
# Room 2130 Fit-up
K. W. Neatby Building - Central Experimental Farm
# Aménagement de la salle 2130
Édifice K.W. Neatby - Ferme Expérimental Centrale
960 Carling Avenue, Ottawa, Ontario

DRAWING TITLE / TITRE DU DESSIN
# Furniture Plan/ Details Plan des mobilier et Détails

| | |
|---|---|
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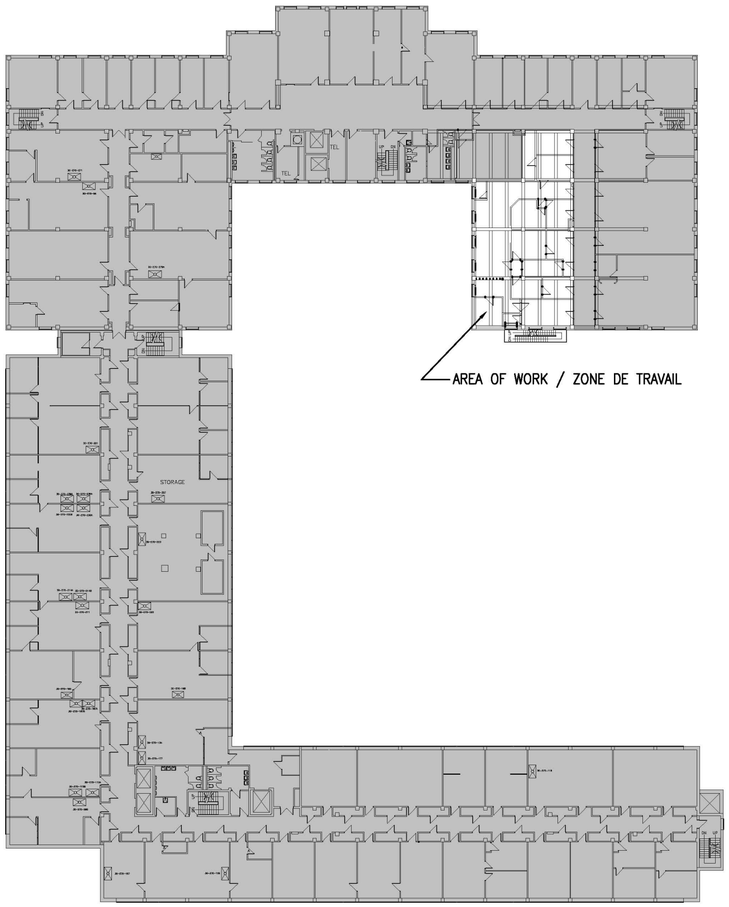
DRAWING No / DESSIN N°: A4

REVISION No / RÉVISION N°: 0

AutoCAD File : H:\revfloo\BMA_A1.dwg Last Updated : Wed 2001/11/21 11:20:23

# ROOM 2130 FIT-UP
# AMÉNAGEMENT DE LA PIÈCE 2130
## K. W. NEATBY BUILDING - CENTRAL EXPERIMENTAL FARM
## ÉDIFICE K.W. NEATBY – FERME EXPÉRIMENTALE CENTRALE




1
E1
KEY PLAN / PLAN REPÈRE
1:500

### LÉGENDE D'ÉCLAIRAGE ET D'ALARME INCENDIE
### LIGHTING & FA LEGEND

| DESCRIPTION | SYMBOL | DESCRIPTION |
|---|---|---|
| APPAREIL D'ÉCLAIRAGE FLUORESCENT – TYPE TEL QU'INDIQUÉ | 1 | FLUORESCENT LIGHT FIXTURE – TYPE AS SHOWN |
| APPAREILS D'ÉCLAIRAGE SUR LE CIRCUIT D'ÉCLAIRAGE DE NUIT–NON COMMUTÉS | 2 | LIGHT FIXTURES ON NIGHT LIGHT CIRCUIT – DO NOT SWITCH |
| INTERRUPTEUR INSTALLÉ SUR LE MUR, 1200mm AU DESSUS DU PLANCHER FINI | $ | WALL MOUNTED SWITCH – M.H. 1200mm A.F.F. |
| INTERRUPTEUR À TROIS VOIES INSTALLÉ SUR LE MUR, 1200mm AU DESSUS DU PLANCHER FINI | $3 | WALL MOUNTED 3–WAY SWITCH – M.H. 1200mm A.F.F. |
| PANNEAU DE SORTIE MONTÉ SUR LE MUR, SIMPLE OU DOUBLE FACE TEL QU'INDIQUÉ | ⊗ ⊗ | WALL MOUNTED EXIT LIGHT, SINGLE OR DOUBLE–FACE AS SHOWN |
| DÉTECTEUR DE CHALEUR POUR ALARME À INCENDIE, R57°C | | FIRE ALARM HEAT DETECTOR, R57°C |
| CLOCHE POUR ALARME À INCENDIE 6" | F | FIRE ALARM BELL 6" |

