



# SPECIFICATIONS

**SOLICITATION #:** 22-58005

**BUILDING:** M-48,  
1200 Montreal Road,  
Ottawa, Ontario

**PROJECT:** M48 Test Cell 3 & 4 Renovation

**PROJECT #:** 5975

**Date:** May 2022

# **SPECIFICATION**

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## Construction Tender Form

### **Project Identification**      **M48 Test Cell 3 & 4 Renovation**

**Tender No.:**      22-58005

#### **1.2 Business Name and Address of Tenderer**

**Name** \_\_\_\_\_

**Address** \_\_\_\_\_

\_\_\_\_\_

**Contact Person(Print Name)** \_\_\_\_\_

**Telephone** (\_\_\_\_\_) \_\_\_\_\_      **Fax:** (\_\_\_\_\_) \_\_\_\_\_

#### **1.3 Offer**

I/We the Tenderer, hereby offer to Her Majesty the Queen in Right of Canada (hereinafter referred to as "Her Majesty") represented by the National Research Council Canada to perform and complete the work for the above named project in accordance with the Plans and Specifications and other Tender Documents, at the place and in the manner set out therein for the Total Tender Amount (to be expressed in numbers only) of: \$\_\_\_\_\_. \_\_\_\_\_  
**in lawful money of Canada (excluding GST/HST)**

The above amount is inclusive of all applicable (\*) Federal, Provincial and Municipal taxes except that in the event of a change in any tax imposed under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act, the Customs Tariff or any provincial sales tax legislation imposing a retail sales tax on the purchase of tangible personal property incorporated into Real Property, that occurs

- .1      after the date this tender was mailed or delivered, or
- .2      if this tender is revised, after the date of the last revision

the amount of this offer shall be decreased or decreased in the manner provided for in GC22 of the General Conditions of the Contract Documents.

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National Research Council Canada	Conseil national de recherches Canada
Finance and Procurement Services Branch	Direction des services financiers et d'approvisionnement

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### **1.3.1 Offer (continued)**

(\* ) For the purpose of this tender, the Goods and Services Tax (GST) is not to be considered as an applicable tax.

In the province of Quebec, the Quebec Sales Tax is not to be included in the tender amount because the Federal Government is exempt from this tax. Tenderers shall make arrangements directly with the provincial Revenue Department to recover any tax they may pay on good and services acquired in the performance of this contract. However, tenderers should include in their tender amount Quebec Sales Tax for which an Input Tax Refund is not available.

### **1.4 Acceptance and Entry into Contract**

I/We undertake, within fourteen (14) days of notification of acceptance of my/our offer, to sign a contract for the performance of the work provided I/we are notified, by the Department, of the acceptance of my/our offer within 30 days of the tender closing date.

### **1.5 Construction Time**

I/We Agree to complete the work within the time stipulated in the specification from the date of notification of acceptance of my/our offer.

### **1.6 Bid Security**

I/We herewith enclose tender security in accordance with Article 5 of the General Instruction to Tenderers.

I/We understand that if a security deposit is furnished as tender security and if I/we refuse to enter into a contract when called upon to do so, my/our security deposit shall be forfeited but the Minister may, if it is in the public interest, waive the right of Her Majesty to forfeit the security deposit.

I/We understand that if the security furnished is not in the approved form as described in Article 5 of the General Instructions to Tenderers, my/our tender is subject to disqualification.

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National Research Council      Conseil national de recherches  
Canada                              Canada

Finance and Procurement      Direction des services financiers  
Services Branch                    et d'approvisionnement

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**1.7      Contract Security**

Within fourteen (14) days after receipt of written notification of the acceptance of my/our offer, I/we will furnish contract security in accordance with the Contract Conditions "F" of the Contract Documents.

I/We understand that the contract security referred to herein, if provided in the form of a bill of exchange, will be deposited into the Consolidated Revenue Fund of Canada.

**1.8      Appendices**

This Tender Form includes Appendix No. \_\_\_\_\_N/A\_\_\_\_\_.

**1.9      Addenda**

The Total Tender Amount provides for the Work described in the following Addenda:

NUMBER	DATE	NUMBER	DATE

**(Tenderers shall enter numbers and dates of addenda)**

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National Research Council Canada	Conseil national de recherches Canada
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Finance and Procurement Services Branch	Direction des services financiers et d'approvisionnement
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**1.10 Execution of Tender**

The Tenderer shall refer to Article 2 of the General Instructions to Tenderers.

**SIGNED, ATTESTED TO AND DELIVERED on the \_\_\_\_\_ day of  
\_\_\_\_\_ on behalf of**

\_\_\_\_\_  
(Type or print the business name of the Tenderer)

**AUTHORIZED SIGNATORY (IES)**

\_\_\_\_\_  
(Signature of Signatory)

\_\_\_\_\_  
(Print name & Title of Signatory)

\_\_\_\_\_  
(Signature of Signatory)

\_\_\_\_\_  
(Print name & Title of Signatory)

**SEAL**

## BUY AND SELL NOTICE

### M48 Test Cell 3 & 4 Renovation

The National Research Council Canada, 1200 Montreal Road Ottawa, has a requirement for a project that includes:

Work under this contract covers the renovation of test cell 3 & 4 of Building M48 located at the Montreal Road Campus of the National Research Council of Canada

#### 1. GENERAL

Questions regarding any aspect of the project are to be addressed to and answered only by the Departmental Representative (or his designate) or the Contracting Authority.

Any information received other than from the Departmental Representative (or his designate) or the Contracting Authority will be disregarded when awarding the contract and during construction.

Firms intending to submit tenders on this project should obtain tender documents through the Buyandsell.gc.ca TMA services provider. Addenda, when issued, will be available from the Buyandsell.gc.ca TMA service provider. Firms that elect to base their bids on tender documents obtained from other sources do so at their own risk and will be solely responsible to inform the tender calling authority of their intention to bid. Tender packages are not available for distribution on the actual day of tender closing.

#### 2. MANDATORY SITE VISIT

It is mandatory that the bidder attends one of the site visits at the designated date and time. At least one representative from proponents that intend to bid must attend. The site visits will be held on May 26<sup>th</sup> and May 30<sup>th</sup>, 2022 at 9:00am. Meet Allan Smith at Building M-48, Main Entrance, 1200 Montreal Road Ottawa, ON. Bidders who, for any reason, cannot attend one of the specified dates and time will not be given an alternative appointment to view the site and their tenders, therefore, will be considered as non-responsive. **NO EXCEPTIONS WILL BE MADE.**

\* Due to COVID-19, we are taking additional measures to protect you and our employees at the site visits.

- To allow NRC to prepare for the site visits, all proponents are asked to pre-register preferably 48 hours ahead of the job showing and identify their preferred site visit date. Please register by emailing [Collin.Long@nrc-cnrc.gc.ca](mailto:Collin.Long@nrc-cnrc.gc.ca). Bidders shall provide contact name, email and phone number of person attending.
  
- At the site visit, to limit contact and risks:
  - o The proponents will sanitize their hands at the hand sanitizing station.
  - o The proponents will be asked to sign the Attendance Form. It is the responsibility of all proponents to verify information on the Attendance Form.
  - o The site visit will proceed with a maximum of four (4) proponents at a time. Each group will have approximately 20 minutes to review the site. The site visit will

continue with the next group of four (4) proponents until each one has had a chance to review the site.

- The site visits could take longer than usual, therefore anticipate a longer meeting duration.
  - Physical distancing: keeping a distance of at least 2 arms-length (approximately 2 metres) from others may not be possible at all times, therefore the use of NRC issued disposable face coverings to reduce the risk of transmission of COVID-19 is mandatory.
  - The proponents shall not impede safe access to and from the facility.
- Depending on the anticipated amount of pre-registration, the NRC may decide to schedule time slots for every group of four (4) proponents. The time slot for your site visit will be confirmed by the NRC Departmental Representative by email upon pre-registration. That time will supersede the site visit meeting time specified above.
  - Proposals submitted by bidders who have not attended the site visit or failed to submit their identification and contact information at the site visit will be deemed non-responsive.

### **3. CLOSING DATE**

Closing date is June 13<sup>th</sup>, 2022, 14:00

### **4. TENDER RESULTS**

Following the Tender closing, the tender results will be sent by email to all Contractors who submitted a tender.

### **5. SECURITY REQUIREMENT FOR CANADIAN CONTRACTORS**

#### **5.1 MANDATORY SECURITY REQUIREMENT:**

This procurement contains a mandatory security requirement as follows:

1. The Contractor must, at all times during the performance of the Contract, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Director (CISD), Public Works Government Services Canada.
2. The Contractor personnel requiring access to sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.
3. The Contractor must comply with the provisions of the:
  - a. Security Requirements Checklist attached at Appendix "D"
  - b. Industrial Security Manual (Latest Edition) available at: <https://www.tpsgc-pwgsc.gc.ca/esc-src/msi-ism/index-eng.html>

#### **5.2 VERIFICATION OF SECURITY CLEARANCE AT BID CLOSING**

1. The Bidder must hold a valid Designated Organization Screening (DOS) issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC), **TO BE INCLUDED WITH THEIR TENDER OR PROVIDED WITHIN 48**



**HOURS FROM THE DATE AND TIME OF TENDER CLOSING.** Verifications will be made through CISD to confirm the security clearance status of the Bidder. Failure to comply with this requirement will render the bid non-compliant and no further consideration will be given to the bid.

2. Within 72 hours of tender closing, the General Contractor must name all of his sub-contractors, each of whom must hold a valid **RELIABILITY STATUS**, granted or approved by CISD/PWGSC, or any other Federal Department or Agency along with the names and birthdates or security clearance certificate numbers of all personnel who will be assigned to the project.
3. It is to be noted that any subcontractor required to perform any part of the work during the performance of the subsequent contract must also adhere to the mandatory security requirement of the contract. As well, no personnel without the required level of security will be allowed on site. It will be the responsibility of the successful bidder to ensure that the security requirement is met throughout the performance of the contract. The Crown will not be held liable or accountable for any delays or additional costs associated with the contractor's non-compliance to the mandatory security requirement. Failure to comply with the mandatory security requirement will be grounds for being declared in default of contract.
4. For any enquiries concerning the project security requirement during the bidding period, the Bidder/Tenderer must contact the Security Officer @ 613-993-8956.

## **6. WSIB (WORKPLACE SAFETY AND INSURANCE BOARD)**

All Bidders must provide a valid WSIB certificate with their Tender or prior to contract award.

## **7. OFFICE OF THE PROCUREMENT OMBUDSMAN**

1. Clause for solicitation documents and regret letters for unsuccessful bidders

The Office of the Procurement Ombudsman (OPO) was established by the Government of Canada to provide an independent venue for Canadian bidders to raise complaints regarding the award of federal contracts under \$25,300 for goods and under \$101,100 for services. Should you have any issues or concerns regarding the award of a federal contract below these dollar amounts, contact OPO by e-mail at [boa.opo@boa-opo.gc.ca](mailto:boa.opo@boa-opo.gc.ca), by telephone at 1-866-734-5169, or by web at [www.opo-boa.gc.ca](http://www.opo-boa.gc.ca). For more information about OPO, including the available services, please visit the OPO website.

2. Contract Administration

The parties understand that the Procurement Ombudsman appointed pursuant to Subsection 22.1 (1) of the Department of Public Works and Government Services Act will review a complaint filed by the complainant respecting the administration of the Contract if the requirements of Subsection 22.2(1) of the Department of Public Works and Government Services Act and Sections 15 and 16 of the Procurement Ombudsman Regulations have been met.

To file a complaint, the Office of the Procurement Ombudsman may be contacted by e-mail at [boa.opo@boa-opo.gc.ca](mailto:boa.opo@boa-opo.gc.ca), by telephone at 1-866-734-5169, or by web at [www.opo-boa.gc.ca](http://www.opo-boa.gc.ca).

3. Dispute Resolution

The Parties agree to make every reasonable effort, in good faith, to settle amicably all disputes or claims relating to or arising from the Contract, through negotiations between the Parties'

representatives authorized to settle. If the Parties do not reach a settlement within 10 working days, each party hereby consents to fully participate in and bear the cost of mediation led by the Procurement Ombudsman pursuant to Subsection 22.1(3)(d) of the Department of Public Work and Government Services Act and Section 23 of the Procurement Ombudsman Regulations.

The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169, by e-mail at [boa.opo@boa-opo.gc.ca](mailto:boa.opo@boa-opo.gc.ca), or by web at [www.opo-boa.gc.ca](http://www.opo-boa.gc.ca).

The Departmental Representative or his designate for this project is: Allan Smith  
[Allan.Smith@nrc-cnrc.gc.ca](mailto:Allan.Smith@nrc-cnrc.gc.ca)  
Telephone: 613-852-1357

Contracting Authority for this project is: Collin Long  
[Collin.Long@nrc-cnrc.gc.ca](mailto:Collin.Long@nrc-cnrc.gc.ca)

## INSTRUCTIONS TO BIDDERS

### Article 1 – Receipt of Tender

- 1a) Tender must be received **by email only** not later than the specified tender closing time. Electronic bids received after the indicated closing time - NRC servers received time - will be irrevocably rejected. Bidders are urged to send their proposal sufficient time in advance of the closing time to prevent any technical issues. NRC will not be held responsible for bids sent before closing time but received by the NRC servers after the closing time. Tenders received after this time are invalid and shall not be considered, regardless of any reason for their late arrival.
- 1b) A letter of printed telecommunication from a bidder quoting a price shall not be considered as a valid tender unless a formal tender has been received on the prescribed Tender Form.
- 1c) Bidders may amend their tenders by **email only** provided that such amendments are received not later than the specified tender closing time.
- 1d) Any amendments to the tender which are transmitted by **email only** must be signed and must clearly identify the tenderer.

All such amendments are to be addressed to:  
National Research Council of Canada  
Collin Long, Senior Contracting Officer

[Collin.Long@nrc-cnrc.gc.ca](mailto:Collin.Long@nrc-cnrc.gc.ca)

### Article 2 – Tender Form & Qualifications

- 1) All tenders must be submitted on the Construction Tender Form and the tender must be signed in compliance with the following requirements:
  - a) Limited Company: The full names of the Company and the name(s) and status of the authorized signing officer(s) must be printed in the space provided for that purpose. The signature(s) of the authorized officer(s) and the corporate seal must be affixed.
  - b) Partnership: The firm name and the name(s) of the person(s) signing must be printed in the space provided. One or more of the partners must sign in the presence of a witness who must also sign. An adhesive colored seal must be affixed beside each signature.
  - c) Sole Proprietorship: The business name and the name of the sole proprietor must be printed in the space provided. The sole proprietor must sign in the presence of a witness who must also sign. An adhesive coloured seal must be affixed beside each signature.
- 2) Any alterations in the printed part of the Construction Tender Form or failure to provide the information requested therein, may render the tender invalid.
- 3) All space in the Construction Tender Form must be completed and any handwritten or typewritten corrections to the parts so completed must be initialed immediately to the side of the corrections by the person or persons executing the tender on behalf of the the tenderer.
- 4) Tenders must be based on the plans, specifications and tender documents provided.

- 5) A proposal submitted by a bidder who's Board of Directors or proprietor (s) are in majority the same as a former vendor who has declared bankruptcy while performing work for NRC over the last 7-years from the date of issuance of this RFP may be rejected and not eligible for award at NRC's sole discretion. In such case, NRC will advise the ineligible proponent(s).
- 6) A proposal submitted by a bidder who has had a previous contracts cancelled by NRC due to lack of performance within 3 years from the issuance date of this RFP may be rejected and not eligible for award at NRC's sole discretion. In such case, NRC will advise the ineligible proponent (s).
- 7) If there is discrepancy between the English version and the French version of this document and any of the attachments and amendments, the English version will takes precedence.
- 8) Bidders must adhere to the COVID-19 Vaccination Policy for Supplier Personnel. In accordance with the COVID-19 Vaccination Policy for Supplier Personnel, all Bidders must provide with their bid, the COVID-19 Vaccination Requirement Certification attached to this bid solicitation (refer to **Appendix "H"**), to be given further consideration in this procurement process. This Certification incorporated into the bid solicitation on its closing date is incorporated into, and forms a binding part of any resulting Contract.

#### Article 3 - Contract

- 1) The Contractor will be required to sign a contract similar to the Standard Contract Form for Fixed Price Construction Contracts, a blank specimen of which is enclosed in the package for reference purposes.

#### Article 4 – Tender Destination

- 1a) Tenders are to be submitted **by email only**:  
National Research Council Canada

[Collin.Long@nrc-cnrc.gc.ca](mailto:Collin.Long@nrc-cnrc.gc.ca)

Endorsed "Tender for (insert title of work as it appears in the drawings and specifications)" and must bear the name and address of the tenderer.

- 1b) Unless otherwise specified, the only documents required to be submitted with the tender are the Tender form and the Bid Security.

#### Article 5 - Security

- 1a) Bid Security is required and must be submitted in one of the following forms:
  - i) bonds of the Government of Canada, or bonds unconditionally guaranteed as to principal and interest by the Government of Canada; **OR**
  - ii) a bid bond.
- 1b) Regardless of the Bid Security submitted, it should never be more than \$250,000 maximum, calculated at 10% of the first \$250,000 of the tendered price, plus 5% of any amount in excess of \$250,000.

- 1c) Bid Security shall accompany each tender or, if forwarded separately from the tender, shall be provided not later than the specified tender closing time. Bid bond or E-bond Security must be in the ORIGINAL form. PDF via email is acceptable. FAILURE TO PROVIDE THE REQUIRED BID SECURITY SHALL INVALIDATE THE TENDER.
- 1d) The successful tenderer is required to provide security within 14 days of receiving notice of tender acceptance. The tenderer must furnish EITHER:
- i) a Security Deposit as described in 1(b) above together with a Labour and Material Payment Bond in the amount of at least 50% of the amount payable under the contract, OR
  - ii) a Performance Bond and a Labour and Material Payment Bond – each in the amount of 50% of the amount payable under the contract.
- 1e) Bonds must be in an approved form and from the companies whose

bonds are acceptable to the Government of Canada. Samples of the approved form of Bid Bond, Performance Bond and Labour and Material Payment Bond and a list of acceptable Bonding Companies may be obtained from the Contracting Officer, National Research Council, Building M-58, Montreal Road, Ottawa, Ontario, K1A 0R6.

#### Article 7 – Sales Tax

- 1) The amount of the tender shall include all taxes as levied under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act or the Customs Tariff, in force or applicable at the time.
- 1) In Quebec, the Provincial Sales Tax should not be included in the Tender Price as the Federal Government is exempt. Tenderers should contact the Provincial Revenue Minister to recover all taxes paid for goods and services rendered under this contract.

Tenderers must include in their Tender Price the amount of Provincial Sales Tax for which the exemption does not apply.

#### Article 8 – Examination of Site

- 1) All parties tendering shall examine the sites of the proposed work before sending in their tender and make themselves thoroughly acquainted with the same and obtain for themselves any and all information that may be necessary for the proper carrying out of the Contract. No after claim will be allowed or entertained for any work or material that may be requisite and necessary for the proper execution and completion of this Contract with the exception of that provided for under GC 35 in the General Conditions of the General Specification.

#### Article 9 – Discrepancies, Omissions, Etc.

- 1a) Bidders finding discrepancies in, or omissions from, drawings, specifications or other documents, or having any doubt as to the meaning or intent of any part thereof, should at once notify the Engineer who will send written instructions or explanation to all bidders.
- 1b) Neither the Engineer nor the Council will be responsible for oral instructions.
- 1c) Addenda or corrections issued during the time of the bidding shall be covered in the proposal. However, the contract supersedes all communications, negotiations and agreements, either written or oral, relating to the work and made prior to the date of the contract.

#### Article 10 – No additional Payments for Increased Costs

- 1) The only other adjustments in the contract price allowed are those specified in the General Conditions of the General Specification. The contract price will not be amended for change in freight rates, exchange rates, wage rates or cost of materials, plant or services.

#### Article 11 – Awards

- 1a) The Council reserves the power and right to reject tenders received from parties who cannot show a reasonable acquaintance with and preparation for the proper performance of the class of work herein specified and shown on plans. Evidence of such competence must be furnished by the tenderers if required to do so.
- 1b) A tenderer may be required to furnish to the Contracting Office, National Research Council of Canada, Building M-58, 1200 Montreal Road, Ottawa, Ontario, K1A 0R6, Canada, unsigned copies of the insurance requirements as covered by the Insurance Conditions of the General Specification.
- 1c) The Council does not bind itself to accept the lowest or any tender.

#### Article 12 – Harmonized Sales Tax

- 1) The Harmonized Sales Tax (HST) which is now in effect shall be considered an applicable tax for the purpose of this tender. However, the bidder shall NOT include any amount in the bid price for said HST. The successful contractor will indicate on each application for payment as a separate amount the appropriate HST the Owner is legally obliged to pay. This amount will be paid to the Contractor in addition to the amount certified for payment under the Contract in addition to the amount certified for payment under the Contract and will therefore not affect the Contract Price. The Contractor agrees to remit any HST collected or due to Revenue Canada.

## Non-resident contractors

RST guide 804

Published August 2006

ISBN: 1-4249-2007-8 (Print), **1-4249-2009-4 (PDF)**, **1-4249-2008-6 (HTML)**

## Publication Archived

**Notice to the reader: For Retail Sales Tax (RST)** – On July 1, 2010 the 13 per cent Harmonized Sales Tax (HST) took effect in Ontario replacing the existing provincial Retail Sales Tax (RST) and combining it with the federal Goods and Services Tax (GST). As a result, RST provisions described on this page and in other publications ended on June 30, 2010.

Effective July 1, 2010 this publication was archived for RST purposes **only**. Use caution when you refer to it, since it reflects the law in force for RST at the time it was released and may no longer apply.

- The information in this Guide explains the Retail Sales Tax (RST) responsibilities of a non-resident contractor who is awarded a construction contract to perform work in Ontario and their Ontario customers. Please note that this Guide replaces the previous version dated March 2001.

## Non-Resident Contractor Defined

A non-resident contractor is a contractor located outside Ontario who has been awarded a construction contract to perform work in Ontario, and who has not maintained a permanent place of business in Ontario continuously for twelve months immediately prior to signing the contract, or which is not a company incorporated under the laws of Ontario. A construction contract is a contract for the erection, remodelling or repair of a building or other structure on land.

A contractor is a person who is in the business of constructing, altering, repairing or improving real property and includes, but is not limited to,

1. a general contractor and subcontractor,
2. a carpenter, bricklayer, stonemason, electrician, plasterer, plumber, painter, decorator, paver, and bridge builder,
3. a sheet metal, tile and terrazzo, heating, air conditioning, insulation, ventilating, papering, road, roofing and cement contractor, who installs or incorporates items into real property. (See RST [Guide 206 - Real Property and Fixtures](#)).

## Registration and Guarantee Deposit

Non-resident contractors who are awarded a construction contract in Ontario are required to register with the Ministry of Finance (ministry), Centralized Programs Unit and post a guarantee equal to 4 per cent of the total of each Ontario contract. The guarantee can be paid in cash, by certified cheque (payable to the Minister of Finance), letter of credit or by a guarantee bond.

To register with the ministry and to obtain further information on posting a guarantee, contractors should contact the ministry's Centralized Programs Unit, 33 King Street West, PO Box 623, Oshawa, Ontario, L1H 8H7, toll-free 1 866 ONT-TAXS (1 866 668-8297) or fax to 905 435-3617.

Non-resident contractors who sell taxable goods on a supply only basis to Ontario customers, or provide taxable services in Ontario, may obtain a regular Vendor Permit to collect and remit RST on their sales. Non-resident contractors who have been issued a regular Vendor Permit must still register separately with the ministry and post a guarantee if they are awarded a construction contract in Ontario.

## Letter of Compliance

After receiving the guarantee, the ministry mails out two copies of a "letter of compliance" to the contractor certifying the Retail Sales Tax (RST) requirements have been met. Contractors must give a copy of the letter to their customers.

If a copy of the compliance letter is not provided, the customer must withhold 4 per cent of all amounts payable to the non resident contractor and pay the withheld amounts to the Minister of Finance (minister). Details relating to the contract should be sent along with the payments to the Centralized Programs Unit. Customers may give the minister a guarantee bond equal to 4 per cent of the total contract price instead of making the 4 per cent payments.

Note: Customers who do not follow these requirements may be held liable for 4 per cent of all amounts payable to the non resident contractor or any other amount that the Ministry deems to be the RST payable resulting from the performance of the contract.

## Calculation of RST

### ***Fair Value***

RST is payable on the "fair value" of materials, purchased or brought into Ontario, to be used for work performed in Ontario. "Fair value" includes:

- the purchase price in Canadian funds;
- all charges by the supplier for handling and delivery, and
- any federal customs duties and excise taxes paid (but not the federal Goods and Services Tax (GST)).

Contractors are also required to pay RST to Ontario suppliers on the purchase, rental or lease of taxable services, materials, machinery, or equipment.

### ***Machinery and Equipment - Leased***

If machinery or equipment is leased from a supplier outside Ontario and brought into the province, RST is payable on the lease payments for the period the machinery or equipment is in Ontario.

### ***Machinery and Equipment - Owned by Contractor***

If machinery or equipment is owned by the contractor, RST may be calculated in one of the following ways:

- a. If a contractor brings machinery and equipment into Ontario for less than 12 months' use, RST is to be calculated using the following formula:

$$1/36 \times \text{net book value at date of import} \times \text{number of months in Ontario} \times \text{tax rate}$$

For the purpose of this formula, RST is payable for each month or part of a month that the goods are in Ontario. A month is considered 31 consecutive days and a part month is considered more than 12 days. The RST payable is based on the number of days the machinery and equipment are located in Ontario and not the number of days the items are actually used.

Example: Equipment is brought into Ontario on March 28 and taken out on May 8. The items were in the province for 41 days. RST is payable on the first 31 days' temporary stay in Ontario vs. use of the equipment. Since the remainder (10 days) is not considered part of a month, no RST is payable on this portion.