### LÉGENDE D'ALIMENTATION
### POWER LEGEND

| DESCRIPTION | SYMBOL | DESCRIPTION |
|---|---|---|
| PRISE DE COURANT DOUBLE, 15A, 120V, INSTALLÉ SUR LE MUR | | 15A, 120V WALL MOUNTED DUPLEX RECEPTACLE |
| PRISE DE COURANT INSTALLÉ AU DESSUS DU COMPTOIR | | DEDICATED DUPLEX RECEPTACLE |
| TABLEAU INSTALLÉ EN SURFACE | | SURFACE MOUNTED PANEL |
| BOÎTE POUR SORTIE COMBINAISON DONNÉES/TÉLÉPHONE | | COMBINATION DATA/TELEPHONE OUTLET BOX |

### LÉGENDE DES ABRÉVIATIONS
### ABBREVIATION

| DESCRIPTION | SYMBOL | DESCRIPTION |
|---|---|---|
| ÉLÉMENT EXISTANT, À CONSERVER | E | EXISTING TO REMAIN |
| ÉLÉMENT EXISTANT, À DÉPLACER | ER | EXISTING TO BE RELOCATED |
| ÉLÉMENT EXISTANT À SON NOUVEL EMPLACEMENT | EN | EXISTING TO NEW LOCATION |
| AU–DESSUS DU COMPTOIR | OC | OVER COUNTER |
| MONTAGE EN SAILLIE | * | SURFACE MOUNTED |

### LIGHTING FIXTURE SCHEDULE / LISTE DES APPAREILS D'ÉCLAIRAGE

| TYPE | DESCRIPTION | CATALOG NUMBER NUMÉRO DE CATALOGUE | LAMPS PER FIXTURE LAMPES PAR APPAREIL | | | | VOLT | MOUNTING MONTAGE | REMARKS OBSERVATIONS |
|---|---|---|---|---|---|---|---|---|---|
| | | | QTY QTÉ | TYPE | WATTS | COLOUR COULEUR | | | |
| 1 | 2' X 4' TROFFER | # | 1 | LED DEL | 45 | 4000 | 120 | RECESSED | REFER TO SPECIFICATION FOR DETAILS. |
| | DIRECT/INDERECT BASKET TYPE | | | | | | | T–BAR | |
| | PLAFONNIER ENCASTRÉ DE 2 PIX4 PI DU | # | | | | | | ENCASTRÉ | CONSULTER LE DEVIS POUR LES DÉTAILS. |
| | TYPE À PANIER, À ÉCLAIRAGE DIRECT/INDIRECT | | | | | | | BARRE EN T | |

THESE ELECTRICAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ELECTRICAL SPECIFICATION, MECHANICAL, ARCHITECTURAL AND STRUCTURAL SPECIFICATIONS AND DRAWINGS.

CES DESSINS D'ÉLECTRICITÉ DOIVENT ÊTRE LUS CONJOINTEMENT AVEC LE DEVIS D'ÉLECTRICITÉ AINSI QUE LE DEVIS ET LES DESSINS DE MÉCANIQUE, D'ARCHITECTURE ET DE STRUCTURE.

Agriculture and Agri-food Canada
Agriculture et Agroalimentaire Canada

Client

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| FEB 13, 2015<br>LE 13 FEVR. 2015 | ISSUED FOR TENDER<br>ÉMIS POUR SOUMISSION | 0 |
| FEB 04, 2015<br>LE 04 FEVR. 2015 | ISSUED FOR TRANSLATION<br>ÉMIS POUR TRADUCTION | 0 |
| JAN 29, 2015<br>LE 29 JANV. 2015 | ISSUED FOR REVIEW<br>ÉMIS POUR VÉRIFICATION | 0 |
| DATE | REVISION | REF |



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Project north
Nord du projet