- b. If, at the time the goods are brought into Ontario, it is expected that the machinery or equipment will be in Ontario for more than twelve months, contractors must pay Retail Sales Tax (RST) on the following basis:

net book value at date of import x tax rate

If, at the time of import, the length of time is not known, vendors may use the formula under (a). If they later find it necessary to keep the machinery and equipment in Ontario for more than 12 months, the RST paid under (a) may be deducted from the RST payable under (b).

Using formula (a) or (b) above, contractors will calculate and remit the RST payable on the return that is filed when the contract is finished.

(See Completion of Contract section)

## M a n u f a c t u r i n g   f o r   O w n   U s e

Contractors may need to manufacture items, such as doors and windows, for their construction contracts. Manufacturing is work done in a factory away from a construction site, or in a mobile unit or workshop that is on or near the construction site. Manufacturing occurs when raw materials are changed into manufactured goods for use in real property contracts.

Contractors are considered to be manufacturing contractors if they produce goods:

1. for their own use in real property contracts, and
2. the manufactured cost of the goods is more than \$50,000 a year.

(See RST Guide 401 - Manufacturing Contractors)

## C o n t r a c t s   w i t h   t h e   F e d e r a l   G o v e r n m e n t

Where a non-resident contractor enters into a construction contract with the federal government, for the construction of a building and/or the installation of equipment, the nature of the equipment will determine whether the contract should be let on a tax-included or tax excluded basis.

Contracts for the construction of a building and the installation of equipment that directly services that building (i.e., elevators, escalators, light fixtures, central heating and air conditioning, etc.) should be tendered on a tax -included basis. Contractors are the consumers of the materials used in fulfilling these contracts and must pay or account for RST on the materials used to complete the contracts. There is NO exemption just because the contract is with the federal government.

Contracts for the installation of equipment that becomes a fixture and does not directly service a building (i.e., material handling equipment, production machinery, communication equipment, training equipment) may be tendered on a tax-excluded basis. Contractors engaged in contracts of this nature are permitted to make tax exempt purchases of such equipment by issuing a valid Purchase Exemption Certificate (PEC) to their supplier. Only non-resident contractors who have registered with the ministry and posted a guarantee may issue a PEC.

## E x e m p t i o n s

Contractors may supply and install equipment or materials for certain customers that may be entitled to an exemption from RST (e.g., manufacturers, Indian band councils, farmers and diplomatic organizations). The equipment or materials, when installed, becomes real property if it is permanently attached to land, or a fixture if it is permanently attached to a building or real property structure. Since

contractors are liable for RST, they should contact the ministry to find out if the customer qualifies for exemption before tendering the contract on a tax-excluded basis.

## Status Indians, Indian Bands and Band Councils

Non-resident contractors may purchase building materials exempt from Retail Sales Tax (RST) for certain buildings and structures situated on reserves. The cost of such projects must be paid by the band council, and the buildings must provide a community service for the reserve. Contracts for the construction of an exempt community building project should be made on an RST-excluded basis. Non-resident contractors may purchase the materials exempt from RST by providing suppliers with a valid Purchase Exemption Certificate (PEC). As noted previously, only non-resident contractors who have registered with the ministry and posted a guarantee may issue a PEC. (See RST Guide [204 - Purchase Exemption Certificates](#)).

Non-resident contractors must pay RST on items purchased for incorporation into a building or structure built for individual status Indians on a reserve. (See RST [Guide 808 - Status Indians, Indian Bands and Band Councils](#)).

### Completion of Contract

When a contract is completed, non-resident contractors who were required to post a guarantee must complete a [Non-Resident Contractor Retail Sales Tax Return \[PDF - 92 KB\]](#) that is provided by the ministry.

If a contractor's guarantee was given in cash or by certified cheque, the amount of the deposit can be deducted from the RST liability owed by the contractor. If the liability is greater than the deposit, the amount remaining must be paid by the contractor. If the deposit is more than the liability, the contractor will receive a refund.

If a guarantee bond was posted instead of cash, the bond will be discharged once the RST liability is paid in full.

All returns are subject to audit.

### Legislative References

- Retail Sales Tax Act, Subsections 19(2) and 39(3)(4) and (5)
- Regulation 1012 under the Act, Subsections 15.3(1)(2)(5)(6) and (7)
- Regulation 1013 under the Act, Sections 1 and 3

### For More Information

The information contained in this publication is only a guideline. For more information, please contact the Ontario Ministry of Finance at 1 866 ONT-TAXS (1 866 668-8297) or visit our website at [ontario.ca/finance](http://ontario.ca/finance).

## **Acceptable Bonding Companies**

Published September 2010

The following is a list of insurance companies whose bonds may be accepted as security by the government.

### **1. Canadian Companies**

- ACE INA Insurance
- Allstate Insurance Company of Canada
- Ascentus Insurance Ltd. (Surety only)
- Aviva Insurance Company of Canada
- AXA Insurance (Canada)
- AXA Pacific Insurance Company
- Canadian Northern Shield Insurance Company
- Certas Direct Insurance Company (Surety only)
- Chartis Insurance Company of Canada (formerly AIG Commercial Insurance Company of Canada)
- Chubb Insurance Company of Canada
- Commonwealth Insurance Company
- Co-operators General Insurance Company
- CUMIS General Insurance Company
- The Dominion of Canada General Insurance Company
- Echelon General Insurance Company (Surety only)
- Economical Mutual Insurance Company
- Elite Insurance Company
- Everest Insurance Company of Canada
- Federated Insurance Company of Canada
- Federation Insurance Company of Canada
- Gore Mutual Insurance Company
- Grain Insurance and Guarantee Company
- The Guarantee Company of North America
- Industrial Alliance Pacific General Insurance Corporation
- Intact Insurance Company
- Jevco Insurance Company (Surety only)
- Lombard General Insurance Company of Canada
- Lombard Insurance Company
- Markel Insurance Company of Canada
- The Missisquoi Insurance Company
- The Nordic Insurance Company of Canada
- The North Waterloo Farmers Mutual Insurance Company (Fidelity only)
- Novex Insurance Company (Fidelity only)
- The Personal Insurance Company
- Pilot Insurance Company
- Quebec Assurance Company
- Royal & Sun Alliance Insurance Company of Canada
- Saskatchewan Mutual Insurance Company
- Scottish & York Insurance Co. Limited
- The Sovereign General Insurance Company
- TD General Insurance Company
- Temple Insurance Company
- Traders General Insurance Company

- Travelers Guarantee Company of Canada
- Trisura Guarantee Insurance Company
- The Wawanesa Mutual Insurance Company
- Waterloo Insurance Company
- Western Assurance Company
- Western Surety Company

## 2. Provincial Companies

Surety bonds issued by the following companies may be accepted provided that the contract of suretyship was executed in a province in which the company is licensed to do business as indicated in brackets.

- AXA Boreal Insurance Company (P.E.I., N.B., Que., Ont., Man., B.C.)
- AXA Boreal Insurance Company (P.E.I., N.B., Que., Ont., Man., B.C.)
- ALPHA, Compagnie d'Assurances Inc. (Que.)
- Canada West Insurance Company (Ont., Man., Sask, Alta., B.C., N.W.T.) (Surety only)
- The Canadian Union Assurance Company (Que.)
- La Capitale General Insurance Inc. (Nfld. & Lab., N.S., P.E.I., Que.(Surety only), Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
- Coachman Insurance Company (Ont.)
- Continental Casualty Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
- GCAN Insurance Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
- The Insurance Company of Prince Edward Island (N.S., P.E.I., N.B.)
- Kingsway General Insurance Company (N.S., N.B., Que., Ont., Man., Sask., Alta., and B.C.)
- Liberty Mutual Insurance Company (Nfld. & Lab., N.S., P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C., Nun., N.W.T., Yuk.)
- Manitoba Public Insurance Corporation (Man.)
- Norgroupe Assurance Générales Inc.
- Orleans General Insurance Company (N.B., Que., Ont.)
- Saskatchewan Government Insurance Office (Sask.)
- SGI CANADA Insurance Services Ltd. (Ont., Man., Sask., Alta.)
- L'Unique General Insurance Inc. (Nfld. & Lab., N.S., P.E.I., N.B., Que.(Surety only), Ont.(Surety only), Man., Sask., Alta., B.C.(Surety only), Nun., N.W.T., Yuk.)

## 3. Foreign Companies

- Aspen Insurance UK Limited
- Compagnie Française d'Assurance pour le Commerce Extérieur (Fidelity only)
- Eagle Star Insurance Company Limited
- Ecclesiastical Insurance Office Public Limited Company (Fidelity only)
- Lloyd's Underwriters
- Mitsui Sumitomo Insurance Company, Limited
- NIPPONKOA Insurance Company, Limited
- Sompo Japan Insurance Inc.
- Tokio Marine & Nichido Fire Insurance Co., Ltd.
- XL Insurance Company Limited (Surety only)
- Zurich Insurance Company Ltd

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## Articles of Agreement

Standard Construction Contract – Articles of Agreement  
(23/01/2002)

- A1 Contract Documents
- A2 Date of Completion of Work and Description of Work
- A3 Contract Amount
- A4 Contractor's Address
- A5 Unit Price Table

---

## Articles of Agreement

**These Articles of Agreement** made in duplicate this      day of      .

Between

**Her Majesty the Queen**, in right of Canada (referred to in the contract documents as “ Her Majesty”) represented by the National Research Council Canada (referred to in the contract documents as the “Council”)

and

(referred to in the contract documents as the “Contractor”)

Witness that in consideration for the mutual promises and obligations contained in the contract, Her Majesty and the Contractor covenant and agree as follows:

A1      Contract Documents

**(23/01/2002)**

1.1      Subject to A1.4 and A1.5, the documents forming the contract between Her Majesty and the Contractor, referred to herein as the contract documents, are

1.1.1    these Articles of Agreement,

1.1.2    the document attached hereto, marked “A” and entitled “Plans and Specifications”, referred to herein as the Plans and Specifications,

1.1.3    the document attached hereto, marked “B” and entitled “Terms of Payment”, referred to herein as the Terms of Payment,

1.1.4    the document attached hereto, marked “C” and entitled “General Conditions”, referred to herein as the General Conditions,

1.1.5    the document attached hereto, marked “D” and entitled “Labour Conditions”, referred to herein as the Labour Conditions,

1.1.6    the document attached hereto, marked “E” and entitled “Insurance Conditions”, referred to herein as the Insurance Conditions,

1.1.7    the document attached hereto, marked “F” and entitled “Contract Security Conditions”, referred to herein as the Contract Security Conditions, and

1.1.8    any amendment or variation of the contract documents that is made in accordance with the General Conditions.

1.1.9    the document entitled Fair Wage Schedules for Federal Construction Contracts referred to herein as Fair Wage Schedules

1.1.10

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## Articles of Agreement

The Council hereby designates \_\_\_\_\_ of \_\_\_\_\_ of the Government of Canada as the Engineer for the purposes of the contract, and for all purposes of or incidental to the contract, the Engineer's address shall be deemed to be:

### 1.2 In the contract

1.3.1 "Fixed Price Arrangement" means that part of the contract that prescribes a lump sum as payment for performance of the work to which it relates; and

1.3.2 "Unit Price Arrangement" means that part of the contract that prescribes the product of a price multiplied by a number of units of measurement of a class as payment for performance of the work to which it relates.

1.3 Any of the 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 Fixed Price Arrangement is applicable.

1.4 Any of the provisions of the contract that are expressly stipulated to be applicable only to a Fixed Price Arrangement are not applicable to any part of the work to which a Unit Price Arrangement is applicable.

### A2 Date of Completion of Work and Description of Work

**(23/01/2002)**

2.1 The contractor shall, between the date of these Articles of Agreement and the \_\_\_\_\_, \_\_\_\_\_, in the careful and workmanlike manner, diligently perform and complete the following work:

which work is more particularly described in the Plans and Specifications.

---

## Articles of Agreement

### A3 Contract Amount

**(23/01/2002)**

- 3.1 Subject to any increase, decrease, deduction, reduction or set-off that may be made under the Contract, Her Majesty shall pay the Contractor at the times and in the manner that is set out or referred to in the Terms of Payment
- 3.1.1 the sum of \_\_\_\_\_ (GST/HST extra), in consideration for the performance of the work or the part thereof that is subject to Fixed Price Arrangement, and
- 3.1.2 a sum that is equal to the aggregate of the products of the number of units of Measurement of each class of labour, plant and material that is set out in a Final Certificate of Measurement referred to in GC44.8 multiplied in each case by the appropriate unit price that is set out in the Unit Price Table in consideration for the performance of the work or the part thereof that is subject to a Unit Price Arrangement.
- 3.2 For the information and guidance of the Contractor and the persons administering the contract on behalf of Her Majesty, but not so as to constitute a warranty , representation or undertaking of any nature by either party, it is estimated that the total amount payable by Her Majesty to the Contractor for the part of the work to which a Unit Price Arrangement is applicable will be approximately \$N/A
- 3.3 A3.1.1 is applicable only to a Fixed Price Arrangement.
- 3.4 A3.1.2 and A3.2 applicable only to a Unit Price Arrangement.

### A4 Contractor's Address

**(23/01/2002)**

- 4.1 For all purposes of or incidental to the contract, the Contractor's address shall be deemed to be:



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## Articles of Agreement

A5 Unit Price Table

(23/01/2002)

5.1 Her Majesty and the Contractor agree that the following table is the Unit Price Table for the purposes of the contract.

<b>Column 1</b> Item	<b>Column 2</b> Class of Labour Plant  Or Material	<b>Column 3</b> Unit of Measurement	<b>Column 4</b> Estimated Total Quantity	<b>Column 5</b> Price per Unit	<b>Column 6</b> Estimated Total Price
		N/A			

5.2 The Unit Price Table that is set out in A5.1 designates the part of the work to which a Unit Price Arrangement is applicable.

5.3 The part of the work that is not designated in the Unit Price Table referred to in A5.2 is the part of the work to which a Fixed Price Arrangement is applicable.

---

**Articles of Agreement**

Signed on behalf of Her Majesty by

\_\_\_\_\_

as Senior Contracting Officer

and \_\_\_\_\_

as \_\_\_\_\_

of the **National Research Council Canada**

on the \_\_\_\_\_

day of \_\_\_\_\_

Signed, sealed and delivered by

\_\_\_\_\_

as \_\_\_\_\_ and  
Position

by \_\_\_\_\_

as \_\_\_\_\_ and  
Position

of

on the \_\_\_\_\_

day of \_\_\_\_\_

**Seal**

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END OF TABLE

**1. SCOPE OF WORK**

- .1 Work under this contract covers the Test Cell 3 & 4 Modifications in the Council's Building M-48 of the National Research Council.

**2. DRAWINGS**

- .1 The following drawings illustrate the work and form part of the contract documents:
  - .1 CS1 – Cover Sheet
  - .2 A01 – Demolition Floor plan and Details
  - .3 A02 – Construction floor plan and Details,
  - .4 A03 – Construction Details
  - .5 M01 – Demolition and New Construction: Plans, Schedule and Diagram.
  - .6 E01 – Electrical Layout

**3. COMPLETION**

- .1 Four (4) weeks of construction on site, scheduled when all materials are on hand.

**4. GENERAL**

- .1 The word "provide" in this Specification means to supply and install.
- .2 Provide items mentioned in either the drawings or the specification.

**5. SPECIFIED ACCEPTABLE & ALTERNATIVE EQUIPMENT & MATERIALS**

- .1 Materials and equipment scheduled and/or specified on the drawings or in the specifications have been selected to establish a performance and quality standard. In most cases, acceptable manufacturers are stated for any material or equipment specified by manufacturer's name and model number. Contractors may base their tender price on materials and equipment supplied by any of the manufacturers' names as acceptable for the particular material or equipment.
- .2 In addition to the manufacturers specified or named as acceptable, you may propose alternative manufacturers of materials or equipment to the Departmental Representative for acceptance. For a product to be considered as an alternative product substitute, make a written application to the Departmental Representative during the tender period, not later than sept (7) working days before tender closing.
- .3 Certify in writing that the alternative meets all requirements of the specified material or equipment. In addition, it shall be understood that all costs required by or as a result of acceptance or proposed alternatives, will be borne by the Contractor.
- .4 Approval of alternatives will be signified by issue of an Addendum to the Tender Documents.

- .5 Any alternative manufacturers or materials submitted which are incomplete and cannot be evaluated, or are later than sept (7) working days before tender closing date or after the tender period, will not be considered.

**6. MINIMUM STANDARDS**

- .1 Conform to or exceed minimum acceptable standards of the various applicable federal, provincial and municipal codes such as The National Building Code, The National Fire Code, Canadian Plumbing Code, Canadian Electrical Code, and Canadian Code for Construction Safety and the Provincial Construction Safety Act.
- .2 Work to conform to referenced standards and codes as reaffirmed or revised to date of specification.

**7. WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS)**

- .1 The General Contractor shall comply with Federal and Provincial legislation regarding the WHMIS. The Contractor's responsibilities include, but are not limited to the following:
  - .1 To ensure that any controlled product brought on site by the Contractor or sub-contractor is labeled;
  - .2 To make available to the workers and the Departmental Representative, Material Safety Data Sheets (MSDS) for these controlled products;
  - .3 To train own workers about WHMIS, and about the controlled products that they use on site;
  - .4 To inform other Contractors, sub-contractors, the Departmental Representative, authorized visitors and outside inspection agency personnel about the presence and use of such products on the site.
  - .5 The site foreman or superintendent must be able to demonstrate, to the satisfaction of the Departmental Representative, that he/she has had WHMIS training and is knowledgeable in its requirements. The Departmental Representative can require replacement of this person if this condition or implementation of WHMIS is not satisfactory

**8. REQUIREMENTS OF BILL 208, SECTION 18(a)**

Under the requirements of Bill 208 of the Ontario Ministry of Labour Occupational Health & Safety Act, the following designated substances may be encountered while performing the work described in these contract documents:

- .1 Acrylonitrile, Isocyanates, Arsenic, Lead, Asbestos, Mercury, Benzene, Silica, Coke Oven Emissions, Vinyl Chloride, and Ethylene Oxide
  - .1 It is the responsibility of the General Contractor to ensure that each prospective sub-contractor for this project has received a copy of the above list.

**9. COST BREAKDOWN**

- .1 Submit, for approval by the Departmental Representative, a cost breakdown of tender 72 hours after the contract is awarded.

- .2 Use the approved cost breakdown as the basis for submitting all claims.
- .3 Request Departmental Representative's verbal approval to amount of claim prior to preparing and submitting the claim in its final form.
- .4 Contractor costs associated with compliance with occupational health and safety requirements (Canada Labour Code) related to the Coronavirus/COVID-19 pandemic must be included in the initial bid price. These costs may include, but are not limited to, the provision of additional personal protective equipment (PPE) and social distancing requirements as required to complete the project. Contractor must review and incorporate into initial bid pricing compliance with any Coronavirus/COVID-19 related health and safety guidance issued by the local Medical Officer of Health (applicable in the jurisdiction of the project), the Public Health Agency of Canada, Health Canada and/or the provincial Ministry of Health, as applicable.

**10. SUB-TRADES**

- .1 Submit no later than 72 hours after tender closing, a complete list of sub trades for the Departmental Representative's review.

**11. PERSONNEL SECURITY AND IDENTIFICATION**

- .1 All persons employed by the Contractor, or by any sub-contractor and present on the site must be security cleared in accordance with the requirements of the Section entitled Special Instructions to Tenderers.
- .2 All such persons must wear and keep visible identification badges as issued by the Security Office of NRC.

**12. WORKING HOURS AND SECURITY**

- .1 Normal working hours on the NRC property are from 8:00 a.m. until 4:30 p.m., Monday to Friday inclusive, except statutory holidays.
- .2 At all other times, special written passes are required for access to the building site.
- .3 Before scheduling any work outside normal working hours, obtain permission from the Departmental Representative to perform the specific tasks.
- .4 An escort may be required whenever working outside normal hours. Contractor to bear the associated costs.

**13. SCHEDULE**

- .1 The Contractor shall prepare a detailed schedule, fixing the date for commencement and completion of the various parts of the work and update the said schedule. Such schedule shall be made available to the Departmental Representative not later than two weeks after the award of the contract and prior to commencement of any work on site.
- .2 Notify Departmental Representative in writing of any changes in the schedule.

- .3 Ten (10) days before the scheduled completion date, arrange to do an interim inspection with the Departmental Representative.

**14. PROJECT MEETINGS**

- .1 Hold regular project meetings at times and locations approved by the Departmental Representative.
- .2 Notify all parties concerned of meetings to ensure proper coordination of work.
- .3 Departmental Representative will set times for project meetings and assumes responsibility for recording and distributing minutes.

**15. SHOP DRAWINGS**

- .1 Refer to specification section: 01 33 00 –Submittal Procedures.
- .2 Submit to Departmental Representative for review, shop drawings, product data and samples specified within two weeks after contract award.
- .3 Submit to Departmental Representative for review a complete list of all shop drawings, product data and samples specified and written confirmation of corresponding delivery dates within one (1) week after shop drawings, product data and samples approval date. This list shall be updated on a bi-weekly basis and any changes to the list shall be immediately notified in writing to the Departmental Representative.
- .4 Review shop drawings, data sheets and samples prior to submission.
- .5 Submit one (1) electronic copy of all shop drawings and product data and samples for review, unless otherwise specified.
- .6 Review of shop drawings and product data by the Departmental Representative does not relieve the Contractor of the responsibility for errors and omissions and for the conformity with contract documents.

**16. SAMPLES AND MOCK-UPS**

- .1 Submit samples in sizes and quantities as specified.
- .2 Where colour, pattern or texture is criterion, submit full range of samples.
- .3 Construct field samples and mock-ups at locations acceptable to Departmental Representative.
- .4 Reviewed samples or mock-ups will become standards of workmanship and material against which installed work will be checked on the project.

**17. MATERIALS AND WORKMANSHIP**

- .1 Install only new materials on this project unless specifically noted otherwise.



- .2 Only first class workmanship will be accepted, not only with regard to safety, efficiency, durability, but also with regard to neatness of detail and performance.

**18. WORK & MATERIALS SUPPLIED BY OWNER**

- .1 Work and materials not included in this contract are described on drawings and in this specification.
- .2 Deliver to a storage place, as directed by the Departmental Representative, all materials returned to the Owner.
- .3 Unless otherwise specified, accept owner-supplied materials at their storage location and provide all transportation as required.
- .4 General Contractor's duties:
  - .1 Unload at site.
  - .2 Promptly inspect products and report damaged or defective items.
  - .3 Give written notification to the Departmental Representative for items accepted in good order.
  - .4 Handle at site, including uncrating and storage.
  - .5 Repair or replace items damaged on site.
  - .6 Install, connect finished products as specified.

**19. SITE ACCESS**

- .1 Make prior arrangements with the Departmental Representative before starting work or moving materials and equipment on site.
- .2 Obtain approval of Departmental Representative for regular means of access during the construction period.
- .3 Obtain approval of Departmental Representative before temporarily suspending operations on site; before returning to the site and before leaving the site at the end of the job.
- .4 Provide and maintain access to site.
- .5 Build and maintain temporary roads and provide snow removal during period of work.
- .6 Provide snow clearing and removal as required during the contract period.
- .7 Make good any damage and clean up dirt, debris, etc., resulting from Contractor's use of existing roads.

**20. USE OF SITE**

- .1 Restrict operations on the site to the areas approved by the Departmental Representative
- .2 Locate all temporary structures, equipment, storage, etc., to the designated areas.

- .3 Restrict parking to the designated areas.

**21. ACCEPTANCE OF SITE**

- .1 Inspect the site before commencing work, review any unexpected conditions with the Departmental Representative.
- .2 Commencement of work will imply acceptance of existing conditions.

**22. SITE OFFICE & TELEPHONE**

- .1 Contractor to erect a temporary site office at his own expense.
- .2 Install and maintain a telephone, if necessary.
- .3 Use of NRC phones is not permitted unless in the case of an emergency.

**23. SANITARY FACILITIES**

- .1 Obtain permission from the Departmental Representative to use the existing washroom facilities in the building or provide sanitary facilities, and bear all associated costs.

**24. TEMPORARY SERVICES**

- .1 A source of temporary power will be made available in the area. Bear all costs to make connections to the power source and perform distribution on site.
- .2 Provide all load centres, breakers, conduit, wiring, disconnects, extension cords, transformers, as required from the source of power.
- .3 Power is to be used only for power tools, lighting, controls, motors, and not for space heating.
- .4 A source of temporary water will be made available if required.
- .5 Bear all costs associated with distributing the water to the required locations.
- .6 Comply with NRC requirements when connecting to existing systems in accordance with the articles entitled "Co-operation" and "Service Interruptions" of this section.

**25. DOCUMENTS REQUIRED AT WORK SITE**

- .1 The Contractor shall keep on the site, one (1) up-to-date copy of all contract documents, including specifications, drawings, addenda, shop drawings, change notices, schedule and any reports or bulletins pertaining to the work, in good order, available to the Departmental Representative and to his / her representatives at all times.
- .2 At least one (1) copy of specifications and drawings shall be marked by the Contractor to show all work "As Built" and shall be provided to the Departmental Representative with the Application for Payment and for the Final Certificate of Completion.

**26. CO-OPERATION**

- .1 Co-operate with NRC staff in order to keep disruption of normal research work to an absolute minimum.
- .2 Work out in advance, a schedule for all work which might disrupt normal work in the building.
- .3 Have schedule approved by the Departmental Representative.
- .4 Notify the Departmental Representative in writing, 72 hours prior to any intended interruption of facilities, areas, corridors, mechanical or electrical services and obtain requisite permission.