Seal/Sceau

LICENSED PROFESSIONAL ENGINEER
D. B. VYAS
100133120
Feb 13, 2015
PROVINCE OF ONTARIO

Project/Projet

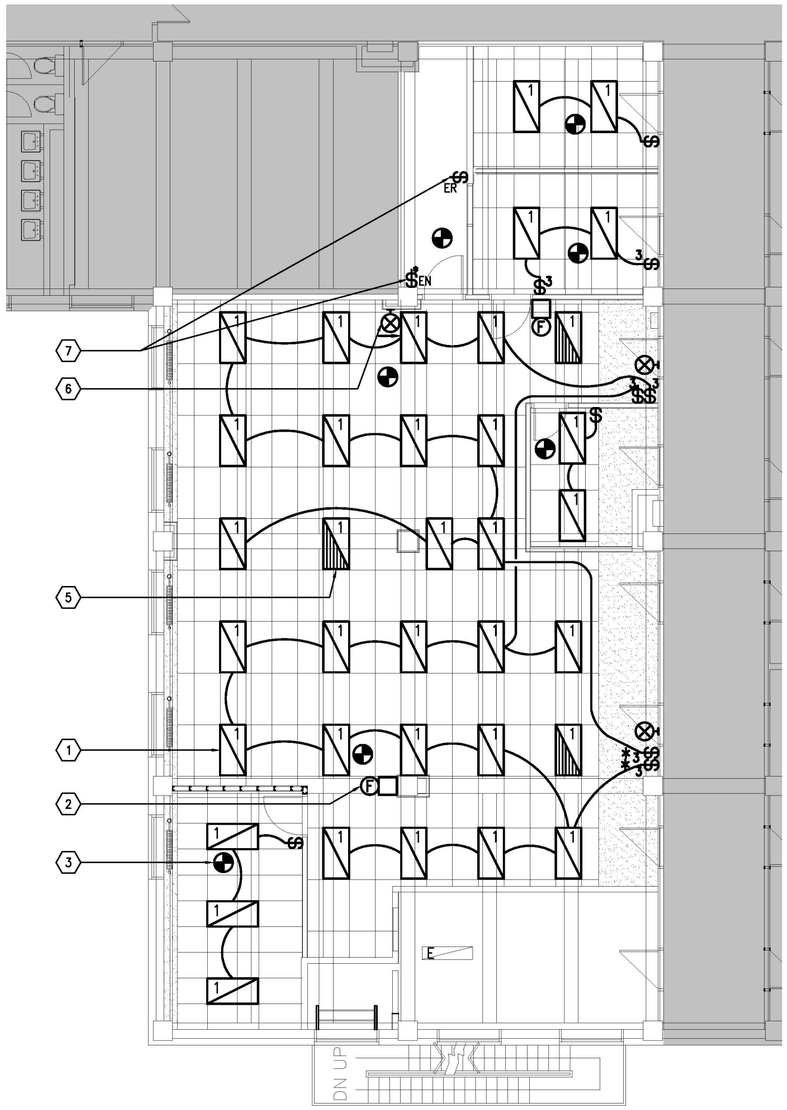
ROOM 2130 FIT-UP
K. W. NEATBY BUILDING - CENTARAL EXPERIMENTAL FARM