**27. PROTECTION AND WARNING NOTICES**

- .1 Provide all materials required to protect existing equipment.
- .2 Erect dust barriers to prevent dust and debris from spreading through the building.
- .3 Place dust protection in the form of cover sheets over equipment and furniture and tape these sheets to floors, to ensure no dust infiltration.
- .4 Repair or replace any and all damage to Owner's property caused during construction, at no cost to the Owner and to the satisfaction of the Departmental Representative.
- .5 Protect the buildings, roads, lawns, services, etc. from damage which might occur as a result of this work.
- .6 Plan and co-ordinate the work to protect the buildings from the leakage of water, dust, etc.
- .7 Ensure that all doors, windows, etc., that could allow transfer of dust, noise, fumes, etc., to other areas of the building are kept closed.
- .8 Be responsible for security of all areas affected by the work under the Contract until acceptance by NRC. Take all necessary precautions to prevent entry to the work area by unauthorized persons and guard against theft, fire and damage by any cause. Secure working area at the end of each day's work and be responsible for same.
- .9 Provide and maintain adequate safety barricades around the work sites to protect NRC personnel and the public from injury during the construction.
- .10 Post warnings, in all instances where possible injury could occur such as Work Overhead, Hard Hat Areas, etc. or as required by the Departmental Representative.
- .11 Provide temporary protective enclosures over building entrances and exits to protect pedestrians. All enclosures to be structurally sound against weather and falling debris.

**28. BILINGUALISM**

- .1 Ensure that all signs, notices, etc. are posted in both official languages.

- .2 Ensure that all identification of services called for by under this contract are bilingual.

**29. LAYOUT OF WORK**

- .1 Location of equipment, fixtures, outlets and openings indicated on drawings or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with the manufacturer's recommendations for safety, access and maintenance.
- .3 Employ competent person to lay out work in accordance with the contract documents.

**30. DISCREPANCIES & INTERFERENCES**

- .1 Prior to the start of the work, examine drawings and specifications. Report at once to the Departmental Representative, any defects, discrepancies, omissions or interferences affecting the work.
- .2 Contractor to immediately inform the Departmental Representative in writing, of any discrepancies between the plans and the physical conditions so the Departmental Representative may promptly verify same.
- .3 Any work done after such a discovery, until authorized, is at the Contractor's risk.
- .4 Where minor interferences as determined by the Departmental Representative are encountered on the job and they have not been pointed out on the original tender or on the plans and specifications, provide offsets, bends or reroute the services to suit job conditions at no extra cost.
- .5 Arrange all work so as not to interfere in any way with other work being carried out.

**31. MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .2 Notify the Departmental Representative in writing of any conflict between these specifications and manufacturer's instruction. Departmental Representative will designate which document is to be followed.

**32. TEMPORARY HEATING AND VENTILATING**

- .1 Bear the costs of temporary heat and ventilation during construction including costs of installation, fuel, operation, maintenance, and removal of equipment.
- .2 Use of direct-fired heaters discharging waste products into the work areas will not be permitted unless prior approval is given by the Departmental Representative.
- .3 Furnish and install temporary heat and ventilation in enclosed areas as required to:

- .1 Facilitate progress of work.
- .2 Protect work and products against dampness and cold.
- .3 Reduce moisture condensation on surfaces to an acceptable level.
- .4 Provide ambient temperature and humidity levels for storage, installation and curing of materials.
- .5 Provide adequate ventilation to meet health regulations for a safe working environment.
- .4 Maintain minimum temperature of 10°C (50°F) or higher where specified as soon as finishing work is commenced and maintain until acceptance by the Departmental Representative.
  - .1 Maintain ambient temperature and humidity levels as required for comfort of NRC personnel.
- .5 Prevent hazardous or unhealthy accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction including also, storage areas and sanitary facilities.
  - .1 Dispose of exhaust materials in a manner that will not result in a harmful or unhealthy exposure to persons.
- .6 Maintain strict supervision of operation of temporary heating and ventilating equipment.
  - .1 Enforce conformance with applicable codes and standards.
  - .2 Comply with instructions of the Departmental Representative including provision of full-time watchman services when directed.
  - .3 Enforce safe practices.
  - .4 Vent direct-fired combustion units to outside.
- .7 Submit tenders assuming existing or new equipment and systems will not be used for temporary heating and ventilating.
- .8 After award of contract, Departmental Representative may permit use of the permanent system providing agreement can be reached on:
  - .1 Conditions of use, special equipment, protection, maintenance, and replacement of filters.
  - .2 Methods of ensuring that heating medium will not be wasted and in the case of steam, agreement on what is to be done with the condensate.
  - .3 Saving on contract price.
  - .4 Provisions relating to guarantees on equipment.

**33. CONNECTIONS TO AND INTERRUPTIONS TO EXISTING SERVICES**

- .1 Where work involves breaking into or connecting to existing services, carry out work at times and in the manner agreed to by the Departmental Representative and by authorities having jurisdiction, with minimum disruption to NRC Personnel and vehicular traffic and minimum service interruption. Do not operate any NRC equipment or plant.
- .2 Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.

- .3 Submit a schedule to and obtain approval from the Departmental Representative for any shut-down or closure of active service or facility; allow minimum 72 hours notice. Adhere to approved schedule and provide notice to the Departmental Representative.
- .4 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
- .5 Provide detours, bridges, alternate feeds, etc., as required to minimize disruptions.
- .6 Protect existing services as required and immediately make repairs if damage occurs.
- .7 Remove any abandoned service lines as indicated on the contract documents and as approved by the Departmental Representative; cap or otherwise seal lines at cut-off points. Record and provide a copy to the Departmental Representative of locations of maintained, re-routed and abandoned service lines.

**34. CUTTING AND PATCHING**

- .1 Cut existing surfaces as required to accommodate new work.
- .2 Remove all items as shown or specified.
- .3 Patch and make good with identical materials, the surfaces that have been disturbed, cut or damaged, to the satisfaction of the Departmental Representative.
- .4 Where new pipes pass through existing construction, core drill an opening. Size openings to leave 12mm (1/2") clearance around the pipes or pipe insulation. Do not drill or cut any surface without the approval of the Departmental Representative.
- .5 Obtain written approval of the Departmental Representative before cutting openings through existing or new structural members.
- .6 Seal all openings where cables, conduits or pipes pass through walls with an acoustic sealant conforming to CAN/CGSB-19.21-M87.
- .7 Where cables, conduits and pipes pass through fire rated walls and floors, pack space between with compressed glass fibres and seal with fire stop caulking in accordance with CAN/CGSB-19.13-M87 AND NBC 3.1.7.

**35. FASTENING DEVICES**

- .1 Do not use explosive actuated tools, without first obtaining permission from the Departmental Representative.
- .2 Comply with the requirements of CSA A-166 (Safety Code for Explosive Actuated Tools).
- .3 Do not use any kind of impact or percussion tool without first obtaining permission from the Departmental Representative.

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**36. OVERLOADING**

- .1 Ensure that no part of the building or work is subjected to a load which will endanger safety or cause permanent deformation or structural damage.

**37. DRAINAGE**

- .1 Provide temporary drainage and pumping as required to keep excavations and site free of water.

**38. ENCLOSURE OF STRUCTURES**

- .1 Construct and maintain all temporary enclosures as required to protect foundations, sub-soil, concrete, masonry, etc., from frost penetration or damage.
- .2 Maintain in place until all chances of damage are over and proper curing has taken place.
- .3 Provide temporary weather tight enclosures for exterior openings until permanent sash and glazing and exterior doors are installed.
- .4 Provide lockable enclosures as required to maintain the security of NRC facilities and be responsible for the same.
- .5 Provide keys to NRC security personnel when required.
- .6 Lay out the work carefully and accurately and verify all dimensions and be responsible for them. Locate and preserve general reference points.
- .7 Throughout the course of construction, keep continuously acquainted with field conditions, and the work being developed by all trades involved in the project. Maintain an awareness of responsibility to avoid space conflict with other trades.
- .8 Conceal all services, piping, wiring, ductwork, etc., in floors, walls or ceilings except where indicated otherwise.

**39. STORAGE**

- .1 Provide storage as required to protect all tools, materials, etc., from damage or theft and be responsible for the same.
- .2 Do not store flammable or explosive materials on site without the authorization of the Departmental Representative.

**40. GENERAL REVIEW**

- .1 Periodic review of the Contractor's work by the Departmental Representative does not relieve the Contractor of the responsibility of making the work in accordance with contract documents. Contractor shall carry out his own quality control to ensure that the construction work is in accordance with contract documents.

- .2 Inform the Departmental Representative of any impediments to the installation and obtain his / her approval for actual location.

**41. INSPECTION OF BURIED OR CONCEALED SERVICES**

- .1 Prior to concealing any services that are installed, ensure that all inspection bodies concerned, including NRC, have inspected the work and have witnessed all tests. Failure to do so may result in exposing the services again at the Contractor's expense.

**42. TESTING**

- .1 On completion, or as required by local authority inspectors and/or Departmental Representative during progress of work and before any services are covered up and flushing is complete, test all installations in the presence of the Departmental Representative.
- .2 Obtain and hand to the Departmental Representative all acceptance certificates or test reports from authority having jurisdiction. The project will be considered incomplete without the same.

**43. PARTIAL OCCUPANCY**

- .1 NRC may request partial occupancy of the facility if the contract extends beyond the expected completion date.
- .2 Do not restrict access to the building, routes, and services.
- .3 Do not encumber the site with materials or equipment.

**44. DISPOSAL OF WASTES**

- .1 Dispose of waste materials including volatiles, safely off NRC property. Refer to the section entitled "General and Fire Safety Requirements" included as part of this specification.

**45. CLEAN-UP DURING CONSTRUCTION**

- .1 On a daily basis, maintain project site and adjacent area of campus including roofs, free from debris and waste materials.
- .2 Provide on-site dump containers for collection of waste materials and rubbish.

**46. FINAL CLEAN-UP**

- .1 Upon completion do a final clean-up to the satisfaction of the Departmental Representative.
- .2 Clean all new surfaces, lights, existing surfaces affected by this work, replace filters, etc.
- .3 Clean all resilient flooring and prepare to receive protective finish. Protective finish applied by NRC.



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**47. WARRANTY AND RECTIFICATION OF DEFECTS IN WORK**

- .1 Refer to General Conditions "C", section GC32.
- .2 Ensure that all manufacturers' guarantees and warranties are issued in the name of the **General Contractor** and the National Research Council.

**48. MAINTENANCE MANUALS**

- .1 Provide two (2) bilingual copies of maintenance manuals or two (2) English and two (2) French maintenance manuals and one (1) electronic copy of same immediately upon completion of the work and prior to release of holdbacks.
- .2 Manuals to be neatly bound in hard cover loose leaf binders.
- .3 Manuals to include operating and maintenance instructions, all guarantees and warranties, shop drawings, technical data, etc., for the material and apparatus supplied under this contract.

**END OF SECTION**

## 1. GENERAL CONSTRUCTION SAFETY REQUIREMENTS

- .1 The Contractor shall take all necessary steps to protect personnel (workers, visitors, general public, etc.) and property from any harm during the course of the contract.
- .2 The Contractor shall be solely responsible for the construction safety of both its employees and those of its sub-contractors at the work site, and for initiating, maintaining and supervising safety precautions, programs and procedures in connection with the performance of the work.
- .3 The Contractor shall comply with all Federal, Provincial and Municipal safety codes and regulations and the Occupational Health and Safety Act and the Workplace Safety and Insurance Board. In the event of any conflict between any provisions in legislation or codes, the most stringent provisions shall apply.
- .4 Periodic review of the Contractor's work by the Departmental Representative, using the criteria of the contract documents, does not relieve the Contractor of his safety responsibilities in carrying out the work in accordance with the contract documents. The Contractor shall consult with the Departmental Representative to ensure that this responsibility is carried out.
- .5 The Contractor shall ensure that only competent personnel are permitted to work on site. Throughout the term of the contract, any person will be removed from the site who is not observing or complying with the safety requirements.
- .6 All equipment shall be in safe operating condition and appropriate to the task.
- .7 Following a project and site hazard assessment, the Contractor shall develop a Site Specific Safety Plan based on the following minimum requirements. Site Specific Safety Plans must also be robust enough to address any abnormal occurrences, such as, but not limited to: pandemics (COVID-19 or a similar), fire, flooding, inclimate weather or other environmental anomalies.
  - .1 Provide a safety board mounted in a visible location on the project site, with the following information included thereon:
    - .1 Notice of Project.
    - .2 Site specific Safety Policy.
    - .3 Copy of Ontario Health and Safety Act.
    - .4 Building Schematic showing emergency exits.
    - .5 Building emergency procedures.
    - .6 Contact list for NRC, Contractor and all involved sub-contractors.
    - .7 Any related MSDS sheets.
    - .8 NRC Emergency phone number.
- .8 The Contractor shall provide competent personnel to implement its safety program and those of any Health and Safety Act legislation applicable at this project location, and to ensure they are being complied with.

- .9 The Contractor shall provide safety orientation to all its employees as well as those of any sub-contractors under its jurisdiction.
- .10 The Departmental Representative will monitor to ensure that safety requirements are met and that safety records are properly kept and maintained. Continued disregard for safety standards can cause the contract to be cancelled and the Contractor or sub-contractors removed from the site.
- .11 The Contractor will report to the Departmental Representative and jurisdictional authorities, any accident or incident involving Contractor or NRC personnel or the public and/or property arising from the Contractor's execution of the work.
- .12 If entry to a laboratory is required as part of the work of the Contractor, a safety orientation shall be provided to all his employees as well as those of any sub-contractors regarding lab safety requirements and procedures, as provided by the Researcher or the Departmental Representative.

## **2. FIRE SAFETY REQUIREMENTS**

### **.1 Authorities**

1. The Fire Commissioner of Canada (FC) is the authority for fire safety at NRC.
2. For the purpose of this document, "Departmental Representative" will be deemed as the NRC person in charge of the project and who will enforce these Fire Safety Requirements.
3. Comply with the following standards as published by the Office of the Fire Commissioner of Canada:
  - a. Standard No. 301 - June 1982 "Standard for Construction Operations";
  - b. Standard No. 302 - June 1982 "Standard for Welding and Cutting".

### **.2 Smoking**

- .1 Smoking is prohibited inside all NRC buildings, as well as roof areas.
- .2 Obey all "NO SMOKING" signs on NRC premises.

### **.3 Hot Work**

- .1 Prior to commencement of any "Hot Work" involving welding, soldering, burning, heating, use of torches or salamanders or any open flame, obtain a Hot Work Permit from the Departmental Representative.
- .2 Prior to commencement of "Hot Work", review the area of hot work with the Departmental Representative to determine the level of fire safety precautions to be taken.

### **.4 Reporting Fires**

- .1 Know the exact location of the nearest Fire Alarm Pull Station and telephone, including the emergency phone number.

- .2 REPORT immediately, all fire incidents as follows:
  1. Activate nearest fire alarm pull station; and
  2. Telephone the following emergency phone number as appropriate:

**FROM AN NRC PHONE                      333**  
**FROM ANY OTHER PHONE              (613) 993-2411**

3. When reporting a fire by phone, give the location of fire, building number and be prepared to verify location.
4. The person activating fire alarm pull station must remain at a safe distance from the scene of the fire but readily available to provide information and direction to the Fire Department personnel.

**.5 Interior and Exterior Fire protection & Alarm Systems**

- .1 DO NOT OBSTRUCT OR SHUT OFF FIRE PROTECTION EQUIPMENT OR SYSTEMS, INCLUDING BUT NOT LIMITED TO FIRE ALARM SYSTEMS, SMOKE/HEAT DETECTORS, SPRINKLER SYSTEM, PULL STATIONS, EMERGENCY CALL BUTTONS AND PA SYSTEMS, WITHOUT AUTHORIZATION FROM THE DEPARTMENTAL REPRESENTATIVE.
- .2 WHEN ANY FIRE PROTECTION EQUIPMENT IS TEMPORARILY SHUT DOWN, ALTERNATIVE MEASURES AS PRESCRIBED BY THE DEPARTMENTAL REPRESENTATIVE SHALL BE TAKEN TO ENSURE THAT FIRE PROTECTION IS MAINTAINED.
- .3 DO NOT LEAVE FIRE PROTECTION OR ALARM SYSTEMS INACTIVE AT THE END OF A WORKING DAY WITHOUT NOTIFICATION AND AUTHORISATION FROM THE DEPARTMENTAL REPRESENTATIVE. THE DEPARTMENTAL REPRESENTATIVE WILL ADVISE THE (FPO) OF THE DETAILS OF ANY SUCH EVENT.
- .4 DO NOT USE FIRE HYDRANTS, STANDPIPES AND HOSE SYSTEMS FOR OTHER THAN FIRE FIGHTING PURPOSES UNLESS AUTHORISED BY DEPARTMENTAL REPRESENTATIVE.

**.6 Fire Extinguishers**

- .1 Provide a minimum of 1-20 lb. ABC Dry Chemical Fire Extinguisher at each hot work or open flame location.
- .2 Provide fire extinguishers for hot asphalt and roofing operations as follows:
  1. Kettle area - 1-20 lb. ABC Dry Chemical; and
  2. Roof - 1-20 lb. ABC Dry Chemical at each open flame location.
- .3 Provide fire extinguishers equipped as below:
  1. Pinned and sealed;
  2. With a pressure gauge; and
  3. With an extinguisher tag signed by a fire extinguisher servicing company.

- .4 Carbon Dioxide (CO<sub>2</sub>) extinguishers will not be considered as substitutes for the above.

## **.7 Roofing Operations**

### **.1 Kettles:**

- .1 Arrange for the location of asphalt kettles and material storage with the Departmental Representative before moving on site. Do not locate kettles on any roof or structure and keep them at least 10m (30 feet) away from a building.
- .2 Equip kettles with two (2) thermometers or gauges in good working order; a hand held and a kettle-mounted model.
- .3 Do not operate kettles at temperatures in excess of 232°C (450°F).
- .4 Maintain continuous supervision while kettles are in operation and provide metal covers for the kettles to smother any flames in case of fire. Provide fire extinguishers as required in article 2.6.
- .5 Demonstrate container capacities to Departmental Representative prior to start of work.
- .6 Store materials a minimum of 6m (20 feet) from the kettle.

### **.2 Mops:**

- .1 Use only glass fibre roofing mops.
- .2 Remove used mops from the roof site at the end of each working day.

### **.3 Torch Applied Systems:**

- .1 DO NOT USE TORCHES NEXT TO WALLS.
- .2 DO NOT TORCH MEMBRANES TO EXPOSED WOOD OR CAVITY.
- .3 Provide a Fire Watch as required by article 2.9 of this section.

- .4 Store all combustible roofing materials at least 3m (10 feet) away from any structure.
- .5 Keep compressed gas cylinders a minimum of 6m (20 feet) away from the kettle, protected from mechanical damage and secured in an upright position.

## **.8 Welding / Grinding Operations**

- .1 Contractor to provide fire blankets, portable fume extraction devices, screens or similar equipment to prevent exposure to welding flash, or sparks from grinding.

## **.9 Fire Watch**

- .1 Provide a fire watch for a minimum of one hour after the termination of any hot work operation.
- .2 For temporary heating, refer to General Instructions Section 00 010 00.
- .3 Equip fire watch personnel with fire extinguishers as required by article 2.6.

**.10 Obstruction of access/egress routes-roadways, halls, doors, or elevators**

- .1 Advise the Departmental Representative in advance of any work that would impede the response of Fire Department personnel and their apparatus. This includes violation of minimum overhead clearance, erection of barricades and the digging of trenches.
- .2 Building exit routes must not be obstructed in any way without special permission from the Departmental Representative, who will ensure that adequate alternative routes are maintained.
- .3 The Departmental Representative will advise the FPO of any obstruction that may warrant advanced planning and communication to ensure the safety of building occupants and the effectiveness of the Fire Department.

**.11 Rubbish and Waste Materials**

- .1 Keep rubbish and waste materials to a minimum and a minimum distance of 6m (20 feet) from any kettle or torches.
- .2 Do not burn rubbish on site.
- .3 Rubbish Containers:
  - .1 Consult with the Departmental Representative to determine an acceptable safe location for any containers and the arrangement of chutes etc. prior to bringing the containers on site.
  - .2 Do not overfill the containers and keep area around the perimeter free and clear of any debris.
- .4 Storage:
  - .1 Exercise extreme care when storing combustible waste materials in work areas. Ensure maximum possible cleanliness, ventilation and that all safety standards are adhered to when storing any combustible materials.
  - .2 Deposit greasy or oily rags or materials subject to spontaneous combustion in CSA or ULC approved receptacles and remove at the end of the work day or shift, or as directed.

**.12 Flammable Liquids**

- .1 The handling, storage and use of flammable liquids is governed by the current National Fire Code of Canada.
- .2 Flammable Liquids such as gasoline, kerosene and naphtha may be kept for ready use in quantities not exceeding 45 litres (10 imp gal), provided they are stored in approved safety cans bearing the ULC seal of approval and kept away from buildings, stockpiled combustible materials etc. Storage of quantities of flammable

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liquids exceeding 45 litres (10 imp gal) for work purposes, require the permission of the Departmental Representative.

- .3 Flammable liquids are not to be left on any roof areas after normal working hours.
- .4 Transfer of flammable liquids is prohibited within buildings.
- .5 Do not transfer flammable liquids in the vicinity of open flames or any type of heat producing device.
- .6 Do not use flammable liquids having a flash point below 38°C (100°F) such as naphtha or gasoline as solvents or cleaning agents.
- .7 Store flammable waste liquids for disposal in approved container located in a safe, ventilated area. Waste flammable liquids are to be removed from the site on a regular basis.
- .8 Where flammable liquids, such as lacquers or urethane are used, ensure proper ventilation and eliminate all sources of ignition. Inform the Departmental Representative prior to, and at the cessation of such work.

### **3. QUESTIONS OR CLARIFICATIONS**

- .1 Direct any questions or clarification on Fire or General Safety, in addition to the above requirements, to the Departmental Representative.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED SECTIONS**

- .1            Section 01 10 00 - General Instructions Ontario

**1.2                ADMINISTRATIVE**

- .1            Submit to Departmental Representative for review, shop drawings, product data and samples specified within two weeks after contract award.
  - .1            Submit promptly and in orderly sequence to not cause delay in Work
  - .2            Failure to submit in the prescribed 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 Departmental 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 Departmental 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 Departmental Representative's review of submittals.
- .9            Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10           Keep one reviewed copy of each submission on site.

**1.3                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 shop drawings bearing stamp and signature of qualified professional engineer registered or licensed in Province of Ontario, Canada.



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

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- .10 Relationship to adjacent work.
- .9 After Departmental Representative's review, distribute copies.
- .10 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .11 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
- .1     Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
- .2     Testing must have been within [3] years of date of contract award for project.
- .13 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
- .1     Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
- .2     Certificates must be dated after award of project contract complete with project name.
- .14 Submit electronic copies of manufacturer's instructions for requirements requested in specification Sections and as requested by Departmental 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.
- .15 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
- .1     Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .16 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .17 Delete information not applicable to project.
- .18 Supplement standard information to provide details applicable to project.
- .19 If upon review by Departmental 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.

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

#### **1.4 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 Departmental Representative's business address.
- .3 Notify Departmental Representative Engineer Consultant 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 Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which Departmental 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.

#### **1.5 MOCK-UPS**

- .1 Construct field mock-ups at locations acceptable to Departmental Representative.
- .2 Reviewed mock-ups will become standards of workmanship and material against which installed work will be checked on the project.

END OF SECTION

**Part 1            General**

**1.1                RELATED SECTIONS**

- .1        Section 00 10 00 – General Instructions.

**1.2                REFERENCES**

- .1        Canadian General Standards Board (CGSB)
  - .1        CGSB 1.59-[97], Alkyd Exterior Gloss Enamel.
  - .2        CAN/CGSB 1.189-[00], Exterior Alkyd Primer for Wood.
- .2        Canadian Standards Association (CSA International)
  - .1        CSA-O121-[M1978(R2003)], Douglas Fir Plywood.
- .3        Public Works Government Services Canada (PWGSC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions 'C', In Effect as Of: May 14, 2004.

**1.3                INSTALLATION AND REMOVAL**

- .1        Provide interior protection prior to demolition work.
- .2        Protection to be constructed in such a fashion so as to afford security, dust and weather resistance.
- .3        Barriers to be constructed continuously on the interior as indicated on drawings. Remove from site all such work after use.

**1.4                INTERIOR PROTECTION**

- .1        Materials
  - .1        12.7 x 1220 x 2440mm wood sheathing.
  - .2        92mm metal studding.
  - .3        12.7mm spruce wood, construction grade studding.
  - .4        6 mil. Polyethylene.
  - .5        Vinyl reinforced tarps.
- .2        Erection
  - .1        Construct barriers full height and line with polyethylene to ensure dust and water tightness.
  - .3        Have a mock-up assembly approved by the Engineer prior to proceeding with the erection.
  - .4        Ensure that the barrier does not interfere with the building's overhead crane or the work operations of the building occupants.

## **1.5 DUST TIGHT SCREENS**

- .1 Provide dust tight screens or partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
- .2 As the work progresses and after all structural work and wall framing have been completed, remove the temporary interior protection walls and construct a 6 mill polyethylene dust wall in its place, to allow finish work to proceed.
- .3 Inspect walls on a regular basis to ensure integrity of the assembly and to avoid dust and water infiltration to the interior of the building.
- .5 Remove interior protections only when approved by the Departmental Representative.
6. Maintain and relocate protection until such work is complete.

## **1.6 ACCESS TO SITE**

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

## **1.7 FIRE ROUTES**

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

## **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 Departmental Representative locations and installation schedule 3 days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

## **1.9 REINSTATEMENTS**

- .1 Reinstate the interior finishes affected by this work to the satisfaction of the Departmental Representative.

**END OF SECTION**

## **PART 1 - GENERAL**

### **1.1 SUMMARY**

- .1 Section Includes:
  - .1 General requirements relating to commissioning of project's components and systems, specifying general requirements to PV of components, equipment, sub-systems, systems, and integrated systems.
- .2 Acronyms:
  - .1 AFD - Alternate Forms of Delivery, service provider.
  - .2 BMM - Building Management Manual.
  - .3 Cx - Commissioning.
  - .4 EMCS - Energy Monitoring and Control Systems.
  - .5 O&M - Operation and Maintenance.
  - .6 PI - Product Information.
  - .7 PV - Performance Verification.
  - .8 TAB - Testing, Adjusting and Balancing.