AMÉNAGEMENT DE LA PIÈCE 2130
ÉDIFICE K.W. NEATBY - FERME EXPÉRIMENTALE CENTRALE

Drawing title/Titre du dessin
ELECTRICAL
KEY PLAN AND LEGEND

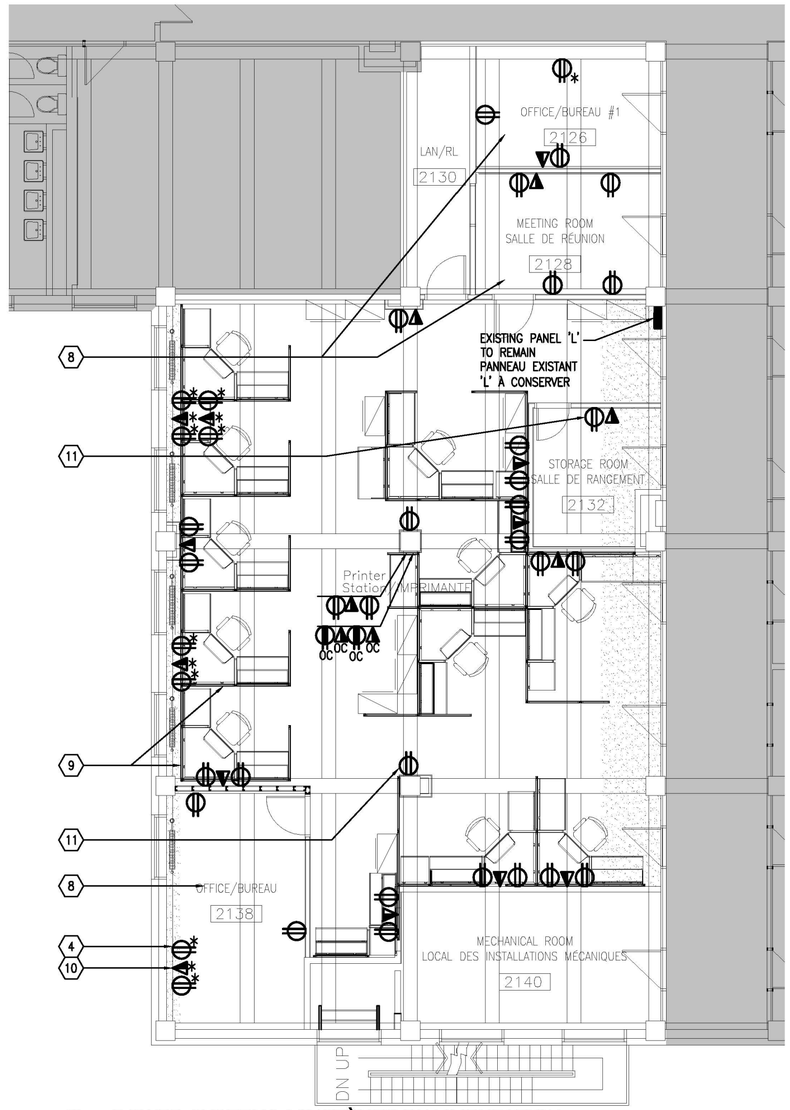
ÉLECTRICITÉ
PLAN REPÈRE ET LÉGENDE

| | | | |
|---|---|---|---|
| Scale / Échelle | AS NOTED<br>SELON LES ANNOTATIONS | Project no./No. du projet | 2014–628 |
| Design by / Conçu par | T. BELOKOUROV | Drawing/Dessin | E1 |
| Drawn by / Dessiné par | T. BELOKOUROV | | |
| Reviewed by / Examiné par | D. VYAS | | OF 2 |
| Date | JANUARY 2015<br>JANVIER 2015 | Revision no: | 0 |
| | | Acad file/Fichier: | Z:/2015–130 |




1 / E2 LIGHTING AND FIRE ALARM / ÉCLAIRAGE ET ALARME INCENDIE

1:100




2 / E2 POWER SYSTEMS / SYSTÈMES D'ALIMENTATION

1:100

## GENERAL NOTES:

(A) COORDINATE EXACT LOCATION AND MOUNTING HEIGHT FOR RECEPTACLES AND PHONE/DATA OUTLETS WITH ARCHITECTURAL DRAWINGS AND FURNITURE SUPPLIER PRIOR ROUGH-IN.

(B) SECURE ALL LIGHT FIXTURES TO STRUCTURE WITH TWO-POINT CHAIN CONNECTION MINIMUM.

(C) REUSE EXISTING CIRCUITS TO FEED NEW LIGHT FIXTURES AND RECEPTACLES. UPDATE PANEL DETAIL.

## NOTES GÉNÉRALES :

(A) COORDONNER L'EMPLACEMENT PRÉCIS ET LA HAUTEUR DE MONTAGE DES PRISES DE COURANT ET DES SORTIES DE DONNÉES/TÉLÉPHONE AVEC LES INDICATIONS SUR LES DESSINS D'ARCHITECTURE ET LES EXIGENCES DU FOURNISSEUR DU MOBILIER AVANT D'ENTREPRENDRE LES AMENÉES DE SERVICE.

(B) ASSUJETTIR TOUS LES APPAREILS D'ÉCLAIRAGE À L'OSSATURE À AU MOINS DEUX ENDROITS AU MOYEN D'UNE CHAÎNE.

(C) RÉUTILISER LES CIRCUITS EXISTANTS POUR ALIMENTER LES PRISES DE COURANT ET LES APPAREILS D'ÉCLAIRAGE NEUFS. METTRE LES DÉTAILS DU PANNEAU À JOUR.

## DRAWING NOTES:

(1) TYPICAL
PROVIDE NEW LIGHT FIXTURE AS INDICATED IN LIGHTING FIXTURE SCHEDULE AND WIRE TO EXISTING CIRCUIT. PROVIDE NEW CONDUIT/WIRING AND LIGHT SWITCH AS SHOWN.

(2) TYPICAL
PROVIDE NEW FIRE ALARM BELL TO MATCH BASE BUILDING STANDARDS. WIRE TO EXISTING FIRE ALARM CIRCUIT, VERIFY AND UPDATE PROGRAMING.

(3) TYPICAL
PROVIDE NEW FIRE ALARM HEAT DETECTOR TO MATCH BASE BUILDING STANDARDS. WIRE TO EXISTING FIRE ALARM CIRCUIT, VERIFY AND UPDATE PROGRAMING.

(4) TYPICAL
PROVIDE 5-15R RECEPTACLE AND WIRE TO EXISTING CIRCUIT. PROVIDE NEW CONDUIT/WIRING.

(5) TYPICAL
PROVIDE NEW LIGHT FIXTURE AND WIRE TO UNSWITCHED NIGHT LIGHT CIRCUIT. UPDATE PANEL DETAIL. PROVIDE NEW CONDUIT/WIRING. REUSE EXISTING 1P-15A BREAKER.

(6) TYPICAL
PROVIDE EXIT LIGHT TO MATCH BASE BUILDING STANDARDS. WIRE TO EXISTING EXIT LIGHT CIRCUIT.

(7) DISCONNECT AND RELOCATE EXISTING LIGHT SWITCH. EXTEND CONDUITU/WIRING TO SUIT NEW LOCATION AS SHOWN.

(8) PROVIDE AND WIRE FOUR (4) RECEPTACLES IN OFFICE/MEETING ROOM ON EXISTING CIRCUIT. RE-USE EXISTING 1P-15A BREAKER. PROVIDE NEW CONDUIT/WIRING. UPDATE PANEL DETAIL.

(9) TYPICAL
PROVIDE AND WIRE RECEPTACLES FOR WORKSTATIONS ON EXISTING CIRCUIT, MAXIMUM OF TWO (2) WORKSTATIONS PER CIRCUIT. RE-USE EXISTING 1P-15A BREAKER. PROVIDE NEW CONDUIT/WIRING. UPDATE PANEL DETAIL.

(10) TYPICAL
PROVIDE BACK BOX AND 21mm EMPTY CONDUIT C/W PULL STRING UP TO CEILING SPACE FOR PHONE/DATA OUTLET.

(11) TYPICAL
PROVIDE AND WIRE RECEPTACLE ON EXISTING CIRCUIT. RE-USE EXISTING 1P-15A BREAKERS. PROVIDE NEW CONDUIT/WIRING. UPDATE PANEL DETAIL.

## NOTES DU DESSIN :

(1) INSTALLATION TYPE
TREVOR UN NOUVEL APPAREIL D'ÉCLAIRAGE SELON LES INDICATIONS DANS LA LISTE DES APPAREILS D'ÉCLAIRAGE ET LE CÂBLER AU CIRCUIT EXISTANT. PRÉVOIR DES CONDUITS/CÂBLES ET UN INTERRUPTEUR NEUFS SELON LES INDICATIONS.

(2) INSTALLATION TYPE
TREVOR UN NOUVEAU TIMBRE D'ALARME INCENDIE ASSORTI AUX NORMES DE L'ÉDIFICE DE BASE. CÂBLER AU CIRCUIT D'ALARME INCENDIE EXISTANT. VÉRIFIER LE PROGRAMME ET LE METTRE À JOUR.

(3) INSTALLATION TYPE
PRÉVOIR UN NOUVEAU DÉTECTEUR THERMIQUE D'ALARME INCENDIE ASSORTI AUX NORMES DE L'ÉDIFICE DE BASE. CÂBLER AU CIRCUIT D'ALARME INCENDIE EXISTANT. VÉRIFIER LE PROGRAMME ET LE METTRE À JOUR.

(4) INSTALLATION TYPE
PRÉVOIR UNE PRISE DE COURANT 5-15R ET LA CÂBLER AU CIRCUIT EXISTANT. PRÉVOIR DES CONDUITS/CÂBLES NEUFS.

(5) INSTALLATION TYPE
PRÉVOIR UN NOUVEL APPAREIL D'ÉCLAIRAGE ET LE CÂBLER AU CIRCUIT D'ÉCLAIRAGE DE NUIT NON COMMUTÉ. METTRE LES DÉTAILS DU PANNEAU À JOUR. PRÉVOIR DES CONDUITS/CÂBLES NEUFS. RÉUTILISER LE DISJONCTEUR UNIPOLAIRE DE 15 A EXISTANT.

(6) INSTALLATION TYPE
PRÉVOIR UN NOUVEL INDICATEUR LUMINEUX DE SORTIE ASSORTI AUX NORMES DE L'ÉDIFICE DE BASE. CÂBLER AU CIRCUIT DES INDICATEURS LUMINEUX DE SORTIE EXISTANT.

(7) DÉBRANCHER ET DÉPLACER L'INTERRUPTEUR D'ÉCLAIRAGE EXISTANT. PROLONGER LES CONDUITS/CÂBLES EN FONCTION DU NOUVEL EMPLACEMENT SELON LES INDICATIONS.

(8) PRÉVOIR QUATRE (4) PRISES DE COURANT ET LES CÂBLER DANS LE BUREAU/LA SALLE DE RÉUNION SUR LE CIRCUIT EXISTANT. RÉUTILIER LE DISJONCTEUR UNIPOLAIRE DE 15 A EXISTANT. PRÉVOIR DES CONDUITS/CÂBLES NEUFS. METTRE LES DÉTAILS DU PANNEAU À JOUR.

(9) INSTALLATION TYPE
PRÉVOIR DES PRISES DE COURANT POUR LES POSTES DE TRAVAIL ET LES CÂBLER SUR LE CIRCUIT EXISTANT – AU PLUS DEUX (2) POSTES DE TRAVAIL PAR CIRCUIT. RÉUTILISER LE DISJONCTEUR UNIPOLAIRE DE 15 A EXISTANT. PRÉVOIR DES CONDUITS/CÂBLES NEUFS. METTRE LES DÉTAILS DU PANNEAU À JOUR.

(10) INSTALLATION TYPE
PRÉVOIR UNE BOÎTE DE MONTAGE ET UN CONDUIT VIDE DE 21 mm AVEC UN CÂBLE DE TIRAGE JUSQU'AU VIDE DE PLAFOND POUR LA PRISE DE TÉLÉPHONE/DONNÉES.