### **1.2 GENERAL**

- .1 Cx is a planned program of tests, procedures and checks carried out systematically on systems and integrated systems of the finished Project. Cx is performed after systems and integrated systems are completely installed, functional and Contractor's Performance Verification responsibilities have been completed and approved. Objectives:
  - .1 Verify installed equipment, systems and integrated systems operate in accordance with contract documents and design criteria and intent.
  - .2 Ensure appropriate documentation is compiled into the BMM.
  - .3 Effectively train O&M staff.
- .2 Contractor assists in Cx process, operating equipment and systems, troubleshooting and making adjustments as required.
  - .1 Systems to be operated at full capacity under various modes to determine if they function correctly and consistently at peak efficiency. Systems to be interactively with each other as intended in accordance with Contract Documents and design criteria.
  - .2 During these checks, adjustments to be made to enhance performance to meet environmental or user requirements.
- .3 Design Criteria: as per client's requirements or determined by designer. To meet Project functional and operational requirements.

### **1.3 COMMISSIONING OVERVIEW**

- .1 For Cx responsibilities refer to Section 01 91 31 - Commissioning (Cx) Plan.
- .2 Cx to be a line item of Contractor's cost breakdown.

- .3 Cx activities supplement field quality and testing procedures described in relevant technical sections.
- .4 Cx is conducted in concert with activities performed during stage of project delivery. Cx identifies issues in Planning and Design stages which are addressed during Construction and Cx stages to ensure the facility is constructed and proven to operate satisfactorily under weather, environmental and occupancy conditions to meet functional and operational requirements. Cx activities includes transfer of critical knowledge to facility operational personnel.
- .5 Departmental Representative will issue Interim Acceptance Certificate when:
  - .1 Completed Cx documentation has been received, reviewed for suitability and approved by Departmental Representative.
  - .2 Equipment, components and systems have been commissioned.
  - .3 O&M training has been completed.

#### 1.4 NON-CONFORMANCE TO PERFORMANCE VERIFICATION REQUIREMENTS

- .1 Should equipment, system components, and associated controls be incorrectly installed or malfunction during Cx, correct deficiencies, re-verify equipment and components within the unfunctional system, including related systems as deemed required by Departmental Representative, to ensure effective performance.
- .2 Costs for corrective work, additional tests, inspections, to determine acceptability and proper performance of such items to be borne by Contractor. Above costs to be in form of progress payment reductions or hold-back assessments.

#### 1.5 PRE-CX REVIEW

- .1 Before Construction:
  - .1 Review contract documents, confirm by writing to Departmental Representative.
    - .1 Adequacy of provisions for Cx.
    - .2 Aspects of design and installation pertinent to success of Cx.
- .2 During Construction:
  - .1 Co-ordinate provision, location and installation of provisions for Cx.
- .3 Before start of Cx:
  - .1 Have completed Cx Plan up-to-date.
  - .2 Ensure installation of related components, equipment, sub-systems, systems is complete.
  - .3 Fully understand Cx requirements and procedures.
  - .4 Have Cx documentation shelf-ready.
  - .5 Understand completely design criteria and intent and special features.
  - .6 Submit complete start-up documentation to Departmental Representative.
  - .7 Have Cx schedules up-to-date.
  - .8 Ensure systems have been cleaned thoroughly.
  - .9 Complete TAB procedures on systems, submit TAB reports to Departmental Representative for review and approval.
  - .10 Ensure "As-Built" system schematics are available.

- .4 Inform Departmental Representative in writing of discrepancies and deficiencies on finished works.

## **1.6 CONFLICTS**

- .1 Report conflicts between requirements of this section and other sections to Departmental Representative before start-up and obtain clarification.
- .2 Failure to report conflict and obtain clarification will result in application of most stringent requirement.

## **1.7 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submittals: in accordance with Section 00 10 00 – General Instructions.
  - .1 Submit no later than 4 weeks after award of Contract:
    - .1 Name of Contractor's Cx agent.
    - .2 Draft Cx documentation.
    - .3 Preliminary Cx schedule.
  - .2 Request in writing to Departmental Representative for changes to submittals and obtain written approval at least 4 weeks prior to start of Cx.
  - .3 Submit proposed Cx procedures to Departmental Representative where not specified and obtain written approval at least 4 weeks prior to start of Cx.
  - .4 Provide additional documentation relating to Cx process required by Departmental Representative.

## **1.8 COMMISSIONING DOCUMENTATION**

- .1 Refer to Section 01 91 33 - Commissioning (Cx) Forms: Installation Check Lists and Product Information (PI) / Performance Verification (PV) Forms for requirements and instructions for use.
- .2 Departmental Representative to review and approve Cx documentation.
- .3 Provide completed and approved Cx documentation to Departmental Representative.

## **1.9 COMMISSIONING SCHEDULE**

- .1 Provide detailed Cx schedule as part of construction.
- .2 Provide adequate time for Cx activities prescribed in technical sections and commissioning sections including:
  - .1 Approval of Cx reports.
  - .2 Verification of reported results.
  - .3 Repairs, retesting, re-commissioning, re-verification.
  - .4 Training.

## **1.10 COMMISSIONING MEETINGS**

- .1 Convene Cx meetings following project as specified herein.



- .2 Purpose: to resolve issues, monitor progress, identify deficiencies, relating to Cx.
- .3 Continue Cx meetings on regular basis until commissioning deliverables have been addressed.
- .4 At 60% construction completion stage. Departmental Representative to call a separate Cx scope meeting to review progress, discuss schedule of equipment start-up activities and prepare for Cx. Issues at meeting to include:
  - .1 Review duties and responsibilities of Contractor and subcontractors, addressing delays and potential problems.
  - .2 Determine the degree of involvement of trades and manufacturer's representatives in the commissioning process.
- .5 Thereafter Cx meetings to be held until project completion and as required during equipment start-up and functional testing period.
- .6 Meeting will be chaired by Departmental Representative, who will record and distribute minutes.
- .7 Ensure subcontractors and relevant manufacturer representatives are present at 60% and subsequent Cx meetings and as required.

#### **1.11 STARTING AND TESTING**

- .1 Contractor assumes liabilities and costs for inspections. Including disassembly and re-assembly after approval, starting, testing and adjusting, including supply of testing equipment.

#### **1.12 WITNESSING OF STARTING AND TESTING**

- .1 Provide 14 days-notice prior to commencement.
- .2 Departmental Representative to witness of start-up and testing.
- .3 Contractor's Cx Agent to be present at tests performed and documented by sub-trades, suppliers and equipment manufacturers.

#### **1.13 MANUFACTURER'S INVOLVEMENT**

- .1 Obtain manufacturers installation, start-up and operations instructions prior to start-up of components, equipment and systems and review with Departmental Representative.
  - .1 Compare completed installation with manufacturer's published data, record discrepancies, and review with manufacturer.
  - .2 Modify procedures detrimental to equipment performance and review same with manufacturer before start-up.
- .2 Integrity of warranties:
  - .1 Use manufacturer's trained start-up personnel where specified elsewhere in other divisions or required to maintain integrity of warranty.
  - .2 Verify with manufacturer that testing as specified will not void warranties.
- .3 Qualifications of manufacturer's personnel:

- .1 Experienced in design, installation and operation of equipment and systems.
- .2 Ability to interpret test results accurately.
- .3 To report results in clear, concise, logical manner.

#### 1.14 PROCEDURES

- .1 Verify that equipment and systems are complete, clean, and operating in normal and safe manner prior to conducting start-up, testing and Cx.
- .2 Conduct start-up and testing in following distinct phases:
  - .1 Included in delivery and installation:
    - .1 Verification of conformity to specification, approved shop drawings and completion of PI report forms.
    - .2 Visual inspection of quality of installation.
  - .2 Start-up: follow accepted start-up procedures.
  - .3 Operational testing: document equipment performance.
  - .4 System PV: include repetition of tests after correcting deficiencies.
  - .5 Post-substantial performance verification: to include fine-tuning.
- .3 Correct deficiencies and obtain approval from Departmental Representative after distinct phases have been completed and before commencing next phase.
- .4 Document require tests on approved PV forms.
- .5 Failure to follow accepted start-up procedures will result in re-evaluation of equipment by an independent testing agency selected by Departmental Representative. If results reveal that equipment start-up was not in accordance with requirements, and resulted in damage to equipment, implement following:
  - .1 Minor equipment/systems: implement corrective measures approved by Departmental Representative.
  - .2 Major equipment/systems: if evaluation report concludes that damage is minor, implement corrective measures approved by Departmental Representative.
  - .3 If evaluation report concludes that major damage has occurred, Departmental Representative shall reject equipment.
    - .1 Rejected equipment to be remove from site and replace with new.
    - .2 Subject new equipment/systems to specified start-up procedures.

#### 1.15 START-UP DOCUMENTATION

- .1 Assemble start-up documentation and submit to Departmental Representative for approval before commencement of commissioning.
- .2 Start-up documentation to include:
  - .1 Factory and on-site test certificates for specified equipment.
  - .2 Pre-start-up inspection reports.
  - .3 Signed installation/start-up check lists.
  - .4 Start-up reports,
  - .5 Step-by-step description of complete start-up procedures, to permit Departmental Representative to repeat start-up at any time.

### **1.16 OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS**

- .1 After start-up, operate and maintain equipment and systems as directed by equipment/system manufacturer.
- .2 With assistance of manufacturer develop written maintenance program and submit to Departmental Representative for approval before implementation.
- .3 Operate and maintain systems for length of time required for commissioning to be completed.
- .4 After completion of commissioning, operate and maintain systems until issuance of certificate of interim acceptance.

### **1.17 TEST RESULTS**

- .1 If start-up, testing and/or PV produce unacceptable results, repair, replace or repeat specified starting and/or PV procedures until acceptable results are achieved.
- .2 Provide manpower and materials, assume costs for re-commissioning.

### **1.18 START OF COMMISSIONING**

- .1 Notify Departmental Representative at least 14 days prior to start of Cx.
- .2 Start Cx after elements of building affecting start-up and performance verification of systems have been completed.

### **1.19 INSTRUMENTS / EQUIPMENT**

- .1 Submit to Departmental Representative for review and approval:
  - .1 Complete list of instruments proposed to be used.
  - .2 Listed data including, serial number, current calibration certificate, calibration date, calibration expiry date and calibration accuracy.
- .2 Provide the following equipment as required:
  - .1 2-way radios.
  - .2 Ladders.
  - .3 Equipment as required to complete work.

### **1.20 COMMISSIONING PERFORMANCE VERIFICATION**

- .1 Carry out Cx:
  - .1 Under actual and accepted simulated operating conditions, over entire operating range, in all modes.
  - .2 On independent systems and interacting systems.

- .2 Cx procedures to be repeatable and reported results are to be verifiable.
- .3 Follow equipment manufacturer's operating instructions.
- .4 EMCS trending to be available as supporting documentation for performance verification.

#### **1.21 WITNESSING COMMISSIONING**

- .1 Departmental Representative to witness activities and verify results.

#### **1.22 AUTHORITIES HAVING JURISDICTION**

- .1 Where specified start-up, testing or commissioning procedures duplicate verification requirements of authority having jurisdiction, arrange for authority to witness procedures so as to avoid duplication of tests and to facilitate expedient acceptance of facility.
- .2 Obtain certificates of approval, acceptance and compliance with rules and regulation of authority having jurisdiction.
- .3 Provide copies to Departmental Representative within 5 days of test and with Cx report.

#### **1.23 COMMISSIONING CONSTRAINTS**

- .1 Since access into secure areas will be very difficult after occupancy, it is necessary to complete Cx of occupancy, weather, and seasonal sensitive equipment and systems before issuance of the Interim Certificate, using, if necessary, simulated thermal loads.

#### **1.24 EXTRAPOLATION OF RESULTS**

- .1 Where Cx of weather, occupancy, or seasonal-sensitive equipment or systems cannot be conducted under near-rated or near-design conditions, extrapolate part-load results to design conditions when approved by Departmental Representative in accordance with equipment manufacturer's instructions, using manufacturer's data, with manufacturer's assistance and using approved formulae.

#### **1.25 EXTENT OF VERIFICATION**

- .1 Provide manpower and instrumentation to verify up to 30 % of reported results, unless specified otherwise in other sections.
- .2 Number and location to be at discretion of Departmental Representative.
- .3 Conduct tests repeated during verification under same conditions as original tests, using same test equipment, instrumentation.
- .4 Review and repeat commissioning of systems if inconsistencies found in more than 20% of reported results.
- .5 Perform additional commissioning until results are acceptable to Departmental Representative.

### **1.26 REPEAT VERIFICATIONS**

- .1 Assume costs incurred by Departmental Representative for third and subsequent verifications where:
  - .1 Verification of reported results fail to receive Departmental Representative's approval.
  - .2 Repetition of second verification again fails to receive approval.
  - .3 Departmental Representative deems Contractor's request for second verification was premature.

### **1.27 SUNDRY CHECKS AND ADJUSTMENTS**

- .1 Make adjustments and changes which become apparent as Cx proceeds.
- .2 Perform static and operational checks as applicable and as required.

### **1.28 DEFICIENCIES, FAULTS, DEFECTS**

- .1 Correct deficiencies found during start-up and Cx to satisfaction of Departmental Representative.
- .2 Report problems, faults or defects affecting Cx to Departmental Representative in writing. Stop Cx until problems are rectified. Proceed with written approval from Departmental Representative.

### **1.29 COMPLETION OF COMMISSIONING**

- .1 Upon completion of Cx leave systems in normal operating mode.
- .2 Except for warranty and seasonal verification activities specified in Cx specifications, complete Cx prior to issuance of Interim Certificate of Completion.
- .3 Cx to be considered complete when contract Cx deliverables have been submitted and accepted by Departmental Representative.

### **1.30 ACTIVITIES UPON COMPLETION OF COMMISSIONING**

- .1 When changes are made to baseline components or system settings established during Cx process, provide updated Cx form for affected item.

### **1.31 MAINTENANCE MATERIALS, SPARE PARTS, SPECIAL TOOLS**

- .1 Supply, deliver, and document maintenance materials, spare parts, and special tools as specified in contract.

### **1.32 OCCUPANCY**

- .1 Cooperate fully with Departmental Representative during stages of acceptance and occupancy of facility.

### **1.33 INSTALLED INSTRUMENTATION**

- .1 Use instruments installed under Contract for TAB and PV if:
  - .1 Accuracy complies with these specifications.
  - .2 Calibration certificates have been deposited with Departmental Representative.
- .2 Calibrated EMCS sensors may be used to obtain performance data provided that sensor calibration has been completed and accepted.

### **1.34 PERFORMANCE VERIFICATION TOLERANCES**

- .1 Application tolerances:
  - .1 Specified range of acceptable deviations of measured values from specified values or specified design criteria. Except for special areas, to be within +/- 10% of specified values.
- .2 Instrument accuracy tolerances:
  - .1 To be of higher order of magnitude than equipment or system being tested.
- .3 Measurement tolerances during verification:
  - .1 Unless otherwise specified actual values to be within +/- 2 % of recorded values.

### **1.35 OWNER'S PERFORMANCE TESTING**

- .1 Performance testing of equipment or system by Departmental Representative will not relieve Contractor from compliance with specified start-up and testing procedures.

## **PART 2 - PRODUCTS**

### **2.1 NOT USED**

- .1 Not Used.

## **PART 3 - EXECUTION**

### **3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

## PART 1- GENERAL

### 1.1 SUMMARY

- .1 Section Includes:
  - .1 Description of overall structure of Cx Plan and roles and responsibilities of Cx team.

### 1.2 GENERAL

- .1 Provide a fully functional facility:
  - .1 Systems, equipment and components meet user's functional requirements before date of acceptance, and operate consistently at peak efficiencies and within specified energy budgets under normal loads.
  - .2 Facility user and O&M personnel have been fully trained in aspects of installed systems.
  - .3 Optimized life cycle costs.
  - .4 Complete documentation relating to installed equipment and systems.
- .2 Term "Cx" in this section means "Commissioning".
- .3 Use this Cx Plan as master planning document for Cx:
  - .1 Outlines organization, scheduling, allocation of resources, documentation, pertaining to implementation of Cx.
  - .2 Communicates responsibilities of team members involved in Cx Scheduling, documentation requirements, and verification procedures.
  - .3 Sets out deliverables relating to O&M, process and administration of Cx.
  - .4 Describes process of verification of how built works meet design requirements.
  - .5 Produces a complete functional system prior to issuance of Certificate of Occupancy.
  - .6 Management tool that sets out scope, standards, roles and responsibilities, expectations, deliverables, and provides:
    - .1 Overview of Cx.
    - .2 General description of elements that make up Cx Plan.
    - .3 Process and methodology for successful Cx.
- .4 Acronyms:
  - .1 Cx - Commissioning.
  - .2 BMM - Building Management Manual.
  - .3 EMCS - Energy Monitoring and Control Systems.
  - .4 MSDS - Material Safety Data Sheets.
  - .5 PI - Product Information.
  - .6 PV - Performance Verification.
  - .7 TAB - Testing, Adjusting and Balancing.
  - .8 WHMIS - Workplace Hazardous Materials Information System.
- .5 Commissioning terms used in this Section:
  - .1 Bumping: short term start-up to prove ability to start and prove correct rotation.
  - .2 Deferred Cx - Cx activities delayed for reasons beyond Contractor's control due to lack of occupancy, weather conditions, need for heating/cooling loads.

### 1.3 DEVELOPMENT OF 100% CX PLAN

- .1 Cx Plan to be 100% completed within 4 weeks of award of contract to take into account:
  - .1 Approved shop drawings and product data.
  - .2 Approved changes to contract.
  - .3 Contractor's project schedule.
  - .4 Cx schedule.
  - .5 Contractor's, sub-contractor's, suppliers' requirements.
  - .6 Project construction team's and Cx team's requirements.
- .2 Submit completed Cx Plan to Departmental Representative and obtain written approval.

### 1.4 REFINEMENT OF CX PLAN

- .1 During construction phase, revise, refine and update Cx Plan to include:
  - .1 Changes resulting from Client program modifications.
  - .2 Approved design and construction changes.
- .2 Revise, refine and update during construction phase. At each revision, indicate revision number and date.
- .3 Submit revised Cx Plan to Departmental Representative for review and obtain written approval.
- .4 Include testing parameters at full range of operating conditions and check responses of equipment and systems.

### 1.5 COMPOSITION, ROLES AND RESPONSIBILITIES OF CX TEAM

- .1 Departmental Representative to maintain overall responsibility for project and is sole point of contact between members of commissioning team.
- .2 NRC Project Manager will select Cx Team consisting of following members:
  - .1 NRC Project Manager: during construction, will conduct periodic site reviews to observe general progress and ensures Cx activities are carried out to ensure delivery of a fully operational project including:
    - .1 Review of Cx documentation from operational perspective.
    - .2 Review for performance, reliability, durability of operation, accessibility, maintainability, operational efficiency under conditions of operation.
    - .3 Protection of health, safety and comfort of occupants and O&M personnel.
    - .4 Monitoring of Cx activities, training, development of Cx documentation.
    - .5 Work closely with members of Cx Team.
  - .2 Departmental Representative is responsible for:
    - .1 Monitoring operations Cx activities.
    - .2 Ensuring implementation of final Cx Plan.
    - .3 Performing verification of performance of installed systems and equipment.
    - .4 Implementation of Training Plan.
  - .3 Construction Team: contractor, sub-contractors, suppliers and support disciplines, is



responsible for construction/installation in accordance with contract documents, including:

- .1 Testing.
- .2 TAB.
- .3 Performance of Cx activities.
- .4 Delivery of training and Cx documentation.
- .5 Assigning one person as point of contact with Departmental Representative for administrative and coordination purposes.
- .4 Contractor's Cx agent implements specified Cx activities including:
  - .1 Organizing Cx.
  - .2 Preparation, submission of test report.
  - .3 Witnessing, certifying accuracy of reported results.
  - .4 Witnessing, certifying TPB and other tests.
  - .5 Demonstrations.
  - .6 Training.
  - .7 Testing.
- .5 Property Manager: represents lead role in Operation Phase and onwards and is responsible for:
  - .1 Receiving facility.
  - .2 Day-To-Day operation and maintenance of facility.

## 1.6 CX PARTICIPANTS

- .1 Employ the following Cx participants to verify performance of equipment and systems:
  - .1 Installation contractor/subcontractor:
    - .1 Equipment and systems except as noted.
  - .2 Equipment manufacturer: assist in start-up, PV and Cx of equipment.
  - .3 Specialist subcontractor: equipment and systems supplied and installed by specialist subcontractor.
  - .4 Departmental Representative: responsible for intrusion and access security systems.
  - .5 Ensure that Cx participant:
    - .1 Could complete work within scheduled time frame.
    - .2 Available for emergency and troubleshooting service during first year of occupancy by user for adjustments and modifications outside responsibility of O&M personnel, including:
      - .1 Modify ventilation rates to meet changes in off-gassing.
      - .2 Changes to heating or cooling loads beyond scope of EMCS.
      - .3 Changes to EMCS control strategies beyond level of training provided to O&M personnel.
  - .6 Provide names of participants to Departmental Representative and details of instruments and procedures to be followed for Cx 4 weeks prior to starting date of Cx for review and approval.

## 1.7 EXTENT OF CX

- .1 Commission mechanical systems and associated equipment:

- .1 HVAC and exhaust systems:
  - .1 HVAC systems.
    - .1 New unit heater.
    - .2 Ventilation system.
  - .2 Fire Protection systems:
    - .1 New deluge system.
- .3 EMCS:
  - .1 Unit heater and ventilation system controls.

### 1.8 DELIVERABLES RELATING TO O&M PERSPECTIVES

- .1 General requirements:
  - .1 Compile English documentation.
  - .2 Documentation to be computer-compatible format ready for inputting for data management.
- .2 Provide deliverables:
  - .1 Warranties.
  - .2 Project record documentation.
  - .3 Inventory of spare parts, special tools and maintenance materials.
  - .4 Maintenance Management System (MMS) identification system used.
  - .5 WHMIS information.
  - .6 MSDS data sheets.
  - .7 Electrical Panel inventory containing detailed inventory of electrical circuitry for each panel board. Duplicate of inventory inside each panel.

### 1.9 DELIVERABLES RELATING TO THE CX PROCESS

- .1 General:
  - .1 Start-up, testing and Cx requirements, conditions for acceptance and specifications form part of relevant technical sections of these specifications.
- .2 Definitions:
  - .1 Cx as used in this section includes:
    - .1 Cx of components, equipment, systems, subsystems, and integrated systems.
    - .2 Factory inspections and performance verification tests.
- .3 Deliverables: provide:
  - .1 Cx Specifications.
  - .2 Startup, pre-Cx activities and documentation for systems, and equipment.
  - .3 Completed installation checklists (ICL).
  - .4 Completed product information (PI) report forms.
  - .5 Completed performance verification (PV) report forms.
  - .6 Results of Performance Verification Tests and Inspections.
  - .7 Description of Cx activities and documentation.
  - .8 Description of Cx of integrated systems and documentation.
  - .9 Training Plans.
  - .10 Cx Reports.
- .4 Departmental Representative to witness and certify tests and reports of results provided to Departmental Representative.

- .5 Departmental Representative to participate.

## 1.10 PRE-CX ACTIVITIES AND RELATED DOCUMENTATION

- .1 Items listed in this Cx Plan include the following:
  - .1 Pre-Start-Up inspections: by Departmental Representative prior to permission to start up and rectification of deficiencies to Departmental Representative's satisfaction.
  - .2 Departmental Representative to use approved check lists.
  - .3 Departmental Representative will monitor some of these pre-start-up inspections.
  - .4 Include completed documentation with Cx report.
  - .5 Conduct pre-start-up tests: conduct pressure, static, flushing, cleaning, and "bumping" during construction as specified in technical sections. To be witnessed and certified by Departmental Representative and does not form part of Cx specifications.
  - .6 Departmental Representative will monitor some of these inspections and tests.
  - .7 Include completed documentation in Cx report.
- .2 Pre-Cx activities - MECHANICAL:
  - .1 HVAC equipment and systems:
    - .1 "Bump" each item of equipment in its "stand-alone" mode.
    - .2 At this time, complete pre-start-up checks and complete relevant documentation.
    - .3 After equipment has been started, test related systems in conjunction with control systems on a system-by-system basis.
    - .4 Perform TAB on systems. TAB reports to be approved by Departmental Representative.
  - .2 EMCS:
    - .1 EMCS trending to be available as supporting documentation for performance verification.
    - .2 Perform point-by-point testing in parallel with start-up.
    - .3 Carry out point-by-point verification.
    - .4 Demonstrate performance of systems, to be witnessed by Departmental Representative prior to start of 30 day Final Acceptance Test period.
    - .5 Perform final Cx and operational tests during demonstration period and 30 day test period.
    - .6 Only additional testing after foregoing have been successfully completed to be "Off-Season Tests".

## 1.11 START-UP

- .1 Start up components, equipment and systems.
- .2 Equipment manufacturer, supplier, installing specialist sub-contractor, as appropriate, to start-up, under Contractor's direction, following equipment, systems:
  - .1 Unit heater.
  - .2 Deluge system.
- .3 Departmental Representative to monitor some of these start-up activities.
  - .1 Rectify start-up deficiencies to satisfaction of Departmental Representative.
- .4 Performance Verification (PV):
  - .1 Approved Cx Agent to perform.
    - .1 Repeat when necessary until results are acceptable to Departmental Representative.

- .2 Use procedures modified generic procedures to suit project requirements.
- .3 Departmental Representative to witness and certify reported results using approved PI and PV forms.
- .4 Departmental Representative to approve completed PV reports and provide to Departmental Representative.
- .5 Departmental Representative reserves right to verify up to 30% of reported results at random.
- .6 Failure of randomly selected item shall result in rejection of PV report or report of system startup and testing.

### **1.12 CX ACTIVITIES AND RELATED DOCUMENTATION**

- .1 Perform Cx by specified Cx agency using procedures developed by Departmental Representative.
- .2 Departmental Representative to monitor Cx activities.
- .3 Upon satisfactory completion, Cx agency performing tests to prepare Cx Report using approved PV forms.
- .4 Departmental Representative to witness, certify reported results of Cx activities and forward to Departmental Representative.
- .5 Departmental Representative reserves right to verify a percentage of reported results at no cost to contract.

### **1.13 CX OF INTEGRATED SYSTEMS AND RELATED DOCUMENTATION**

- .1 Cx to be performed by specified Cx specialist, using procedures developed by Departmental Representative.
- .2 Tests to be witnessed by Departmental Representative and documented on approved report forms.
- .3 Upon satisfactory completion, Cx specialist to prepare Cx Report, to be certified by Departmental Representative and submitted to Departmental Representative for review.
- .4 Departmental Representative reserves right to verify percentage of reported results.
- .5 Integrated systems to include:
  - .1 HVAC and associated systems forming part of integrated HVAC systems:
    - .1 Split AC units.
    - .2 Mini makeup air unit.
    - .3 EMCS system.
- .6 Identification:
  - .1 In later stages of Cx, before hand-over and acceptance Departmental Representative, Contractor, and Cx Agent to co-operate to complete inventory data sheets and provide assistance to Departmental Representative in full implementation of MMS identification system of components, equipment, sub-systems, systems.

#### 1.14 INSTALLATION CHECK LISTS (ICL)

- .1 Refer to Section 01 91 33 - Commissioning (Cx) Forms: Installation Check Lists and Product Information (PI) / Performance Verification (PV) Forms.

#### 1.15 PRODUCT INFORMATION (PI) REPORT FORMS

- .1 Refer to Section 01 91 33 - Commissioning (Cx) Forms: Installation Check Lists and Product Information (PI) / Performance Verification (PV) Forms.

#### 1.16 PERFORMANCE VERIFICATION (PV) REPORT

- .1 Refer to Section 01 91 33 - Commissioning (Cx) Forms: Installation Check Lists and Product Information (PI) / Performance Verification (PV) Forms.

#### 1.17 CX SCHEDULES

- .1 Prepare detailed Cx Schedule and submit to Departmental Representative for review and approval same time as project Construction Schedule. Include:
  - .1 Milestones, testing, documentation, training and Cx activities of components, equipment, subsystems, systems and integrated systems, including:
    - .1 Design criteria, design intents.
    - .2 Pre-TAB review: 14 days after contract award, and before construction starts.
    - .3 Cx agents' credentials: 30 days before start of Cx.
    - .4 Cx procedures: 1 months after award of contract.
    - .5 Cx Report format: 1 months after contract award.
    - .6 Discussion of heating/cooling loads for Cx: 1 months before start-up.
    - .7 Submission of list of instrumentation with relevant certificates: 14 days before start of Cx.
    - .8 Notification of intention to start TAB: 7 days before start of TAB.
    - .9 TAB: after successful start-up, correction of deficiencies and verification of normal and safe operation.
    - .10 Notification of intention to start Cx: 7 days before start of Cx.
    - .11 Notification of intention to start Cx of integrated systems: after Cx of related systems is completed 7 days before start of integrated system Cx.
    - .12 Identification of deferred Cx.
    - .13 Implementation of training plans.
  - .2 Detailed training schedule to demonstrate no conflicts with testing, completion of project and hand-over to Facility Management.
  - .3 6 months in Cx schedule for verification of performance in all seasons and wear conditions.
- .2 After approval, incorporate Cx Schedule into Construction Schedule.
- .3 Contractor, Contractor's Cx agent, and Departmental Representative will monitor progress of Cx against this schedule.

### **1.18 CX REPORTS**

- .1 Submit reports of tests, witnessed and certified by Departmental Representative to Departmental Representative who will verify reported results.
- .2 Include completed and certified PV reports in properly formatted Cx Reports.
- .3 Before reports are accepted, reported results to be subject to verification by Departmental Representative.

### **1.19 ACTIVITIES DURING WARRANTY PERIOD**

- .1 Cx activities must be completed before issuance of Interim Certificate, it is anticipated that certain Cx activities may be necessary during Warranty Period, including:
  - .1 Fine tuning of HVAC systems.

### **1.20 FINAL SETTINGS**

- .1 Upon completion of Cx to satisfaction of Departmental Representative lock control devices in their final positions, indelibly mark settings marked and include in Cx Reports.

## **PART 2 - PRODUCTS**

### **2.1 NOT USED**

- .1 Not Used.

## **PART 3 - EXECUTION**

### **3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

## **PART 1- GENERAL**

### **1.1 SUMMARY**

- .1 Section Includes:
  - .1 Commissioning forms to be completed for equipment, system and integrated system.

### **1.2 INSTALLATION/START-UP CHECK LISTS**

- .1 Include the following data:
  - .1 Product manufacturer's installation instructions and recommended checks.
  - .2 Special procedures as specified in relevant technical sections.
  - .3 Items considered good installation and engineering industry practices deemed appropriate for proper and efficient operation.
- .2 Equipment manufacturer's installation/start-up check lists are acceptable for use. As deemed necessary by Departmental Representative supplemental additional data lists will be required for specific project conditions.
- .3 Use check lists for equipment installation. Document check list verifying checks have been made, indicate deficiencies and corrective action taken.
- .4 Installer to sign check lists upon completion, certifying stated checks and inspections have been performed. Return completed check lists to Departmental Representative. Check lists will be required during Commissioning and will be included in Maintenance Manual at completion of project.
- .5 Use of check lists will not be considered part of commissioning process but will be stringently used for equipment pre-start and start-up procedures.

### **1.3 PRODUCT INFORMATION (PI) REPORT FORMS**

- .1 Product Information (PI) forms compiles gathered data on items of equipment produced by equipment manufacturer, includes nameplate information, parts list, operating instructions, maintenance guidelines and pertinent technical data and recommended checks that is necessary to prepare for start-up and functional testing and used during operation and maintenance of equipment. This documentation is included in the BMM at completion of work.
- .2 Prior to Performance Verification (PV) of systems complete items on PI forms related to systems and obtain Departmental Representative's approval.
- .3 Equipment shop drawings may be used as the PI forms.

### **1.4 PERFORMANCE VERIFICATION (PV) FORMS**

- .1 PV forms to be used for checks, running dynamic tests and adjustments carried out on equipment and systems to ensure correct operation, efficiently and function independently and interactively

with other systems as intended with project requirements.

- .2 PV report forms include those developed by Contractor records measured data and readings taken during functional testing and Performance Verification procedures.
- .3 Prior to PV of integrated system, complete PV forms of related systems and obtain Departmental Representative's approval.

## **1.5 SAMPLES OF COMMISSIONING FORMS**

- .1 Departmental Representative will develop and provide to Contractor required project-specific Commissioning forms in electronic format complete with specification data.
  - .1 Unit Heaters.
  - .2 Ventilation System.
- .2 Revise items on Commissioning forms to suit project requirements.
- .3 Samples of Commissioning forms and a complete index of produced to date will be attached to this section.

## **1.6 CHANGES AND DEVELOPMENT OF NEW REPORT FORMS**

- .1 When additional forms are required, but are not available from Departmental Representative develop appropriate verification forms and submit to Departmental Representative for approval prior to use.
  - .1 Additional commissioning forms to be in same format as provided by Departmental Representative

## **1.7 COMMISSIONING FORMS**

- .1 Use Commissioning forms to verify installation and record performance when starting equipment and systems.
- .2 Strategy for Use:
  - .1 Departmental Representative provides Contractor project-specific Commissioning forms with Specification data included.
  - .2 Contractor will provide required shop drawings information and verify correct installation and operation of items indicated on these forms.
  - .3 Confirm operation as per design criteria and intent.
  - .4 Identify variances between design and operation and reasons for variances.
  - .5 Verify operation in specified normal and emergency modes and under specified load conditions.
  - .6 Record analytical and substantiating data.
  - .7 Verify reported results.
  - .8 Form to bear signatures of recording technician and reviewed and signed off by Departmental Representative.
  - .9 Submit immediately after tests are performed.
  - .10 Reported results in true measured SI unit values.



- .11 Provide Departmental Representative with originals of completed forms.
- .12 Maintain copy on site during start-up, testing and commissioning period.
- .13 Forms to be both hard copy and electronic format with typed written results in Management Manual.

## **1.8 LANGUAGE**

- .1 To suit the language profile of the awarded contract.

## **PART 2 - PRODUCTS**

### **2.1 NOT USED**

- .1 Not Used.

## **PART 3 - EXECUTION**

### **3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CAN3 A165 SERIES-[94(R2000)], CSA Standards on Concrete Masonry Units [covers: A165.1, A165.2, A165.3].
  - .2 CSA A179-[94(R1999)], Mortar and Grout for Unit Masonry.
  - .3 CSA-A370-[94(C1999)], Connectors for Masonry.
  - .4 CSA-A371-[94(R1999)], Masonry Construction for Buildings.
  - .5 CSA G30.14-[M1983(R1998)], Deformed Steel Wire For Concrete Reinforcement.
  - .6 CAN/CSA G30.18-[M92], Billet-Steel Bars for Concrete Reinforcement.
  - .7 CSA-S304.1-[94(R2001)], Masonry Design for Buildings.

**1.2 SUBMITTALS**

- .1 Submit samples in accordance with Section 01 33 00 – Submittal Procedures.
  - .1 One of each type of masonry unit specified.
  - .2 One of each type of masonry accessory specified.
  - .3 One of each type of masonry reinforcement and tie proposed for use.
  - .4 As required for testing purposes.
- .2 Product Data:
  - .1 Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 – Submittal Procedures.
  - .2 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 00 15 45 General Safety Section and Fire Requirements – Article 5 Workplace Hazardous Material Information System WHMIS.
    - .1 Indicate VOC's for epoxy coatings and galvanized protective coatings and touch-up products.
    - .2 Indicate VOC's for mortar, grout, parging, colour additives and admixtures.
- .3 Shop Drawings:
  - .1 Submit shop drawings in accordance with Section 01 33 00 – Submittal Procedures.
  - .2 Shop drawings consist of bar bending details, lists and placing drawings.
  - .3 On placing drawings, indicate sizes, spacing, location and quantities of reinforcement and connectors.

**1.3 PRODUCT DELIVER, STORAGE AND HANDLING**

- .1 Deliver materials to job site in dry condition.

- .2 Protect on site stored or installed material from moisture damage in accordance with manufacturer's printed instructions.
- .3 Store under waterproof cover on pallets or plank platforms held off ground by means of plank or timber skids.

#### **1.4 COLD WEATHER REQUIREMENTS**

- .1 When air temperature is below 5°C take following precautions in preparing and using mortar:
  - .1 Heat sand slowly and evenly. Do not use scorched sand, having a reddish cast, in mortar.
  - .2 Heat water to 70°C maximum; 20°C minimum.
  - .3 After combining heated ingredients, maintain temperature of mortar between 5°C and 50°C until used.
  - .4 Protect mortar from rain and snow.
- .2 Maintain dry beds for masonry and use dry masonry units only. Do not wet masonry units in winter.

#### **1.5 HOT WEATHER REQUIREMENTS**

- .1 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings.
- .2 Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place.

### **Part 2 Products**

#### **2.1 MASONRY UNITS**

- .1 Standard concrete block units: to CAN3-A165 Series (CAN3-A165.1).
  - .1 Classification: S/12.5/A/M
  - .2 Size: metric.

#### **2.2 REINFORCEMENT AND CONNECTORS**

- .1 Bar reinforcement: to CSA-A371 and CAN/CSA G30.18, Grade 400
- .2 Wire reinforcement: to CSA-A371 and CSA G30.14, truss type.
- .3 Corrosion protection: to CSA-A370 and CSA-S304, for connectors, metal ties and horizontal reinforcing in exterior walls, walls in shower areas and wet areas.

#### **2.3 MORTAR AND GROUT**

- .1 Mortar: to CSA A179.
  - .1 Use aggregate passing 1.18 mm sieve where 6 mm thick joints are indicated.
  - .2 Colour: ground coloured natural aggregates or metallic oxide pigments.
- .2 Mortar for interior masonry:

- .1 Non-load bearing: type N based on property specifications.
- .3 Following applies regardless of mortar types and uses specified above:
  - .1 Mortar for grouted reinforced masonry: type S.
- .4 Grout: to CSA A179, Table 3.
  - .1 Grout for concrete unit masonry, minimum 20Mpa at 28 days

### **Part 3 Execution**

#### **3.1 INSTALLATION**

- .1 Do masonry work in accordance with CSA-A371 except where specified otherwise.
  - .1 Bond: running stretcher bond with vertical joints in perpendicular alignment and centred on adjacent stretchers above and below.
  - .2 Coursing height: 200 mm for one block and one joint [for three bricks and three joints].
  - .3 Jointing: tool concave where exposed or where paint or other finish coating is specified to provide smooth compressed surface.
  - .4 Strike flush all joints concealed in walls and joints in walls to receive plaster, tile, insulation, or other applied material except paint or similar thin finish coating.
- .2 Build masonry plumb, level, and true to line, with vertical joints in alignment.
- .3 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.

#### **3.2 TOLERANCES**

- .1 Deviation in joint thickness: +3 mm .

#### **3.3 CONSTRUCTION**

- .1 Exposed masonry:
  - .1 Remove chipped, cracked, and otherwise damaged units, in exposed masonry and replace with undamaged units.
  - .2 Cut out for electrical switches, outlet boxes, and other recessed or built-in objects. Make cuts straight, clean, and free from uneven edges.
- .2 Building-In:
  - .1 Install masonry connectors and reinforcement where indicated on drawings.
  - .2 Build in items required to be built into masonry.
  - .3 Prevent displacement of built-in items during construction. Check plumb, location and alignment frequently, as work progresses.
  - .4 Brace door jambs to maintain plumb. Fill spaces between jambs and masonry with mortar.
  - .5 Install loose steel lintels over openings where indicated.
    - .1 For steel lintel schedule refer to drawings.

- .2 End Bering: not less than 150mm
- .3 Support of loads:
  - .1 Use 20 MPa concrete to Section 03 30 00 - Cast-in-Place Concrete, where concrete fill is used in lieu of solid units.
  - .2 Use grout to CSA A179 where grout is used in lieu of solid units.
  - .3 Install building paper below voids to be filled with concrete; keep paper 25 mm back from faces of units.
- .4 Provision for movement:
  - .1 Leave 3 mm space below shelf angles.
  - .2 Leave 20 mm space between top of non-load bearing walls and partitions and structural elements. Do not use wedges.
  - .3 Fire stopping material between top of fire rated walls and underside of structure forms part of this work and shall conform to NBC 2010, 3.1.7.1.
  - .4 Built masonry to tie in with stabilizers, with provision for vertical movement.
- .5 Interface with other work:
  - .1 Cut openings in existing work as indicated.
    - .1 Cut out neatly for electrical switches, outlet boxes, and other recessed or built-in objects
    - .2 Make cuts straight, clean, and free from uneven edges.
  - .2 Openings in walls: approved Departmental Representative.
  - .3 Make good existing work. Use materials to match existing.
- .6 Mortar Mixing
  - .1 Mix grout to semi-fluid consistency.
  - .2 Prehydrate pointing mortar by mixing ingredients dry, then mix again adding just enough water to produce damp unworkable mix that will retain its form when pressed into ball. Allow to stand for not less than 1 hour nor more than 2 hours then remix with sufficient water to produce mortar of proper consistency for pointing.

### **3.4 REINFORCING AND CONNECTING**

- .1 Install in concrete unit masonry wall elements at vertical intervals 400 mm maximum, horizontal reinforcement comprising two 3 mm rods, each rod 25 mm from each face, and lapped 150 mm at each splice.
- .2 Install in concrete unit masonry wall elements at horizontal intervals 1.2 m maximum vertical reinforcement comprising 10 mm diameter rod in grouted cells.
- .3 Install masonry connectors and reinforcement in accordance with CSA-A370, CSA-A371 and CSA-S304.1 unless indicated otherwise.
- .4 Prior to placing mortar, obtain Departmental Representative's approval of placement of reinforcement and connectors.
- .5 Reinforce masonry in accordance with NBC 2010 and as indicated

- .6 Grout vertical reinforcing in accordance with CAN3-S304-M84. Use concrete of 20 MPa .
- .7 Embed bolts and anchors solidly in mortar or grout to develop maximum resistance to design forces.
- .8 Provide lateral support and anchorage in accordance with CAN3-S304-M84 and as indicated
- .9 Dowel vertical bars into foundation. Vertical bars shall be continuous, dowelled into supports and grouted into clear vertical cores sealed all around with mortar. Provide cleanout port at bottom of each grouted core. Do not close port or place grout until core and steel have been approved by Departmental Representative.

### **3.5 GROUTING**

- .1 Grout masonry in accordance with CSA-S304.1, CSA-A371 and CSA-A179 and as indicated.

### **3.6 ANCHORS**

- .1 Supply and install metal anchors as indicated.

### **3.7 LATERAL SUPPORT AND ANCHORAGE**

- .1 Supply and install lateral support and anchorage in accordance with CSA-S304.1.

### **3.8 SITE TOLERANCES**

- .1 Tolerances in notes to Clause 5.3 of CSA-A371 apply.

### **3.9 FIELD QUALITY CONTROL**

- .1 Inspection and testing will be carried out by Testing Laboratory designated by Departmental Representative.

### **3.10 CLEANING**

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

### **3.11 PROTECTION**

- .1 Protect masonry and other work from marking and other damage. Protect completed work from mortar droppings. Use non-staining coverings.
- .2 Provide temporary bracing of masonry work during and after erection until permanent lateral support is in place.

END OF SECTION

**Part 1 GENERAL**

**1.1 Reference Standard**

- .1 Do welding work in accordance with CSA W59-1982 unless specified otherwise.

**1.2 Shop Drawings**

- .1 Submit to the Engineer for approval five (5) copies of erection drawings together with shop drawings of details, special connections, reinforced openings and other non-standard items. Shop drawings to bear the stamp of a registered professional Engineer.
- .2 Indicate shop and erection details including cuts, copes, connections, holes, bolts and welds. Indicate welds by welding symbols defined in [CSA W59-M1984].
- .3 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.

**Part 2 PRODUCTS**

**2.1 2.1 Materials**

- .1 SPEC NOTE: For aluminum, stainless steel, galvanized iron Ref. to mini Spec. - Section 05500.
- .2 Steel sections and plates: to CAN3-G40.21- M81, Grade 300W: Hollow steel sections to CAN3-G40.21-M81, Grade 350W.
- .3 Steel pipe: to ASTM A53-82 extra strong finish.
- .4 Welding materials: to CSA W59-1982.
- .5 Bolts and anchor bolts: to ASTM A307-82a.
- .6 Galvanizing: hot dipped galvanizing with zinc coating 600g/m<sup>2</sup> (0.12 lb/ft<sup>2</sup>) to CSA G164-M1981.
- .7 Shop coat primer: to CGSB 1-GP-40M.
- .8 Zinc primer: zinc rich, ready mix to CGSB 1-GP-181M.

## **2.2 Fabrication**

- .1 Build work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Fabricate items from steel unless otherwise noted.
- .3 Use self-tapping shake-proof, flat, round, oval headed screws on items requiring assembly by screws or as indicated.
- .4 Where possible, fit and shop assemble work, ready for erection.
- .5 .Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush.

## **2.3 Shop Painting**

- .1 Apply one shop coat of primer to metal items, with exception of stainless steel, aluminum, galvanized or concrete encased items.
- .2 Use primer unadulterated, as prepared by manufacturer. Paint on dry surfaces, free from rust, scale, grease. Do not paint when temperature is lower than 7°C (45°F).
- .3 Clean surfaces to be field welded, do not paint.

## **Part 3 EXECUTION**

### **3.1 Erection**

- .1 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .2 Provide suitable means of anchorage acceptable to Engineer, Consultant such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.
- .3 Make field connections, with bolts to CSA S16-1969 and CSA S1653-1981, or weld.
- .4 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.
- .5 Touch-up rivets, field welds, bolts and burnt or scratched surfaces after completion of erection with primer.
- .6 Touch-up galvanized surfaces with zinc primer where burned by field welding and cutting.

**END OF SECTION**



**Part 1 GENERAL N/A**

**Part 2 PRODUCTS**

**2.1 Insulation**

- .1 Bulk insulation: Extruded polystyrene: to CAN/CGSB-51.20-M87, type 4 having RSI 0.87 for each 25 mm (1") thickness to thickness indicated and having a compressive strength of 210 Kpa, square edges.

**2.2 Accessories**

- .1 Insulation clips: impale type, perforated 50 x 50 mm (2" x 2") cold rolled carbon steel 0.8 mm (20 ga.) thick, adhesive back, spindle of 2.5 mm diameter annealed steel, length to suit insulation, 25 mm (1") diameter washers of self locking type.
- .2 Sealant: to CAN/CGSB-19.21-M87.
- .3 Tape for sealing as recommended by manufacturer.

**Part 3 EXECUTION**

**3.1 Workmanship**

- .1 Install insulation after building substrate materials are dry.
- .2 Install insulation to maintain continuity of thermal protection to building elements and spaces.
- .3 Cut and trim insulation neatly to fit spaces. Butt joints tightly, offset vertical joints. Use only insulation boards free from chipped or broken edges. Use largest possible dimensions to reduce number of joints.
- .4 Offset both vertical and horizontal joints in multiple layer applications.
- .5 Do not enclose insulation until it has been inspected and approved by Departmental Representative.

**END OF SECTION**

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**Part 1            GENERAL**

**1.1            General**

- .1    One manufacturer's product only to be used throughout.
- .2    Sealant must be approved by Departmental Representative as acceptable product.
- .3    Exclude the following other sections of specifications; Painting 09900.
- .4    Colours of all sealants to be selected by the Departmental Representative prior to proceeding.

**Part 2            PRODUCTS**

**2.1            Materials**

- .1    Multi-purpose sealant: Silicone, "Dow Corning #732" or equivalent approved by Departmental Representative.
- .2    Exterior Insulated Finish System (EIFS) sealant: Silicone, "Dow Corning #795" or equivalent approved by Departmental Representative.
- .3    Filler of backing material: white non-absorbent, closed cell foam polyethylene. Material 30-50% wider than joint width to receive same.
- .4    Primers: sealant manufacturer's type.
- .5    Cleaners: as recommended by sealant manufacturers.

**Part 3            EXECUTION**

**3.1            Preparation**

- .1    Ensure all materials which will bear sealant on their surfaces are clean and free from foreign material which would affect bonding.
- .2    Permit concrete and mortar to cure fully before sealing.
- .3    Use bond breaking backing: to prevent sealant bonding to joint bottom.
- .4    Prime joint sides in accordance with manufacturer's directions.
- .5    Mask adjacent surfaces to prevent contamination by sealant. Remove mask immediately after joints completed.

**3.2 Application**

- .1 Employ a professional applicator to run continuous non varying width and depth beads of sealant on joints.
- .2 Apply sealant as per manufacturer's recommendations.
- .3 Do not apply sealant when surrounding air temperature air is below 5°C.
- .4 Immediately clean surplus compound from adjacent surfaces.

**END OF SECTION**

**Part 1 GENERAL**

**1.1 Requirements of Regulatory Agencies**

- .1 Steel fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with CAN4 S104M-80 revised 1985 and CAN4 S105M-1985 for ratings specified or indicated, for example ULC or Warnock-Hersey.
- .2 Install labelled steel fire rated doors and frames to NFPA 80 except where specified otherwise.

**1.2 Shop Drawings**

- .1 Submit shop drawings in accordance with Section 01000.
- .2 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners openings, glazed.

**Part 2 PRODUCTS**

**2.1 Hollow Metal Doors**

- .1 Steel: zinc coated .25 oz zinc per square foot content to ASTM A527.
- .2 Flat sheet: face and back skins to be 18 (1.0mm) gauge thickness.
- .3 Door Core:
  - .1 Hollow steel: vertically stiffened with steel ribs and all voids filled with semi-rigid fibrous insulation minimum density 24 kg/m<sup>3</sup> polystyrene.
- .4 Hardware reinforcement: hinges 7 (3.7mm) gauge, lock box, closer mounting, 14 (1.6mm) gauge.
- .5 Top and bottom channels closures: 14 (1.6mm) gauge.
- .6 Primer: for touch-up zinc chromate CAN/CGSB-1.132-M90.

**2.2 Materials Pressed Steel Frames**

- .1 N/A

**Part 3 EXECUTION**

### **3.1 Fabrication**

- .1 Prior to fabrication take critical measurements at site to facilitate installation and fitting of doors.
- .2 Blank, drill, reinforce and tap frames to receive templated strikes, door closers and hinges.
- .3 Grind welded corners, fill exposed surface depressions and butted joints with metallic paste filler and sand to a smooth uniform finish.
- .4 Protect strikes and hinges by guard boxes welded in place.
- .5 Reinforce door transoms and heads for openings larger than 5'-0" (1500mm) with light structural section or as indicated.
- .6 Fabricate doors as integral units, free from sag, distortion, wave or core ghosting, with slide interlocking edge seams.
- .7 Bond steel sheets to approved core material. Fill voids in stiles with polyurethane.
- .8 Exterior doors to have inverted top channel welded in place and filled with a metallic paste filler and sand to a smooth uniform finish.
- .9 Welding of door and frame components in accordance with CSA W59-M1989.

### **3.2 Installation**

- .1 Provide each door frame with two rubber door silencers at head of each door, and three at the strike side.
- .2 Provide six adjustable anchors for seven feet height of frames.
- .3 Obtain hardware templates. Cut, blank-out, reinforce and drill all members accurately to receive hardware. Provide locating clips for mortise locks.
- .4 Secure physical metal fire label, by means of pop rivets on labelled fire doors and frames. Label to carry qualifications of rating in accordance to Underwriters or Warnock-Hersey standards. Locate labels on hinge rebate of frames and hinge end of doors.