(11) INSTALLATION TYPE
PRÉVOIR UNE PRISE DE COURANT ET LA CÂBLER SUR LE CIRCUIT EXISTANT. RÉUTILISER LES DISJONCTEURS UNIPOLAIRES DE 15 A EXISTANTS. PRÉVOIR DES CONDUITS/CÂBLES NEUFS. METTRE LES DÉTAILS DU PANNEAU À JOUR.

Agriculture and Agri-food Canada

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Nord du projet

Seal/Sceau

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February 6, 2015
PROVINCE OF ONTARIO

Project/Projet

ROOM 2130 FIT-UP

K. W. NEATBY BUILDING - CENTARAL EXPERIMENTAL FARM

AMÉNAGEMENT DE LA PIÈCE 2130

ÉDIFICE K.W. NEATBY - FERME EXPÉRIMENTALE CENTRALE

Drawing title/Titre du dessin

ELECTRICAL LIGHTING, FIRE ALARM AND POWER SYSTEMS LAYOUT

ÉLECTRICITÉ PLAN D'IMPLANTATION DES SYSTÈMES D'ALIMENTATION, D'ÉCLAIRAGE ET D'ALARME INCENDIE

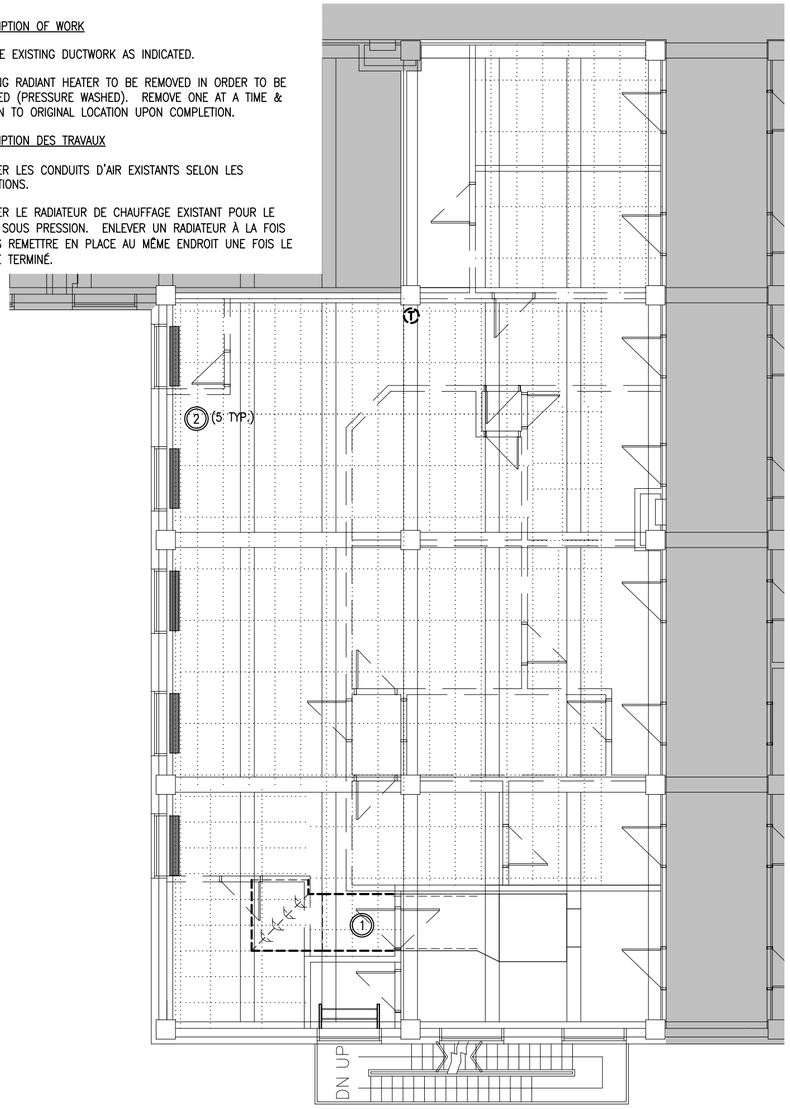
| | | | |
|---|---|---|---|
| Scale<br>Échelle | AS NOTED<br>SELON LES ANNOTATIONS | Project no./No. du projet | 2014-628 |
| Design by<br>Conçu par | T. BELOKOUROV | Drawing/Dessin | E2 |
| Drawn by<br>Dessiné par | T. BELOKOUROV | | OF 2 |
| Reviewed by<br>Examiné par | D. VYAS | | |
| Date<br>Date | JANUARY 2015<br>JANVIER 2015 | Revision no: | 0 |
| | | Acad file/Fichier: | Z:/2015-130 |

DESCRIPTION OF WORK

1. REMOVE EXISTING DUCTWORK AS INDICATED.
2. EXISTING RADIANT HEATER TO BE REMOVED IN ORDER TO BE CLEANED (PRESSURE WASHED). REMOVE ONE AT A TIME & RETURN TO ORIGINAL LOCATION UPON COMPLETION.