**END OF SECTION**

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## PART 1 GENERAL

### 1.1 SUMMARY

- A. **Section Includes:** Manual and electric operated, automatic closing, overhead rolling fire doors with SmokeShield®UL leakage rated assembly label.
- B. **Related Sections:**
  - 1. 05 50 00–Metal Fabrications. Door opening jamb and head members.
  - 2. 06 10 00–Rough Carpentry. Door opening jamb and head members.
  - 3. Division 26. Electrical wiring and conduit, fuses, disconnect switches, connection of operator to power supply, installation of control station and wiring, and connection to alarm systems.
- C. **Products That May Be Supplied, But Are Not Installed Under This Section:**
  - 1. Control Station
  - 2. Annunciator

### 1.2 SYSTEM DESCRIPTION

- A. **Performance Requirements:**
  - 1. Provide doors with Underwriters' Laboratories, Inc. label for the fire rating classification  
1 1/2 hr.

### 1.3 SUBMITTALS

- A. Reference Section 01 33 00–Submittal Procedures; submit the following items:
  - 1. **Product Data**
  - 2. **Shop Drawings:** Include special conditions not detailed in Product Data. Show interface with adjacent work.
  - 3. **Quality Assurance/Control Submittals:**
    - a. Provide manufacturer ISO 9001:2015 registration.
    - b. Provide manufacturer and installer qualifications - see 1.4 below.
    - c. Provide manufacturer's installation instructions.
  - 4. **Closeout Submittals:**
    - a. Operation and Maintenance Manual.
    - b. Certificate stating that installed materials comply with this specification.

### 1.4 QUALITY ASSURANCE

- A. Qualifications:
  - 1. **Manufacturer Qualifications:** ISO 9001:2015 registered and a minimum of five years experience in producing fire and smoke control units of the type specified.
  - 2. **Installer Qualifications:** Manufacturer's approval.

- 1.5 DELIVERY STORAGE AND HANDLING. Follow manufacturer's instructions.

### 1.6 WARRANTY

- A. **Standard Warranty:** Two years from date of shipment against defects in material and workmanship.
- B. **Maintenance:** Submit for owner's consideration and acceptance of a maintenance service agreement for installed products.

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## PART 2 PRODUCTS

### 2.1 MANUFACTURER

#### A. **Manufacturer:**

1. **Cookson:** 1901 South Litchfield Road, Goodyear, AZ 85338. Telephone: (800) 294-4358.
2. **Cornell**
3. **Amarr**
4. **Clopay**

**Substitutions:** approved equal.

### 2.2 PRODUCT INFO

#### A. **Model:** ERD21

### 2.3 MATERIALS

#### A. **Curtain:**

1. **Slats:** No. 6M
  - a. **Galvanized Steel with Finish as Described Below:** No. 6M, face slat with Galvanized Steel back cover; minimum 22 gauge, Grade 40 steel, ASTM A 653 galvanized steel zinc coating
2. **Mineral Wool Insulated Door Material:**
  - a. **Mineral Wool Insulated Door Material:** 7/8 inch (22 mm) thick fire retardant mineral wool, ASTM C665-95 or ASTM C612-93
  - b. **Flame Spread Index of 0** and a **Smoke Developed Index** of 0 as tested per ASTM E84.
  - c. **R-value:** Minimum R-Value 5.3 (U-value of 0.189) as calculated using the ASHRAE Handbook of Fundamentals
3. **Slat Finish (Interior/Exterior):**
  - a. **GalvaNex™ Coating System (Stock Colors):**
    - 1) ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding baked-on base coat and gray baked-on polyester enamel finish coat

#### B. **Endlocks:**

Assemble interlocking slat sections with high strength cast iron combination endlock/windlocks on alternate slats each secured with a minimum of two ¼" (6.35 mm) rivets per UL requirements.

#### C. **Bottom Bar:**

1. **Configuration:**
  - a. **Structural Steel Angles:** 2 structural steel angles minimum 2"x2"x1/8" (50x50x3.2 mm)
2. **Finish:**
  - a. **Hot-dip Galvanized:** ASTM A 123, Grade 85 zinc coating, hot-dip galvanized

- D. **Guides:**
1. **Fabrication:**
    - a. Minimum 1/4 inch (6.35 mm) structural steel angles. Top of inner and outer guide angles to be flared outwards to form bellmouth for smooth entry of curtain into guides. Provide removable guide stoppers to prevent over travel of curtain and bottom bar. Top 16 1/2" (419.10 mm) of coil side guide angles to be removable for ease of curtain installation and as needed for future curtain service.
  2. **Finish:**
    - a. **Hot-dip Galvanized:** ASTM A 123, Grade 85 zinc coating, hot-dip galvanized after fabrication
- E. **Counterbalance Shaft Assembly:**
1. **Barrel:** Steel pipe capable of supporting curtain load with maximum deflection of 0.03 inches per foot (2.5 mm per meter) of width
  2. **Spring Balance:** Oil-tempered, heat-treated steel helical torsion spring assembly designed for proper balance of door to ensure that maximum effort to operate will not exceed 25 lbs (110 N). Provide wheel for applying and adjusting spring torque.
- F. **Brackets:** Fabricate from minimum 1/4 inch (6.35 mm) steel plate with permanently lubricated ball or roller bearings at rotating support points to support counterbalance shaft assembly and form end closures
1. **Finish:**
    - a. **Hot-dip Galvanized:** ASTM A 123, Grade 85 zinc coating, hot-dip galvanized after fabrication
- G. **Hood:**  
Minimum 24 gauge galvanized steel with reinforced top and bottom edges. Provide minimum 1/4 inch (6.35 mm) steel intermediate support brackets
1. **Finish:**
    - a. **GalvaNex™ Coating System (Stock Colors):**
      - 1) ASTM A 653 galvanized base coating treated with dual process rinsing agents in preparation for chemical bonding baked-on base coat and gray baked-on polyester enamel finish coat
- H. **Combination Weather/Smoke Seals:**
1. **Bottom Bar:**
    - a. **Motor Operated Doors:** Combination smoke seal/sensing edge
  2. **Guides and Head:** Replaceable, UL listed, nylon brush smoke seals sealing against fascia side of curtain

## 2.4 OPERATION

- A. **Motor Operation:**
1. **AlarmGard Plus Advanced Fire Door Motor Operation with Chain Hoist and Battery Backup:** UL, cUL listed NEMA 1 enclosure, horsepower as recommended by manufacturer, 208/230v three phase service. Provide a totally enclosed non ventilated motor, removable without affecting the setting of limit switches; thermal overload protection, planetary gear reduction, adjustable rotary



limit switch mechanism and a transformer with 24v secondary output. All internal electrical components are to be prewired to terminal blocks.

- a. Provide a failsafe motor operated door assembly requiring no ancillary or externally mounted release devices, cables, chains, pulleys, reset handles or mechanisms
- b. Equip operator with an emergency manual chain hoist assembly that provides emergency operation during non-alarm power failure.
- c. Provide an internal electrical failsafe release device that requires no additional wiring, external cables or mounting locations.
- d. Provide an internal solenoid brake mechanism to hold the door at any position during normal door operation.
- e. Provide logic for 1 fully monitored safety reversing devices such that the failure of any single monitored device will cause the motor operator to automatically revert to constant pressure to close.
- f. Electrically activate door system automatic closure by notification from central alarm system.
- g. Provide an automatic alarm closure selectable time delay of zero or ten seconds.
- h. Control automatic closure speed with an internal, totally enclosed, variable rate centrifugal governor without the use of electrical pulsation, constant rate viscosity, oscillation type or other exposed governing devices.
- i. Maintain automatic closure speed at not more than 9" (229 mm) per second.
- j. Enable safety edge function during alarm closing while power is present for 1 cycles. Enable door to rest upon obstruction following this sequence.
- k. Electrically reset internal failsafe release device and door operating system upon restoration of electrical power and upon clearing of the alarm signal without requiring human interaction.
- l. Provide selectable ability for the door system to automatically self-cycle to the fully open position following automatic reset without requiring human interaction.
- m. Provide an integral, non-resettable cycle counter.
- n. Ensure that manual resetting of spring tension, release devices, linkages or mechanical dropouts will not be required.
- o. Provide minimum #50 roller chain for drive connection from motor drive assembly to the door drive shaft.
- p. Install system only with manufacturer supplied or specified fasteners.
- q. Notify electrical contractor to mount control station(s) and supply the appropriate disconnect switch, all conduit and wiring per the door system wiring instructions.
- r. Drop test and reset door system twice by all means of activation and comply fully with NFPA 80 Section 5.

**D. Sensing/Smoke Seal Edge:**

1. Provide bottom edge sensing switch within neoprene or rubber astragal extending full width of door bottom bar.

## 2.5 ACCESSORIES

- A. **Locking:**
  - 1. **None**
- 1.
  - B. **Battery Back-Up:**
    - 1. **Model R-BBU Battery Back-Up System for AlarmGard Motor Operator:**
      - a. Prevent gravity closure for a minimum of four hours due to power failure.
  - D. **Operator and Full Bracket Mechanism Cover:**
    - 1. Provide minimum 24 gauge galvanized steel sheet metal cover to enclose exposed moving operating components at coil area of unit. Finish to match door hood.
  - E. **Floor Level Test Device:** For FireGard™ Motor, Chain or Crank operator.
    - 1. Provide assembly that allows activation and reset from floor level.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates upon which work will be installed and verify conditions are in accordance with approved shop drawings.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
- C. Commencement of work by installer is acceptance of substrate.

### 3.2 INSTALLATION

- A. General: Install door and operating equipment with necessary hardware, anchors, inserts, hangers and supports.
- B. Comply with NFPA80 and NFPA 105 and follow manufacturer's installation instructions.

### 3.3 ADJUSTING

- A. Following completion of installation, including related work by others, lubricate, test, and adjust doors for ease of operation, free from warp, twist, or distortion.

### 3.4 FIELD QUALITY CONTROL

- A. Site Test: Test doors for normal operation and automatic closing. Coordinate with authorities having jurisdiction to witness test and sign Drop Test Form.

### 3.5 CLEANING

- A. Clean surfaces soiled by work as recommended by manufacturer.
- B. Remove surplus materials and debris from the site.

3.6 DEMONSTRATION

- A. Demonstrate proper operation, testing and reset procedures to Owner's Representative.
- B. Instruct Owner's Representative in maintenance procedures.

**END OF SECTION**

**Part 1 GENERAL**

**1.1 Reference Standards**

- .1 Standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame manufacturer's Association.

**1.2 Hardware List**

- .1 Submit hardware schedule for Departmental Representative's approval.
- .2 Indicate hardware proposed, including make, model, material, function, finish and other pertinent information.

**1.3 Maintenance**

- .1 Provide maintenance data, parts lists, and manufacturer's instruction for each type door closers, locksets, door holders and fire exit hardware for incorporation into maintenance manual.

**1.4 Maintenance Materials**

- .1 Supply two sets of wrenches for door passage and privacy sets.

**1.5 Hardware Requirements**

- .1 Hardware standards listed in Paragraph 2.2 can be obtained through NRC standing offer program.
- .2 NRC has a bonded locksmith for our keying system on standing contract. See contract coordinator for information.
- .3 Contractor will be responsible to have all cylinders keyed by NRC bonded locksmith on standing offer contract.
- .4 Contractor will be responsible to carry all associated costs for cylinders and keying of same with N.R.C. bonded standing offer locksmith.

**Part 2 PRODUCTS**

**2.1 Hardware Items**

- .1 Only door latch sets listed below.
- .2 Use one manufacturer's products only for all similar items.

**2.2 Door Hardware Standards**

- .1 Hinges: Apply to all new doors.
  - .1 Interior/Exterior doors: Dorex 114.3mm x 101.6mm x 179 454 NRP X C15.
- .2 Door-Weatherstrip and Door Bottom:
  - .1 Door bottom: K.N. Crowder CT-50, 626 finish, or approved equal.
  - .2 Weatherstrip: K.N. Crowder W-20N, 626 finish, or approved equal.
- .4 Door Closer: REUSE EXISTING: "Norton" 1600BC-Reg x AL. Parallel arm with hold open function, maximum force applied to operate door 22N for barrier free compliance.

**2.3 Fastenings**

- .1 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.
- .2 Exposed fastening devices to match finish of hardware.
- .3 Use fasteners compatible with material through which they pass.

**Part 3 EXECUTION**

**3.1 Installation**

- .1 Furnish door manufacturer with complete instructions and templates for preparation of their work to receive new hardware.
- .2 Furnish door manufacturer with complete instructions and templates for preparation of their new doors to receive new hinges into existing frames. Adjust new door hinge locations to align with existing hinge locations on existing frames.
- .3 Install new hinges to existing frame and new door.
- .4 Furnish manufacturer's instructions for proper installation of each hardware component.
- .5 Where door stop contacts door pulls, mount stop to strike bottom of pull.
- .6 Weather-stripping shall not be installed until final coat of paint has been applied to door and frame and is completely dry.
- .7 Only tradesmen competent in the installation of Finish Hardware shall be used for this purpose. The installer shall adjust, clean, and make good all installations of finish Hardware to the satisfaction of the Departmental Representative.

**3.2 SCHEDULE**

- .1 **Door D03**, insulated exterior
  - .1 (4) Hinges (Heavy Duty) .
  - .2 (2) Flush Bolts, GSH401 x 12" (non active door) C26D
  - .3 (1) Kickplate J102 250mm x 876-self-adhesive 630
  - .4 EXISTING: Door Threshold, across both doors.
  - .5 (1) auto door bottom weather seal, surface mounted
  - .6 Weatherstrip (jamb and head)

**END OF SECTION**

## **Part 1        GENERAL**

### **1.1        REFERENCES**

- .1        American Society for Testing and Materials International (ASTM)
  - .1        ASTM C 579-01(2012), Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes.
  - .2        ASTM D 638-14, Standard Test Method for Tensile Properties of Plastics.
  - .3        ASTM D 1308-02(2013), Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
  - .4        ASTM D 2240-15, Standard Test Method for Rubber Property-Durometer Hardness.
  - .5        ASTM D 4060-14, Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.

### **1.2        SUMMARY**

- .1        Complete Resinous flooring system to include:
  - .1        Primer: penetrating, moisture tolerant, two-component epoxy primer,
  - .2        Epoxy Flooring System: high performance, two-component, high solids epoxy resin coating.

### **1.3        ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Submit in accordance with 00 10 00 – General Instructions.
- .2        Product Data:
  - .1        Submit manufacturer's technical data, installation instructions, and general recommendations for each resinous flooring material required including individual components of system. Include certification indicating compliance of materials with requirements.
- .3        Samples:
  - .1        Submit, for verification purposes, duplicate 300mm x 300mm samples of resinous flooring system, applied to a rigid backing, in color and finish indicated. Samples to indicate colour, texture, gloss and thickness of complete system to be installed.
  - .2        For initial selection of colors and finishes, submit manufacturer's color charts showing full range of colors and finishes available.

#### 1.4 QUALITY ASSURANCE

- .1 Single Source Responsibility:
  - .1 Obtain primary resinous flooring materials including primers, resins, hardening agents, finish or sealing coats from a single manufacturer with not less than ten years of successful experience in manufacturing and installing principal materials described in this section. Contractor shall have completed at least five projects of similar size and complexity.
  - .2 Provide secondary materials only of type and source recommended by manufacturer of primary materials.
- .2 Certifications: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Pre-Installation Meetings:
  - .1 Convene pre-installation meeting 5 days prior to beginning work of this Section and on-site installation, with Contractor's Representative, Manufacturer/Installer's Representative and NRC Departmental Representative to:
    - .1 Verify project requirements.
    - .2 Review installation and substrate conditions.
    - .3 Review manufacturer's written installation instructions and warranty requirements.

#### 1.5 DELIVERY, STORAGE AND HANDLING

- .1 Material shall be delivered to job site and checked by flooring contractor for completeness and shipping damage prior to job start.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 All materials used shall be factory pre-weighed and pre-packaged in single, easy to manage batches to eliminate on site mixing errors. No on site weighing or volumetric measurements allowed.
- .4 Material shall be stored in a dry, enclosed area protected from exposure to moisture. Temperature of storage area shall be maintained between 60 and 85°F/16 and 30°C.
- .5 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials.
- .6 Replace defective or damaged materials with new.

#### 1.6 PROJECT CONDITIONS

- .1 Concrete substrate shall be inspected by General Contractor. General Contractor to ensure that substrate shall be prepared according to Manufacturer's written instructions prior to the resinous flooring application.
- .2 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to NRC Departmental Representative damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.

- .3 Conduct moisture testing of surfaces to be painted using simple "cover patch test". Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
- .4 Utilities, including electric, water, heat (air temperature between 60 and 85°F/16 and 30°C) and finished lighting to be supplied by General Contractor.
- .5 Job area to be free of other trades and personnel during, and for a period of 24 hours, after floor installation.
- .6 Protection of finished floor from damage by subsequent trades shall be the responsibility of the General Contractor.

## 1.7 WARRANTY

- .1 Manufacturer shall furnish a single, written warranty covering both material and workmanship for a period of one (1) full year from date of installation.

## Part 2 PRODUCTS

### 2.1 COLORS

- .1 Colors: As selected by NRC Departmental Representative from manufacturer's standard colors.

### 2.2 EPOXY FLOORING

- .1 Physical Properties: Provide flooring system in which physical properties of topping including aggregate, when tested in accordance with standards or procedures referenced below, are as follows:
  - .1 Compressive Strength: 7,000 - 13,500 psi.
  - .2 Tensile Strength: 4,000 - 8,000 psi.
  - .3 Flexural Strength: 4,000 - 9,00 psi.
  - .4 Hardness/ Shore D: 70 - 90 85-90.
  - .5 Bond Strength: >300 psi.
  - .6 Impact Resistance: > 160 in. lbs.
  - .7 Abrasion Resistance: 0.070 – 0.1mg max. weight loss.
  - .8 Coefficient of Friction: 0.22 - 0.75.
  - .9 Flammability: Self Extinguishing.
  - .10 Water Absorption: .05 - 0.2%
  - .11 Cure Rate: 8 hours for foot traffic(at 77°F/25°C) 24 hours for normal operations.
- .2 Acceptable Manufacturer's product systems:
  - .1 Stonhard: Stonkote GS4, HT Primer.
  - .2 Sika: Sikafloor 261, Sikafloor 156ca Primer.
  - .3 BASF: Selbaclad 425, Selbaclad Primer.



### **2.3 JOINT SEALANT MATERIALS**

- .1 Type produced by manufacturer of resinous flooring system for type of service and joint condition indicated.

## **Part 3 EXECUTION**

### **3.1 PREPARATION**

- .1 Substrate: Concrete preparation shall be by mechanical means and include use of a scabblor, scarifier or shot blast machine for removal of bond inhibiting materials such as curing compounds or laitance.

### **3.2 APPLICATION**

- .1 General: Apply each component of resinous flooring system in compliance with manufacturer's directions to produce a uniform monolithic wearing surface of thickness indicated, uninterrupted except at divider strips, sawn joints or other types of joints (if any), indicated or required.
- .2 Primer: Mix and apply primer over properly prepared substrate with strict adherence to manufacturer's installation procedures and coverage rates. Coordinate timing of primer application with application of troweled mortar to ensure optimum adhesion between resinous flooring materials and substrate.
- .3 Troweled Mortar: Mix mortar material according to manufacturer's recommended procedures. Uniformly spread mortar over substrate using manufacturer's specially designed screed box adjusted to manufacturer's recommended height. Hand trowel apply mixed material over freshly primed substrate using stainless steel finishing trowels.

### **3.3 FIELD QUALITY CONTROL**

- .1 Manufacturer's Field Services:
  - .1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
- .2 NRC Departmental Representative will appoint and pay for services of testing laboratory except as follows:
  - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
  - .2 Inspection and testing performed exclusively for Contractor's convenience.
  - .3 Mill tests and certificates of compliance.
  - .4 Tests specified to be carried out by Contractor under supervision of NRC Departmental Representative.
- .3 Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, pay costs for additional tests or inspections as required by NRC Departmental Representative to verify acceptability of corrected work.

- .4 Testing laboratory will perform tests for any of characteristics specified or referenced, using applicable testing procedures and in accordance with Manufacturer's product data.
- .5 If test results show materials being used do not comply with specified requirements, Contractor to stop work; remove non-complying materials; perform any remedial preparation work required to reapply flooring materials to prepare surfaces previously coated with unacceptable materials. Remedial work to be performed in accordance with Manufacturer's written instructions.

### **3.4 CURING, PROTECTION AND CLEANING**

- .1 Cure resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 24 hours.
- .2 Protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with Manufacturer's recommendations for protective materials and method of application. Protect and clean surfaces after final applications.
- .3 Cleaning: Remove temporary covering and clean resinous flooring prior to final inspection by NRC Departmental Representative. Use cleaning materials and procedures recommended by resinous flooring manufacturer.

**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 – current edition.
  - .2 MPI - Maintenance Repainting Manual – current edition.

**1.2 SUBMITTALS**

- .1 Submittals in accordance with Section 00 10 00 General Instructions.
- .2 Deliver on the Departmental Representative's request for approval, samples of materials proposed for use in the work. Make up samples 100mm wide by 300mm long (4" x 1'-0"). Finished work shall be equal to approved samples.
- .3 Product Data:
  - .1 Submit product data and instructions for each paint and coating product to be used.
  - .2 Submit product data for the use and application of paint thinner.
  - .3 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.
  - .4 Submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
  - .5 Submit manufacturer's installation and application instructions.

**1.3 Qualifications**

- .1 Work shall be carried out by skilled labour under the supervision of a responsible and experienced foreman.
- .2 Equipment shall be clean and in optimum working condition.

**1.4 Protection**

- .1 Provide protective barriers and signs to protect the work and the public from contact with paint not yet dry.
- .2 Protect surfaces likely to attract dust and insects thus liable to mar the finished surface.
- .3 Have hardware, electrical and mechanical fittings removed and replaced by appropriate trades, else protect the above and other adjacent work.

## **1.5 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 Conduct work in accordance with Section 01 35 30 General and Fire Safety Requirements.
  - .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.

## **1.6 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 waste, including tubes and containers, in containers or areas designated for hazardous waste.
- .4 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.

## **1.7 SITE CONDITIONS**

- .1 Heating, Ventilation and Lighting:
  - .1 Ventilate enclosed spaces in accordance with Section 00 10 00 General Instructions..
  - .2 Co-ordinate use of existing ventilation system with Departmental 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 Test concrete, masonry and plaster surfaces for alkalinity as required.
  - .3 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.

## **1.8 WARNING**

- .1 DO NOT USE SPRAY EQUIPMENT:** Only paint brush and roller will be accepted on this project.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Paint materials listed in the MPI Approved Products List (APL) are acceptable for use on this project.
- .2 Provide paint materials for paint systems from single manufacturer.
- .3 Only qualified products with [E2] [E3] "Environmentally Friendly" rating are acceptable for use on this project.
- .4 Conform to latest MPI requirements for all painting work including preparation and priming.
- .5 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.
- .6 Provide paint products meeting MPI "Environmentally Friendly" E2 ratings based on VOC (EPA Method 24) content levels.
- .7 Use MPI listed materials having minimum E2 rating where indoor air quality (odour) requirements exist.

### **2.2 COLOURS**

- .1 Submit proposed Colour Schedule to Departmental Representative for review].
- .2 Colours to match existing.

### **2.3 MIXING AND TINTING**

- .1 Perform colour tinting operations prior to delivery of paint to site, in accordance with manufacturer's written instructions. Obtain written approval from Departmental Representative for tinting of painting materials.
- .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 GLOSS/SHEEN RATINGS

- .1 Paint gloss is defined as sheen rating of applied paint, in accordance with following values:

	Gloss @ 60 degrees	Sheen @ 85 degrees
Gloss Level 1 - Matte Finish (flat)	Max. 5	Max. 10
Gloss Level 2 - Velvet-Like Finish	Max.10	10 to 35
Gloss Level 3 - Eggshell Finish	10 to 25	10 to 35
Gloss Level 4 - Satin-Like Finish	20 to 35	min. 35
Gloss Level 5 - Traditional	35 to 70	
Semi-Gloss Finish		
Gloss Level 6 - Traditional Gloss	70 to 85	
Gloss Level 7 - High Gloss Finish	More than 85	

- .2 Gloss level ratings of painted surfaces [as indicated] [and] [as noted on Finish Schedule].

## 2.5 INTERIOR PAINTING

- .1 Concrete horizontal surfaces: floors.
  - .1 Refer to Section 09 70 50 - Resinous Flooring.
- .2 Concrete Masonry Units: smooth face block.
  - .1 One coat epoxy primer.
  - .2 Two finish coats epoxy, Sherman Williams paints, "Tile-Clad HS Epoxy"
- .3 Structural Steel and Metal Fabrications: columns, beams, joists and miscellaneous metal.
  - .1 One coat epoxy primer.
  - .2 Two finish coats epoxy, Sherman Williams paints, "Tile-Clad HS Epoxy"
- .4 Galvanized Metal: high contact/high traffic areas (doors, frames, railings and handrails, etc.).
  - .1 One coat epoxy primer.
  - .2 Two finish coats epoxy, Sherman Williams paints, "Tile-Clad HS Epoxy"

## 2.6 INTERIOR RE-PAINTING

- .1 Structural Steel and Metal Fabrications: columns, beams, joists and miscellaneous metal.
  - .1 One coat epoxy primer.
  - .2 Two finish coats epoxy, Sherman Williams paints, "Tile-Clad HS Epoxy"
- .2 Galvanized Metal: high contact/high traffic areas (doors, frames, railings and handrails, etc.).
  - .1 One coat epoxy primer.
  - .2 Two finish coats epoxy, Sherman Williams paints, "Tile-Clad HS Epoxy"

**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 Departmental Representative damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.
- .2 Conduct moisture testing of surfaces to be painted using properly calibrated electronic moisture meter, except test concrete floors for moisture using simple "cover patch test". Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.

**3.3 PREPARATION**

- .1 Protection:
  - .1 Protect existing building surfaces and adjacent structures from paint splatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore surfaces as directed by Departmental 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 Departmental Representative.
- .3 Clean and prepare surfaces in accordance with 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 pretreatment as soon as possible after cleaning and before deterioration occurs.

- .5 Where possible, prime non-exposed surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.
  - .1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.
  - .2 Apply wood filler to nail holes and cracks.
  - .3 Tint filler to match stains for stained woodwork.
- .6 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.
- .7 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.
- .8 Touch up of shop primers with primer as specified.
- .9 Do not apply paint until prepared surfaces have been accepted by Departmental Representative.