DESCRIPTION DES TRAVAUX

1. ENLEVER LES CONDUITS D'AIR EXISTANTS SELON LES INDICATIONS.
2. ENLEVER LE RADIATEUR DE CHAUFFAGE EXISTANT POUR LE LAVER SOUS PRESSION. ENLEVER UN RADIATEUR À LA FOIS ET LES REMETTRE EN PLACE AU MÊME ENDROIT UNE FOIS LE LAVAGE TERMINÉ.



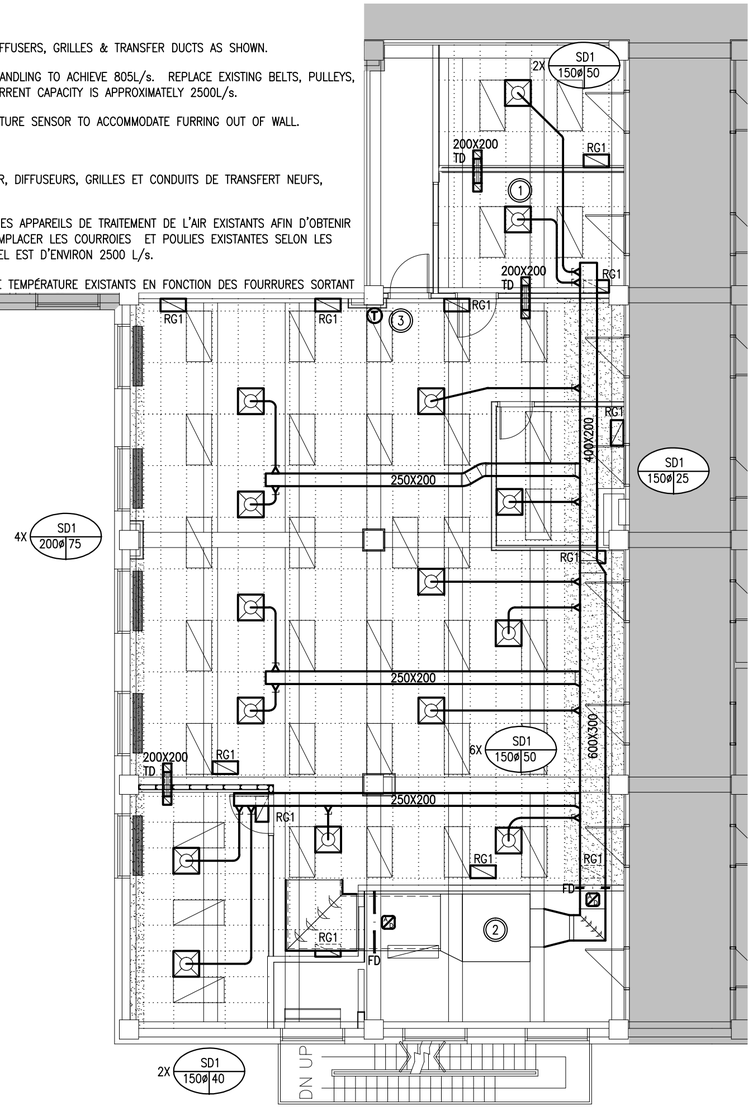

1 / M1 HVAC & FIRE PROTECTION DEMOLITION WORK
CVCA ET DE PROTECTION INCENDIE TRAVAUX DE DÉMOLITION
1:100

DESCRIPTION OF WORK

1. PROVIDE NEW DUCTWORK, DIFFUSERS, GRILLES & TRANSFER DUCTS AS SHOWN.
2. RE-BALANCE EXISTING AIR HANDLING TO ACHIEVE 805L/s. REPLACE EXISTING BELTS, PULLEYS, SHEAVES AS REQUIRED. CURRENT CAPACITY IS APPROXIMATELY 2500L/s.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO ACCOMMODATE FURRING OUT OF WALL.

DESCRIPTION DES TRAVAUX

1. PRÉVOIR DES CONDUITS D'AIR, DIFFUSEURS, GRILLES ET CONDUITS DE TRANSFERT NEUFS, SELON LES INDICATIONS.
2. REPRENDRE L'ÉQUILIBRAGE DES APPAREILS DE TRAITEMENT DE L'AIR EXISTANTS AFIN D'OBTENIR UN DÉBIT DE 805 L/s. REMPLACER LES COURROIES ET POULIES EXISTANTES SELON LES EXIGENCES. LE DÉBIT ACTUEL EST D'ENVIRON 2500 L/s.
3. DÉPLACER LES CAPTEURS DE TEMPÉRATURE EXISTANTS EN FONCTION DES FOURRURES SORTANT DU MUR.