### 3.4 APPLICATION

- .1 Method of application to be as approved by Departmental Representative. Conform to manufacturer's application instructions unless specified otherwise.
- .2 Apply two finish coats to all previously finished or primed work.
- .3 Give the Departmental Representative due notice and ample opportunity to inspect each coat and do not proceed with any coat until the last preceding coat is approved. Each coat shall be a different tint, under white a light blue.
- .4 Apply no finish nor paint to wet, frozen or rusty surfaces.
- .5 Clean castings with wire brushes.
- .6 Do not paint at temperatures under 10°C (50°F) or over 35°C (95°F) (lacquer not lower than 15°C (59°F)) nor on surfaces where condensation is likely to form.
- .7 Give additional coats to work which is unsatisfactory to the Departmental Representative after the application of the specified number of coats without extra compensation. Touch up dead or dull spots.
- .8 Apply coats of paint continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .9 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
- .10 Sand and dust between coats to remove visible defects.
- .11 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.
- .12 Finish inside of cupboards and cabinets as specified for outside surfaces.



- .13 Finish closets and alcoves as specified for adjoining rooms.
- .14 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.
- .15 Doors, windows: and other shop made items, shop prime. Seal and paint the bottoms and edges of all doors before hanging.
- .16 Allow a minimum of 24 hours between coats for oil based paints and 8 hours between coats of water based paints

**3.5 MECHANICAL/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 fire protection piping red.
- .5 Paint disconnect switches for fire alarm system and exit light systems in red enamel.
- .6 Paint natural gas piping yellow.

**END OF SECTION**

**1 REFERENCES**

- .1 Perform all work to meet or exceed the requirements of the Canadian Electrical Code, CSA Standard C22.1 - (latest edition).
- .2 Consider CSA Electrical Bulletins in force at time of tender submission, while not identified and specified by number in this Division, to be forming part of related CSA Part II standard.
- .3 Do overhead and underground systems in accordance with CSA C22.3 except where specified otherwise.
- .4 Where requirements of this specification exceed those of above mentioned standards, this specification shall govern.
- .5 Notify the NRC Departmental Representative as soon as possible when requested to connect equipment supplied by NRC which is not CSA approved.
- .6 Refer to Sections 01 10 00 & 01 35 30.

**2 PERMITS AND FEES**

- .1 Submit to Electrical Inspection Department and Supply Authority necessary number of drawings and specifications for examination and approval prior to commencement of work.
- .2 Pay all fees required for the performance of the work.

**3 START-UP**

- .1 Instruct the NRC Departmental Representative and operating personnel in the operation, care and maintenance of equipment supplied under this contract.

**4 INSPECTION AND FEES**

- .1 Furnish a Certificate of Acceptance from the Authorized Electrical Inspection Department on completion of work.
- .2 Request and obtain Special Inspection approval from the Authorized Electrical Inspection Department for any non-CSA approved control panels or other equipment fabricated by the contractor as part of this contract.
- .3 Pay all fees required for inspections.

**5 OPERATION & MAINTENANCE (O&M) MANUALS**

- .1 O&M manuals to include but not limited to
  - .1 Letter of warranty
  - .2 ESA inspection certificate
  - .3 Fire alarm ventilation report

- .4 Updated panel schedule c/w circuit breaker size
- .5 Shop drawings
- .6 As-builts
- .7 Load balancing report
- .8 Mechanical equipment start up reports
- .9 Seismic review letter
- .2 Refer to 00 10 00 for additional information.

## **6 FINISHES**

- .1 Shop finish metal enclosure surfaces by removal of rust and scale, cleaning, application of rust resistant primer inside and outside, and at least two coats of finish enamel.
  - .1 Outdoor electrical equipment "equipment green" finish to EEMAC Y1-1-1955.
  - .2 Indoor switchgear and distribution enclosures light grey to EEMAC 2Y-1-1958.
- .2 Clean and touch up surfaces of shop-painted equipment scratched or marred during shipment or installation, to match original paint.

## **7 ACOUSTICAL PERFORMANCE**

- .1 In general provide equipment producing minimal sound levels in accordance with the best and latest practices established by the electrical industry.
- .2 Do not install any device or equipment containing a magnetic flux path metallic core, such as gas discharge lamp ballasts, dimmers, solenoids, etc., which are found to produce a noise level exceeding that of comparable available equipment.

## **8 EQUIPMENT IDENTIFICATION**

- .1 Identify with 3mm (1/8") Brother, P-Touch non-smearing tape, or an alternate approved by the NRC Departmental Representative, all electrical outlets shown on drawings and/or mentioned in the specifications. These are the lighting switches, exit signs, recessed and surface mounted receptacles such as those in offices and service rooms and used to plug in office equipment, telecommunication equipment or small portable tools. Indicate only the source of power (Ex. for a receptacle fed from panel L32 circuit #1: "L32-1").
- .2 P-Touch label to be:
  - .1 Black letters on a white background for normal power circuits.
  - .2 Black letters on a yellow background for emergency power circuits.
  - .3 White letters on a red background for fire alarm device.
- .3 Light fixtures are the only exceptions for electrical equipment identification (except as noted in 8.14 below). They are not to be identified.
- .4 Identify with lamicoid nameplates all electrical equipment shown on the drawings and/or mentioned in the specification such as motor control centers, switchgear, splitters, fused switches, isolation switches, motor starting switches, starters, panelboards, transformers, high voltage cables, industrial type receptacles, junction boxes, control panels, etc.,

regardless of whether or not the electrical equipment was furnished under this section of the specification.

- .5 Coordinate names of equipment and systems with other Divisions to ensure that names and numbers match.
- .6 Wording on lamicoïd nameplates to be approved by the NRC Departmental Representative prior to fabrication.
- .7 Provide two sets of lamicoïd nameplates for each piece of equipment; one in English and one in French.
- .8 Lamicoïd nameplates shall identify the equipment, the voltage characteristics and the power source for the equipment. Example: A new 120/240 volt single phase circuit breaker panelboard, L16, is fed from panelboard LD1 circuit 10.

"PANEL L16  
120/240 V  
FED FROM LD1-10"

PANNEAU L16  
120/240 V  
ALIMENTE PAR LD1-10

- .9 Provide warning labels for equipment fed from two or more sources - "DANGER MULTIPLE POWER FEED" black letters on a yellow background. These labels are available from NRC's Facilities Maintenance group in building M-19.
- .10 Lamicoïd nameplates shall be rigid lamicoïd, minimum 1.5 mm (1/16") thick with:
  - .1 Black letters engraved on a white background for normal power circuits.
  - .2 Black letters engraved on a yellow background for emergency power circuits.
  - .3 White letters engraved on a red background for fire alarm equipment.
- .11 For all interior lamicoïd nameplates, mount nameplates using two-sided tape.
- .12 For all exterior lamicoïd nameplates, mount nameplates using self-tapping 2.3 mm (3/32") dia. slot head screws - two per nameplate for nameplates under 75 mm (3") in height and a minimum of 4 for larger nameplates. Holes in lamicoïd nameplates to be 3.7 mm (3/16") diameter to allow for expansion of lamicoïd due to exterior conditions.
  - .1 No drilling is to be done on live equipment.
  - .2 Metal filings from drilling are to be vacuumed from the enclosure interiors.
- .13 All lamicoïd nameplates shall have a minimum border of 3 mm (1/8"). Characters shall be 9 mm (3/8") in size unless otherwise specified.
- .14 Identify lighting fixtures which are connected to emergency power with a label "EMERGENCY LIGHTING/ÉCLAIRAGE D'URGENCE", black letters on a yellow background. These labels are available from NRC's Facilities Maintenance group in building M-19.

- .15 Provide neatly typed updated circuit directories in a plastic holder on the inside door of new panelboards.
- .16 Carefully update panelboard circuit directories whenever adding, deleting, or modifying existing circuitry.
- .17 Identify molded case breaker with lamicoide nameplate.

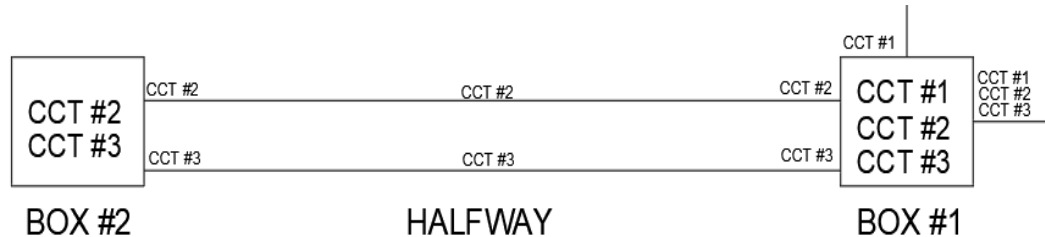
## **9 WIRING IDENTIFICATION**

- .1 Unless otherwise specified, identify wiring with permanent indelible identifying markings, using 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.

## **10 CONDUIT AND CABLE IDENTIFICATION**

- .1 All new conduits to be factory painted, colour-coded EMT, type as follows:
  - .1 Fire alarm – red conduit
  - .2 Emergency power circuits – yellow conduit
  - .3 Voice/data – blue conduit
  - .4 Gas detection system – purple conduit
  - .5 Building Automation system – orange conduit
  - .6 Other base building low voltage control system – white conduit
  - .7 Security system – green conduit
  - .8 Research center control system – black conduit
- .2 Apply paint to the covers of junction boxes and condulets of existing conduits as follows:
  - .1 Fire alarm – red
  - .2 Emergency power circuits – yellow
  - .3 Voice/data – blue
  - .4 Gas detection system – purple
  - .5 Building Automation system – orange
  - .6 Other base building low voltage control system - white
  - .7 Security system – green
  - .8 Research center control system - black
- .3 For system running with cable, half-lap wrap with dedicated coloured PVC tape to 100 mm width, tape every 5 m and both sides where cable penetrates a wall.
- .4 All other systems to follow site instruction from NRC departmental representative.
- .5 Identify all electrical circuits in every junction box and pull box on the box cover with 9mm letter size P-touch label. Identify all electrical circuits on each conduit end where conduit penetrates a wall ,enclosure ,junction box or pull box , and halfway of each conduit run between walls ,enclosures ,junction boxes or pull boxes with 3mm letter size P-touch label..

- .6 Identify electrical circuit on each cable 250MCM or larger with lamacoid nameplate, or cable 4/0 or smaller with P-touch label, on every splitter, every 30m of each cable run and cable end where cable penetrates a wall, enclosure, junction box or pull box.
- .7 Sample diagram shown as below:



## 11 MANUFACTURER'S & APPROVALS LABELS

- .1 Ensure that manufacturer's registration plates are properly affixed to all apparatus showing the size, name of equipment, serial number, and all information usually provided, including voltage, cycle, phase and the name and address of the manufacturer.
- .2 Do not paint over registration plates or approval labels. Leave openings through insulation for viewing the plates. Contractor's or sub-contractor's nameplate not acceptable.

## 12 WARNING SIGNS AND PROTECTION

- .1 Provide warning signs, as specified or to meet requirements of Authorized Electrical Inspection Department and NRC Departmental Representative.
- .2 Accept the responsibility to protect those working on the project from any physical danger due to exposed live equipment such as panel mains, outlet wiring, etc. Shield and mark all live parts with the appropriate voltage. Caution notices shall be worded in both English and French.

## 13 LOAD BALANCE

- .1 Measure phase current to new panelboards with normal loads operating at time of acceptance. Adjust branch circuit connections as required to obtain best balance of current between phases and record changes, and revise panelboard schedules.
- .2 Measure phase voltages at loads and adjust transformer taps to within 2% of rated voltage of equipment.

## 14 MOTOR ROTATION

- .1 For new motors, ensure that motor rotation matches the requirements of the driven equipment.
- .2 For existing motors, check rotation before making wiring changes in order to ensure correct rotation upon completion of the job.

**15                    GROUNDING**

- .1 Thoroughly ground all electrical equipment, cabinets, metal supporting frames, ventilating ducts and other apparatus where grounding is required in accordance with the requirements of the latest edition of the Canadian Electrical Code Part 1, C.S.A. C22.1 and corresponding Provincial and Municipal regulations. Do not depend upon conduits to provide the ground circuits.
- .2 Run separate green insulated stranded copper grounding conductors in all electrical conduits including those feeding toggle switches and receptacles.

**16                    TESTS**

- .1 Provide any materials, equipment and labour required and make such tests deemed necessary to show proper execution of this work, in the presence of the NRC Departmental Representative.
- .2 Correct any defects or deficiencies discovered in the work in an approved manner at no additional expense to the Owner.
- .3 Megger all branch circuits and feeders using a 600V tester for 240V circuits and a 1000V tester for 600V circuits. If the resistance to ground is less than permitted by Table 24 of the Code, consider such circuits defective and do not energize.
- .4 The final approval of insulation between conductors and ground, and the efficiency of the grounding system is left to the discretion of the local Electrical Inspection Department.

**17                    COORDINATION OF PROTECTIVE DEVICES**

- .1 Ensure circuit protective devices such as overcurrent trips, fuses, are installed to values and settings as indicated on the Drawings.

**18                    WORK ON LIVE EQUIPMENT & PANELS**

- .1 NRC requires that work be performed on non-energized equipment, installation, conductors and power panels. For purposes of quotation assume that all work is to be done after normal working hours and that equipment, installation, conductors and power panels are to be de-energized when worked upon.
- .2 Coordinate all shutdowns with the NRC departmental representative. High voltage (more than 1KV) grounding must be provided by certified electrician.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED WORK SPECIFIED ELSEWHERE**

- .1 Common Work Results - Electrical Section 26 05 00

**1.2 MATERIALS**

- .1 Provide only new equipment and materials, without blemish or defect, bearing Canadian Standards Association or Authorized Electrical Inspection Department labels, and subject to the approval of the NRC Departmental Representative.
- .2 After a contract is awarded, utilize alternative methods and/or materials only after receiving the NRC Departmental Representative's approval.

**Part 2 Products**

**2.1 BUILDING WIRES AND GENERAL REQUIREMENTS**

- .1 Conductor material for branch circuit wiring and grounding:
  - .1 Stranded copper.
  - .2 Neutral wire: continuous throughout its length without breaks.
  - .3 Separate insulated green grounding conductors in all electrical conduits.
  - .4 All wire and cable insulation shall meet the C.S.A. Standards for the types and services hereinafter specified. Colours as per section 4-036 of Electrical Code.
  - .5 Unless otherwise specified, use wire and cable types as follows:
    - .1 Type R90 XLPE cross-link polyethylene stranded for applications using wires sized No. 8 and larger.
    - .2 Type T90 stranded for applications using wires sized No. 10 and smaller.
    - .3 For fire alarm wiring refer to Section 283100.
    - .4 Approved heat resistant wire for wiring through and at lighting and heating fixtures. Where insulation types are shown on the drawings other types shall not be used unless the specification is more restrictive.
  - .6 Use AC90 (BX) cable **only** under the following conditions:
    - .1 Wiring from a junction box to a recessed lighting fixture in suspended ceilings. Cable length not to exceed 1.5 m (5'), or
    - .2 Wiring switches or receptacles in existing or new hollow gypsum partitions, vertical runs only with cable length not to exceed 3.5m (12'), or
    - .3 When specifically called for on drawings or approved in writing by departmental representative.
  - .7 Use stranded wire no smaller than No. 12 AWG for lighting and power and no smaller than No. 16 AWG for control wiring.
  - .8 Conductors shall be soft copper properly refined and tinned having a minimum conductivity of 98%.



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**Part 3 Execution**

**3.1 BUILDING WIRES**

- .1 Install building wires as follows:
  - .1 Make joints, taps and splices in approved boxes with solderless connectors. Joints and/or splices are not acceptable inside a panelboard.
  - .2 Ensure the lugs accommodate all the strands of the conductor.
  - .3 Replace any wire or cable showing evidence of mechanical injury.
  - .4 Use No. 10 AWG for branch circuit wiring extending more than 30 m (100 ft.) to farthest outlet from panel.
  - .5 Circuit numbers indicated on the drawing are intended as a guide for the proper connection of multi-wire circuits at the panel.
  - .6 Take care to keep the conductors free from twisting.
  - .7 Use an approved lubricant for pulling in conduit.
  - .8 Leave sufficient slack on all runs to permit proper splicing and connection of electrical devices.
  - .9 Branch circuit wiring of 120 volt applications to be multi-wire utilizing common neutrals. Under no condition shall any switch break a neutral conductor.
  - .10 Provide and install an approved fire- retardant wrap or coating for PVC jacketed cables installed in a grouped configuration of two or more.

**END OF SECTION**

**Part 1           General**

**1.1           RELATED WORK SPECIFIED ELSEWHERE**

- .1       Common Work Results - Electrical Section 26 05 00

**1.2           MATERIALS**

- .1       Provide only new equipment and materials, without blemish or defect, bearing Canadian Standards Association or Authorized Electrical Inspection Department labels, and subject to the approval of the NRC Departmental Representative.
- .2       After a contract is awarded, utilize alternative methods and/or materials only after receiving the NRC Departmental Representative's approval.

**Part 2           Products**

**2.1           WIRE AND BOX CONNECTORS**

- .1       Pressure type wire connectors sized to fit conductors.

**2.2           WIRING TERMINATIONS**

- .1       Provide first grade wire and cable connectors suitable for the service on which they are used and install them in accordance with the latest trade practice.
- .2       Provide high quality extruded copper-free aluminium (0.4% or less) connectors for single and multi conductor cable. Steel and then zinc plated connectors for multi conductor cables.
- .3       When used in hazardous area, connectors should be certified for such location in Class, Division and Group.
- .4       For large conductor sizes, use bolted or compression solderless type connectors.
- .5       Use high temperature connectors and insulation on all connections of high temperature conductors.
- .6       Where connector types are called for on the drawings or in the specification, do not use other types.
- .7       Lugs, terminals, screws used for termination of wiring to be suitable for copper conductors.
- .8       For fire alarm wiring refer to Section 28 31 00.

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**Part 3 Execution**

**3.1 INSTALLATION**

- .1 Install stress cones, terminations, and splices in accordance with manufacturer's instructions.
- .2 Bond and ground as required [to CSA C22.2No.41].

**END OF SECTION**

## **PART 1 - GENERAL**

### **1.1 REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CSA C22.1-09, Canadian Electrical Code, Part 1, 21st Edition

## **PART 2 - PRODUCTS**

### **2.1 SPLITTERS**

- .1 Construction: sheet metal enclosure, welded corners and formed hinged cover suitable for locking in closed position.
- .2 Terminations: main and branch lugs to match required size and number of incoming and outgoing conductors as indicated.
- .3 Spare Terminals: minimum three spare terminals or lugs on each connection or lug block sized less than 400 A.

### **2.2 JUNCTION AND PULL BOXES**

- .1 Construction: welded steel enclosure.
- .2 Covers Surface Mounted: screw-on flat, turned edge covers

## **PART 3 - EXECUTION**

### **3.1 SPLITTER INSTALLATION**

- .1 Mount plumb, true and square to building lines.
- .2 Extend splitters full length of equipment arrangement except where indicated otherwise.

### **3.2 JUNCTION, PULL BOXES AND CABINETS INSTALLATION**

- .1 Install pull boxes in inconspicuous but accessible locations.
- .2 Install terminal block as indicated in Type T cabinets.
- .3 Only main junction and pull boxes are indicated. Install additional pull boxes as required by CSA C22.1

### **3.3 IDENTIFICATION**

- .1 Equipment Identification: to Section 26 05 00.
- .2 Identification Labels: size 2 indicating system name, voltage and phase or as indicated

**END OF SECTION**

**Part 1            General**

**1.1                RELATED WORK SPECIFIED ELSEWHERE**

- .1            Common Work Results - Electrical Section 26 05 00

**1.2                MATERIALS**

- .1            Provide only new equipment and materials, without blemish or defect, bearing Canadian Standards Association or Authorized Electrical Inspection Department labels, and subject to the approval of the NRC Departmental Representative.
- .2            After a contract is awarded, utilize alternative methods and/or materials only after receiving the NRC Departmental Representative's approval.

**Part 2            Products**

**2.1                FITTINGS**

- .1            Fittings: manufactured for use with conduit specified. Coating: same as conduit.
- .2            Steel coupling for EMT.
- .3            Fittings for liquid-tight flexible conduits shall be liquid-tight connectors.
- .4            Provide expansion couplings for all conduits running in slabs through expansion joints. These shall be the type approved for use in concrete with a bonding conductor.
- .5            Factory bends are not permitted to be modified. Ensure conduit bends other than factory bends are made with an approved bender. Making offsets and other bends by cutting and rejoining factory bends are not permitted.

**2.2                OUTLET BOXES**

- .1            Size boxes in accordance with CSA-C22.
- .2            Unless otherwise specified, provide galvanized steel outlet boxes at least 40mm (1-1/2") deep, single or ganged style, of proper size to accommodate devices used and shall be equipped with covers as necessary of the type designed for the specified fittings. Pull boxes shall be steel and shall be galvanized or painted to prevent rusting. For lighting fixture outlets, use 100mm (4") octagon boxes.
- .3            Equip with plaster rings for flush mounting devices in finished walls.
- .4            Blank cover plates for boxes without wiring devices.
- .5            Equip with centre fixture studs for light fixtures.
- .6            Use cast boxes where indicated and for surface mounted wiring. In areas above hung ceilings where appearance is not significant, pressed steel surface boxes may be used.

- .7 Supply all outlet boxes and pull boxes sized according to code requirements unless specified otherwise on the drawings.

### **2.3 SUPPORT HARDWARE**

- .1 Use 10mm (3/8") threaded rod for suspended unistrut and conduit.
- .2 Unless otherwise specified, use 41mm x 41mm (1-5/8" x 1-5/8") galvanized steel unistrut for conduit support systems.

## **Part 3 Execution**

### **3.1 INSTALLATION**

- .1 Install outlet boxes as follows:
  - .1 Support boxes independently of connecting conduits.
  - .2 Make necessary mounting adjustments to the outlet to match interior finish.
  - .3 Fill boxes with paper, sponges or foam or similar approved material to prevent entry of construction material.
  - .4 Where more than one conduit enters a switch or receptacle box on the same side, provide a 100mm (4") minimum square box with a suitable plaster ring.
  - .5 Location and appearance to be to the NRC Departmental Representative's approval.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED WORK SPECIFIED ELSEWHERE**

- .1 Common Work Results - Electrical Section 26 05 00

**1.2 MATERIALS**

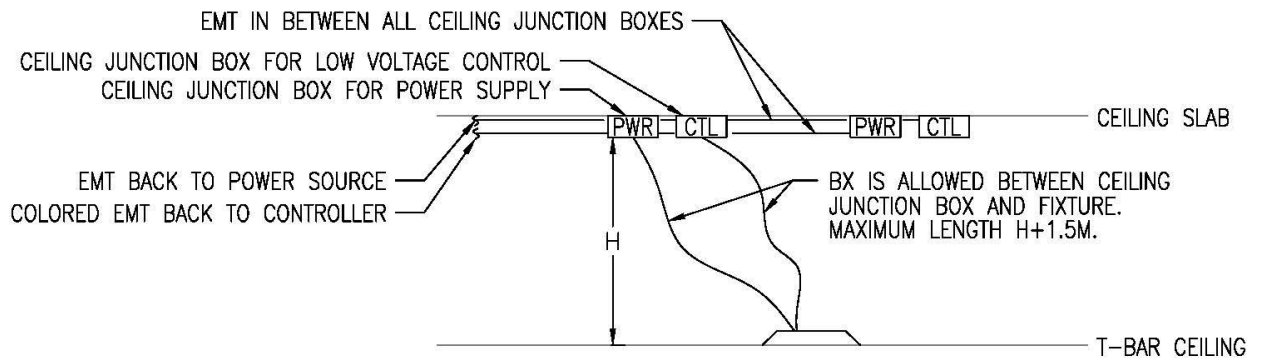
- .1 Provide only new equipment and materials, without blemish or defect, bearing Canadian Standards Association or Authorized Electrical Inspection Department labels, and subject to the approval of the NRC Departmental Representative.
- .2 After a contract is awarded, utilize alternative methods and/or materials only after receiving the NRC Departmental Representative's approval.

**Part 2 Products**

**2.1 RACEWAYS**

- .1 General:
  - .1 Unless otherwise noted, all wires to run inside raceways, either in ceiling space, open space or surface mounted.
- .2 Conduit:
  - .1 Each length of conduit to be new and bear the CSA Stamp of Approval.
  - .2 Conduit, unless otherwise noted, to be EMT, no smaller than 16mm (1/2").
  - .3 Conduit to be coloured as required for systems described in section 260500.9.
- .3 Bushings and Connectors:
  - .1 Insulated type, with the insulation an integral part of the fitting.
- .4 Conduit Fastening:
  - .1 One hole malleable iron straps to secure surface conduits. Two hole straps for conduits larger than 50mm (2").
  - .2 Beam clamps to secure conduits to exposed steel work.
  - .3 Channel type supports for two or more conduits.
- .5 Pull Cord:
  - .1 Polypropylene cord in empty conduit.
- .6 Unless specifically called for on the drawings, do not use flexible conduits but it is recognized that there may be applications where this material will be useful, such as equipment connections, etc. In such cases, obtain permission for its use from the NRC Departmental Representative. For tender purposes, assume that flexible conduits will not be permitted unless specifically called for on the drawings or equipment specifications. All flexible conduits for vapour-tight applications shall be liquid-tight flexible conduits (seal-tight).