2 / M1 HVAC & FIRE PROTECTION NEW WORK
CVCA ET DE PROTECTION INCENDIE NOUVEAUX TRAVAUX
1:100

## GENERAL LEGEND / LÉGENDE GÉNÉRALE

| SYMBOL / SYMBOLE | DESCRIPTION / DESCRIPTION |
|---|---|
| ——— | EXISTING PIPING/DUCTWORK/EQUIPMENT / MATÉRIEL/CONDUITS D'AIR/TUYAUX EXISTANTS |
| - - - - - - - | EXISTING PIPING/DUCTWORK/EQUIPMENT TO BE REMOVED/RELOCATED / MATÉRIEL/CONDUITS D'AIR/TUYAUX EXISTANTS À ENLEVER/DÉPLACER |
| ——— | NEW/RELOCATED PIPING/DUCTWORK/EQUIPMENT / MATÉRIEL/CONDUITS D'AIR/TUYAUX NEUFS/DÉPLACÉS |

## CONTROLS LEGEND / LÉGENDE DES DISPOSITIFS DE COMMANDE/RÉGULATION

| SYMBOL / SYMBOLE | DESCRIPTION / DESCRIPTION |
|---|---|
| ⌒⌒⌒ | LOW VOLTAGE CONTROL WIRING / CÂBLAGE DE COMMANDE/RÉGULATION BASSE TENSION |
| T | THERMOSTAT / THERMOSTAT |

## HVAC & FIRE PROTECTION LEGEND / LÉGENDE DE CVCA ET DE PROTECTION INCENDIE

| SYMBOL / SYMBOLE | DESCRIPTION / DESCRIPTION |
|---|---|
| | RECTANGULAR DUCTWORK / CONDUITS D'AIR RECTANGULAIRES |
| | ACOUSTICALLY LINED DUCTWORK (RETURN OR SUPPLY) / CONDUIT D'AIR GARNI D'UN REVÊTEMENT ACOUSTIQUE (REPRISE OU SOUFFLAGE) |
| | ECCENTRIC TRANSITION / TRANSITION EXCENTRIQUE |
| | RECTANGULAR TAKE-OFF / POINT DE RACCORDEMENT RECTANGULAIRE |
| | TAKE-OFF C/W BALANCING DAMPER / POINT DE RACCORDEMENT AVEC REGISTRE D'ÉQUILIBRAGE |
| | SQUARE SUPPLY DIFFUSER (TYPE) / DIFFUSEUR DE FORME CARRÉE (INSTALLATION TYPE) |
| RG1 | RETURN GRILLE (RG) / GRILLE DE REPRISE (RG) |
| | ACOUSTICALLY LINED TRANSFER DUCT (TD) / CONDUIT DE TRANSFERT GARNI D'UN REVÊTEMENT ACOUSTIQUE (TD) |
| | TURNING VANES / DÉFLECTEURS |
| SD1 200ø 95 | DIFFUSER TAG / ÉTIQUETTE SUR LE DIFFUSEUR<br>DIFFUSER TYPE / TYPE DE DIFFUSEUR<br>AIRFLOW (L/S) / DÉBIT D'AIR (L/s)<br>SIZE (mm) / DIMENSIONS (mm) |
| | ACCESS DOOR / PORTE DE VISITE |
| | FIRE DAMPER / REGISTRE COUPE-FEU |

Agriculture and Agri-food Canada

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Nord du projet

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LICENSED PROFESSIONAL ENGINEER
Feb 13/15
S. D. HAMILTON
PROVINCE OF ONTARIO

Project/Projet

ROOM 2130 FIT-UP
K. W. NEATBY BUILDING - CENTARAL EXPERIMENTAL FARM

AMÉNAGEMENT DE LA PIÈCE 2130
ÉDIFICE K.W. NEATBY - FERME EXPÉRIMENTALE CENTRALE

Drawing title/Titre du dessin

# MECHANICAL / MÉCANIQUE

HVAC & FIRE PROTECTION / CVCA ET DE PROTECTION INCENDIE
DEMOLITION & NEW WORK / TRAVAUX DE DÉMOLITION ET NOUVEAUX TRAVAUX

| | |
|---|---|
| Scale / Échelle: REFER TO DRAWING / RÉFÉRER AU DESSIN | Project no./No. du projet: 2014-628 |
| Design by / Conçu par: S.HAMILTON | Drawing/Dessin: M1 |
| Drawn by / Dessiné par: J.BERQUIST | |
| Reviewed by / Examiné par: S.HAMILTON | OF 1 |
| Date: JANUARY 2015 / JANVIER 2015 | Revision no: 0 |
| | Acad file/Fichier: Z:/2015-130 |