- .7 Provide expansion couplings for all conduits running in slabs through expansion joints. These shall be the type approved for use in concrete with a bonding conductor.
- .8 Use AC90 (BX) cable **only** under the following conditions:
  - .1 Wiring from a junction box to a recessed device, such as lighting fixture, sensor, speaker, BAS control device, etc. in suspended ceilings. Cable length not to exceed straight run from junction box to device plus 1.5 m (5'), or
  - .2 Wiring switches or receptacles in existing or new hollow gypsum partitions, vertical runs only with cable length not to exceed 3.5m (12'), or
  - .3 When specifically called for on drawings or approved in writing by departmental representative.
  - .4 AC90 shall not be used in insulated walls or masonry walls.
  - .5 Only AC90 cable of No. 12 AWG will be accepted for 120V AC circuits.
  - .6 Sample diagram shown as below:



## 2.2 SUPPORT HARDWARE

- .1 Use 10mm (3/8") threaded rod for suspended unistrut and conduit.
- .2 Unless otherwise specified, use 41mm x 41mm (1-5/8" x 1-5/8") galvanized steel unistrut for conduit support systems.

## Part 3 Execution

### 3.1 RACEWAYS

- .1 Install raceways (including Teck cable) as follows:
  - .1 Rigidly supported.
  - .2 Workmanlike manner.
  - .3 Maintain maximum headroom.
  - .4 Concealed in finished area.
  - .5 Surface-mounted in open area.
  - .6 Do not pass conduits through structural members except as indicated.



- .7 Parallel to or at right angles to the building lines.
- .8 Thoroughly ream all conduits at ends and terminate with appropriate locknuts and bushings.
- .9 Cause minimum interference in spaces through which they pass.
- .10 Plug or cap conduit during construction to protect from dust, dirt or water.
- .11 Unless specifically indicated on drawings or with the permission of the NRC Departmental Representative, do not cast conduits in concrete.
- .12 Dry conduits out before installing wire.
- .13 Mechanically bend conduit of any size. Bend conduit cold.
- .14 Do not cut or modify prefabricated bends.
- .15 PVC conduit as indicated.
- .16 Function and appearance to be to the NRC Departmental Representative's approval.
- .17 Seal conduit and cable openings in fire- rated walls and floors with an approved fire stop material.
- .18 Seal conduit and cable openings in exterior walls with a weatherproof silicone sealant.
- .19 Paint exposed conduits and boxes to match existing wall / ceiling except the colored EMT specified in 260500.

**END OF SECTION**

**Part 1            General**

**1.1            SHOP DRAWINGS AND PRODUCT DATA**

- .1        Submit shop drawings and product data in accordance with Section 01 10 00.
- .2        Submit stamped engineered drawings for structures supporting transformers on walls or other structures other than the floor.
- .3        Prior to any installation of circuit breakers in either a new or existing installation, Contractor must submit three (3) copies of a certificate of origin, from the manufacturer, duly signed by the factory and the local manufacturer's representative, certifying that all circuit breakers come from this manufacturer, they are new and they meet standards and regulations. These certificates must be submitted to the Departmental Representative for approval.
  - .1        The above applies to all breakers rated above 240V.
  - .2        The above applies to all breakers rated up to 240V and 100A or more.
- .4        A delay in the production of the certificate of origin won't justify any extension of the contract and additional compensation.
- .5        Any work of manufacturing, assembly or installation should begin only after acceptance of the certificate of origin by Departmental Representative. Unless complying with this requirement, Departmental Representative reserves the right to mandate the manufacturer listed on circuit breakers to authenticate all new circuit breakers under the contract at the Contractor's expense.
- .6        In general, the certificate of origin must contain:
  - .1        The name and address of the manufacturer and the person responsible for authentication. The responsible person must sign and date the certificate;
  - .2        The name and address of the licensed dealer and the person of the distributor responsible for the Contractor's account.
  - .3        The name and address of the Contractor and the person responsible for the project.
  - .4        The name and address of the local manufacturer's representative. The local representative must sign and date the certificate.
  - .5        The name and address of the building where circuit breakers will be installed:
    - .1        Project title.
    - .2        End user's reference number.
    - .3        The list of circuit breakers.

**1.2            IDENTIFICATION**

- .1        Identification as per Section 26 05 00.

**Part 2            Products**

**2.1                DISCONNECT SWITCHES, FUSED AND NON-FUSED**

- .1        Fusible and non-fusible disconnect switches in EEMAC Enclosure as indicated.
- .2        Provision for padlocking in "OFF" switch position.
- .3        Mechanical voidable door interlock in "ON" position.
- .4        Fuses: size and type as indicated.
- .5        Fuseholders in each switch to be suitable without adaptors, for type and size of fuse indicated.
- .6        Quick-make, quick-break action.
- .7        "ON-OFF" switch position indication on switch enclosure cover.
- .8        Standard of acceptance: Square D.

**2.2                GROUNDING**

- .1        Insulated grounding conductors in accordance with Section 26 05 00.
- .2        Compression connectors for grounding to equipment provided with lugs.

**2.3                MOLDED CASE CIRCUIT BREAKER**

- .1        Thermal-magnetic moulded case circuit breakers, 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 multiple applications.
- .3        All new 120V to 600V circuit breakers installed on this project are to include the handle accessory, "Handle Padlock Attachment", which locks breakers on or off.
- .4        Magnetic instantaneous trip elements in circuit breakers, to operate only when the value of current reaches 10 times their setting.
- .5        Circuit breaker and panel to be of same manufacturer.

Circuit breakers minimum interrupt rating: 25KA for 600/347V or greater if indicated.

- .6        Self-powered Electronic trip unit as indicated by drawing.

LI: long time and instantaneous

LSI: long time, short time and instantaneous

LSIG: long time, short time , instantaneous and grounding

A: with Ammeter

E: with energy meter

.7 On board control power for trip unit unless otherwise indicated on drawing

.8 Standard of acceptance: Square D or match existing panel.

## **2.4 FUSES**

.1 250V and 600V time delay, Class J unless otherwise indicated.

## **Part 3 Execution**

### **3.1 DISCONNECT SWITCHES**

.1 Install disconnect switches complete with fuses as indicated.

### **3.2 GROUNDING**

.1 Install complete permanent, continuous, system and circuit, equipment, grounding systems including, conductors, compression connectors, accessories, as indicated, to conform to requirements of Engineer, and local authority having jurisdiction over installation. Where EMT is used, run ground wire in conduit.

.2 Install connectors in accordance with manufacturer's instructions.

.3 Protect exposed grounding conductors from mechanical injury.

.4 Soldered joints not permitted.

### **3.3 MOLDED CASE CIRCUIT BREAKERS**

.1 Install circuit breakers as indicated.

### **3.4 FUSES**

.1 Install fuses in mounting devices immediately before energizing circuit.

.2 Install fuses correctly sized to assigned electrical circuits.

.3 Provide 3 spare fuses for each rating supplied.

END OF SECTION

**Part 1            General**

**1.1                RELATED WORK**

- .1            Motors and controls to Sections 26 22 19, 26 29 03 & 26 29 10.

**1.2                MATERIALS**

- .1            Provide only new equipment and materials, without blemish or defect, bearing Canadian Standards Association or Authorized Electrical Inspection Department labels, and subject to the approval of the NRC Departmental Representative.
- .2            After a contract is awarded, utilize alternative methods and/or materials only after receiving the NRC Departmental Representative's approval.

**1.3                SHOP DRAWINGS AND PRODUCT DATA**

- .1            Submit shop drawings and product data in accordance with Section 01 10 00.

**1.4                IDENTIFICATION**

- .1            Identification as per Section 26 05 00.

**Part 2            Products**

**2.1                WIRING DEVICES**

- .1            LED Dimming Switches:
  - .1            Specification grade, shallow body, designed to withstand high inductive fluorescent loads CSA C22.2 No. 55.
  - .2            Number of poles as indicated.
  - .3            Captive mounting screws, quiet safe mechanical action with rust-proofed mounting strap and silver alloy contact points.
  - .4            Standard of acceptance:
    - .1            Philips SR1200ZTUNV or equivalent approved by NRC Departmental Representative.
- .2            Receptacles:
  - .1            Duplex type, CSA type 5-15R, 125 volt, 15A, U ground, specification grade with the following features:
    - .1            Flush type with parallel blade slots.
    - .2            Double-wiping contacts.
    - .3            Double-grounding terminals.
    - .4            Break-off feature for separate feeds.
    - .5            One piece body, colour white unless otherwise indicated.
  - .2            Special receptacles with ampacity and voltage as indicated.

- .3 Receptacles of one manufacturer throughout the project.
- .4 Standard of acceptance: Hubbell, Leviton, Philips or equivalent approved by NRC Departmental Representative.
- .3 Cover Plates:
  - .1 Cover plates for wiring devices.
  - .2 Smooth white plastic for wiring devices mounted in flush-mounted outlet box.
  - .3 Sheet metal cover plates for wiring devices mounted in surface-mounted outlet box.
  - .4 Multi-outlet covers as indicated.
- .4 Splitters, Junction Boxes & Cabinets:
  - .1 Sheet metal enclosure, welded corners and formed cover, provided as required.
  - .2 Splitter to be 3 phase, 4 wires, minimum 225A, voltage as indicated. Refer to drawing for quantity of the lugs. Allow minimum two extra lugs for future use, size to match the maximum rating of the existing wire.

### **Part 3 Execution**

#### **3.1 LOCATION OF OUTLETS**

- .1 The number and general location of outlets for lighting, power, telephones, etc., are to be as shown on the drawings. Install all outlets accurately and uniformly with respect to building details. When centering outlets, make allowance for overhead pipes, ducts, etc. and for variations in wall or ceiling finish, window trim, etc. Reinstall incorrectly installed outlets at no cost to the Owner. Make field power and control connections as indicated.
- .2 The location of all outlets as shown on the plans are approximate and are subject to change, up to 3m (10') without extra cost or credit provided the information is given prior to the installation of the outlet.
- .3 Unless otherwise specified, locate light switches on latch side of doors. Determine the direction of all door swings from the architectural drawings or on site, not from the electrical drawings.
- .4 Locate roof top maintenance receptacle within 7.5m of the rooftop electrical equipment.

#### **3.2 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 indicated verify before proceeding with installation.
- .3 Generally, locate outlets as follows: (except those otherwise shown on the drawings):

- .1 Local switches 1.2m (3'-11") to centreline.
- .2 Wall receptacles 400mm (1'-4") to centreline.
- .3 Clock receptacles 2.4m (8'-0") to centreline.
- .4 Lighting panels 1.8m (6'-0") to top.
- .5 Telephone and data communications outlet 400mm (1'-4") to centreline.

### **3.3 WIRING DEVICES**

- .1 Install wiring devices as follows:
  - .1 Where more than one local device is shown at one location, they are to be set under one cover plate.
  - .2 Install single throw switches with handle in "up" position when switch closed.
  - .3 Devices in gang type outlet box when more than one device is required in one location.
  - .4 Protect stainless steel cover plate finish with paper or plastic film until painting and other work is finished.
  - .5 Do not use cover plates meant for flush outlet boxes on surface-mounted boxes.
  - .6 Install metal barriers where required.
  - .7 Remove insulation carefully from ends of conductors and connect wiring as required.
  - .8 Bond and ground as required.

### **3.4 SPLITTERS AND DEVICES**

- .1 Installation of splitters, junction boxes, pull boxes & cabinets as follows:
  - .1 Mount plumb, true and square to the building lines.
  - .2 Install in inconspicuous but accessible locations.
  - .3 Install pull boxes so as not to exceed 30 m (100') of conduit run between boxes or as indicated.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED WORK SPECIFIED ELSEWHERE**

- .1 Common Work Results - Electrical Section 26 05 00

**1.2 MATERIALS**

- .1 Provide only new equipment and materials, without blemish or defect, bearing Canadian Standards Association or Authorized Electrical Inspection Department labels, and subject to the approval of the NRC Departmental Representative.
- .2 After a contract is awarded, utilize alternative methods and/or materials only after receiving the NRC Departmental Representative's approval.

**1.3 SHOP DRAWINGS AND PRODUCT DATA**

- .1 Submit shop drawings and product data in accordance with Section 01 10 00.
- .2 Submit complete photometric data prepared by independent testing laboratory for luminaires where specified, for review by NRC Departmental Representative.

**Part 2 Products**

**2.1 FINISHES**

- .1 Baked enamel finish.
  - .1 Metal surfaces of luminaire housing and reflectors finished with high gloss powder coated baked enamel applied after fabrication to give smooth uniform appearance, free from pinholes or defects.

**2.2 METAL SURFACES**

- .1 Metal surfaces to be minimum 20 gauge steel.

**2.3 LIGHT CONTROL DEVICES**

- .1 All luminaire lenses to be injection moulded clear virgin acrylic unless otherwise noted.

**2.4 LUMINAIRES**

- .1 LED
  - .1 120V linear LED.
  - .2 IP66
  - .3 5-year warranty.
  - .4 Adjustable mounting kit.
  - .5 5000k colour temperature, minimum 1200 Lumen output.



- .6 Standard of acceptance: NEMALUX GS-2-50-W-BLK-O-24-IP66-A or equivalent approved by the NRC Departmental Representative.

**Part 3 Execution**

**3.1 INSTALLATION**

- .1 Supply and install all lighting fixtures complete with lamps, switches, supports, etc., to provide a complete working lighting system.
- .2 Locate and install luminaires as indicated.

**3.2 LUMINAIRE SUPPORTS**

- .1 For suspended ceiling installations support each luminaire, including exit lights and pot lights, independently of the ceiling support system with separate chains at each end. No. 80 steel sash chain minimum.
- .2 Unless otherwise specified support fluorescent luminaires mounted in continuous rows once every 3.6 m (12').

**3.3 WIRING**

- .1 Connect luminaires to lighting circuits directly for exit fixtures and exterior floodlights.

**3.4 LUMINAIRE ALIGNMENT**

- .1 Align luminaires mounted in continuous rows to form a straight uninterrupted line.
- .2 Align luminaires mounted individually parallel or perpendicular to building grid lines as shown on drawing.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED WORK SPECIFIED ELSEWHERE**

- .1            Common Work Results - Electrical Section 26 05 00

**1.2                REFERENCES**

- .1            Telecommunications Industry Association (TIA)
  - .1            ANSI/TIA/EIA 569-D, Commercial Building Standard for Telecommunications Pathways and Spaces.

**1.3                MATERIALS**

- .1            Provide only new equipment and materials, without blemish or defect, bearing Canadian Standards Association or Authorized Electrical Inspection Department labels, and subject to the approval of the NRC Departmental Representative.

**Part 2            Products**

**2.1                MATERIALS**

- .1            Raceways: Minimum 19mm (3/4") EMT larger sizes as indicated on drawing. Factory painted blue as per section 26 05 00.
- .2            Tele-Power poles/Jiffy poles: type as indicated on drawings.
- .3            Floor mounted outlets: type as indicated on drawings.

**Part 3            Execution**

**3.1                CONDUIT SYSTEM**

- .1            Conduit and cable pathways installation shall comply with ANSI/TIA/EIA 569-D.
- .2            Run conduit from wall outlets to the closest pull box or to a point indicated on drawings.
- .3            Install a steel pull box after every two 90° bends, or equivalent; or where there is a (U-shaped) bend in the run.
- .4            Install additional steel pull boxes where necessary so that throughout the entire system, wires may be pulled in or withdrawn with reasonable ease. No section of conduit shall be longer than 30m (100ft) between pull points.
- .5            Pull boxes shall be placed in a straight section of conduit and shall not be used in lieu of a bend. The corresponding conduit ends shall be aligned with each other.

- .6 Where a pull box is required with conduits equal or smaller than 27mm (1”), an outlet box may be used as a pull box. For conduits above 27mm (1”), the pull box shall be size as per ANSI/TIA/EIA 569-D or as noted on the drawings.
- .7 Bending radius for conduits equal or less than 50mm (2”) shall be no less than 6 times the internal diameter of the conduit. Bending radius for conduits more than 50mm (2”) shall be no less 10 times the internal diameter.
- .8 No conduit body (Condulet), LB type or other, shall be used unless otherwise indicated on the drawings or pre-approved by the departmental representative.
- .9 Conduits shall be reamed to eliminate sharp edges and terminated with insulating nylon bushings.
- .10 Install nylon pull-cords in all empty conduits.
- .11 Clearly identify conduits at each end.
- .12 Paint all elbows and pull box covers blue. (This identifies the conduit as conduit dedicated to voice/data wiring.)
- .13 Do not run communications cables in the same raceway as power and lighting conductors.
- .14 Grounding and bonding to the Canadian Electrical Code (CEC).

### **3.2 MOUNTING**

- .1 Recess mount wall outlets unless otherwise indicated. Mount wall outlets to height specified in section 26 27 26 or as indicated.

### **3.3 WORK BY OTHERS**

- .1 Cables and terminations.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED WORK SPECIFIED ELSEWHERE**

- .1            Common Work Results - Electrical Section 26 05 00

**1.2                MATERIALS**

- .1            Provide only new equipment and materials, without blemish or defect, bearing Canadian Standards Association or Authorized Electrical Inspection Department labels, and subject to the approval of the NRC Departmental Representative.
- .2            After a contract is awarded, utilize alternative methods and/or materials only after receiving the NRC Departmental Representative's approval.

**1.3                SHOP DRAWINGS AND PRODUCT DATA**

- .1            Submit shop drawings and product data in accordance with Section 01 10 00.
- .2            Shop drawing to contain
  - .1            Coversheet with project name, address and drawing index.
  - .2            General notes drawing with peripheral device backbox size information, part numbers, and device mounting height information.
  - .3            Control panel termination drawing(s). Shall depict internal component placement and all internal and field termination points. Drawing shall provide a detail indicating where conduit penetrations shall be made, so as to avoid conflicts with internally mounted batteries. End-of-line resistors (and values) shall be depicted.

**1.4                SCOPE OF WORK**

- .1            Supply and install all required material, equipment and labour to provide the fire alarm changes and additions as shown on the drawings and indicated by this section of the specification.

**1.5                CONTRACTOR QULIFICATION**

- .1            The contractor must ensure the supervisor, site foreman and electrician working on site hold valid fire alarm certificate.

**1.6                REFERENCES**

- .1            Government of Canada
  - .1            TB OSH Chapter 3-03, [latest edition], Treasury Board of Canada, Occupational Safety and Health, Chapter 3-03, Standard for Fire protection Electronic Data Processing Equipment.

- .2 TB OSH Chapter 3-04, [latest edition], Treasury Board of Canada, Occupational Safety and Health, Chapter 3-04, Standard for Fire Alarm Systems.
- .2 Treasury Board: Fire Protection Standard effective April 1, 2010
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .4 Underwriter's Laboratories of Canada (ULC)
  - .1 CAN/ULC-S524-[ latest edition], Standard for the Installation of Fire Alarm Systems.
  - .2 CAN/ULC-S525-[ latest edition], Audible Signal Device for Fire Alarm Systems.
  - .3 CAN/ULC-S526-[ latest edition], Visual Signal Devices for Fire Alarm Systems.
  - .4 CAN/ULC-S527-[ latest edition], Control Units.
  - .5 CAN/ULC-S528-[ latest edition], Manual Pull Stations for Fire Alarm Systems.
  - .6 CAN/ULC-S529-[ latest edition], Smoke Detectors for Fire Alarm Systems.
  - .7 CAN/ULC-S530-[ latest edition], Heat Actuated Fire Detectors for Fire Alarm Systems.
  - .8 CAN/ULC-S531-[ latest edition], Standard for Smoke Alarms.
  - .9 CAN/ULC-S536-S537-[ latest edition], Burglar and Fire Alarm Systems and Components.
- .5 National Fire Protection Agency
  - .1 NFPA 72-[ latest edition], National Fire Alarm Code.
  - .2 NFPA 90A-[ latest edition], Installation of Air Conditioning and Ventilating Systems.

## **Part 2 Products**

### **2.1 CONDUIT AND WIRING**

- .1 Raceway to be 21mm EMT unless indicated otherwise on the drawings. Wiring between junction box on underside of slab and heat detector junction box in T-bar ceiling to be 21mm flexible conduit.
- .2 All wiring is to be colour coded to match existing system and is to be of stranded copper.
- .3 Zone wiring is to be #16 TEW colour coded stranded copper.
- .4 All fire alarm initiating device circuits wiring to be class "A" using #18 minimum FAS-105 red jacketed twisted shielded pairs cable, and in accordance with manufacturer's requirements. Run each pair of wire in separate conduit to make it true class 'A'.

**Part 3 Execution**

**3.1 CONDUIT AND WIRING**

- .1 All conduit to include a #16 TW stranded copper green ground wire.
- .2 Use only uninsulated ring-type STA-KON lugs on screw connections.
- .3 Run conduit tight along underside of ceiling slab or roof deck, unless noted otherwise on drawings.
- .4 In rooms having false ceilings, each fire detection device is to have one junction box secured to the underside of the ceiling slab or roof deck and another firmly supported to the false ceiling tile. The junction box connected to the fire alarm device is not to be used as a raceway for connection to other devices. All splices and routing to other fire alarm devices is to be from the junction box mounted on the underside of the ceiling slab or roof deck.
- .5 Use Tee bar electrical box hangers (Caddy #51224 for 610mm T-bar spacing) to mount heat detectors on T-bar ceiling tiles.
- .6 Install a maximum of 1.5 m (5'-0") 3/4" (21mm) flexible conduit where a heat detector is installed on T-bar ceiling tiles. This is to allow the ceiling tile, having the device, to be shifted two feet either direction for access above the ceiling.
- .7 Leave 6 inch loops of wire in all junction boxes.
- .8 For new installations, no splicing of wires is to be made.
- .9 For renovations, splices may be made in junction boxes other than those at heat detectors after receiving approval of the NRC Departmental Representative. All splices must be soldered and taped.
- .10 Upon awarding of the contract, the NRC Departmental Representative shall provide the contractor with the standard wiring diagram for detection devices, A-7481.
- .11 Prior to installing raceways, submit to the NRC Departmental Representative a proposed method and layout of conduit for approval.

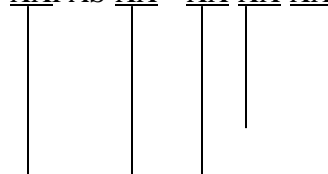
**3.2 EQUIPMENT IDENTIFICATION**

- .1 Label each manual alarm station and each audible signal device with its unique identification number as per drawings. Use lamoid nameplates as per Section 26 05 00.
- .2 Label each initiating device use P-Touch type as per Section 26 05 00. Devices are to be numbered per the format shown below.

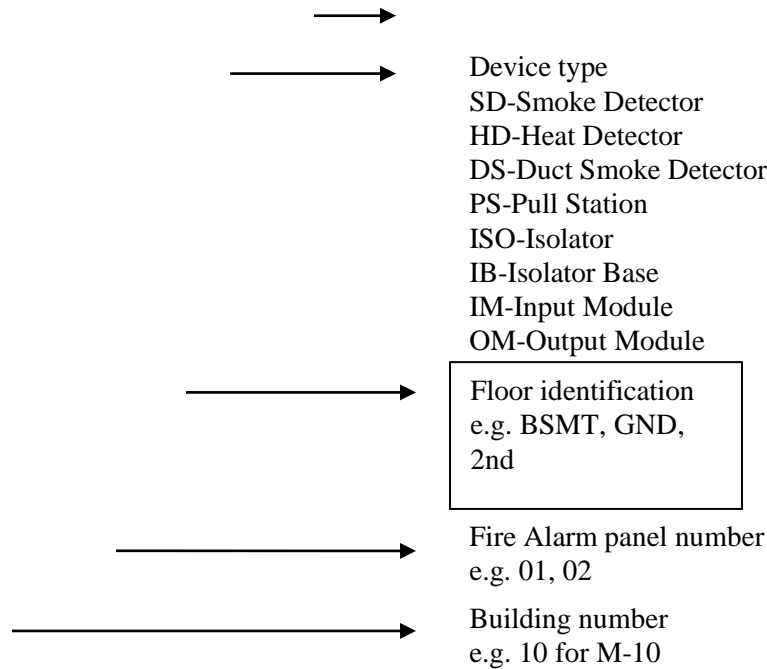
Example M-10 fire alarm #1 Heat detector 000001

10FAS-01-GND-HD-000001

XXFAS-XX-XX-XX-XXXXXX



Device logical address (last 6 digits)



- .3 Refer to 26 05 00 for fire alarm conduit color coding.
- .4 Label wires as per drawing and as per Section. 26 05 00.
- .5 Update remote annunciator panels and fire alarm panel zone directories if new zones are added to the system.

### 3.3 SCHEDULING OF SHUTDOWNS

- .1 Make written shutdown request to the NRC Departmental Representative at least 48 hours in advance. Acceptance of shutdown request will be determined by the NRC Departmental Representative based on building user needs. Fire alarm systems are to be shut down by NRC staff only. **Contractor is not to shutdown system on their own.**

### 3.4 INTEGRATION INTO SYSTEM MONITORING AT BUILDING M-1

Presently all NRC buildings in Ottawa report back their fire alarm status to the M1 building central monitoring station. The monitoring station consists of a computer graphics terminal showing building layouts of each building, and is linked on an internal NRC network. The new fire alarm system under this contract must communicate all addressable input points to the existing computer graphics monitoring station, Fireworks by Chubb Edwards. All required modifications to the existing Fireworks station are to be included in this tender.

- .1 Addressable devices:
  - .1 Integrate any new addressable devices installed as part of this project into the monitoring system at building M-1.

- .2 Remove from the monitoring system at building M-1 any addressable devices removed as part of this project.
- .3 Make appropriate changes to the monitoring system at building M-1 to reflect any relocated addressable devices.
- .4 All work on the monitoring system at building M-1 is to be done by factory trained technician.

### **3.5 ACCEPTANCE TEST**

- .1 Perform tests in accordance with the latest regulations and in the presence of the NRC Departmental Representative and the representative of the regulating authority.
- .2 Test each device and alarm circuit to ensure manual alarm stations, thermal and smoke detectors transmit alarms to control panel and actuate alarm.
- .3 Check annunciator panels to ensure that the correct zones are activated.
- .4 Simulate grounds and breaks on alarm and signalling circuits to ensure proper operation of trouble signals.
- .5 Record amperage drawn by audible signal device circuits if new audible signal devices have been added to the circuit.
- .6 Give the NRC Departmental Representative one set of marked in red prints labelled "As Built".
- .7 Provide the NRC Departmental Representative with a letter of verification from the manufacturer of the equipment stating that the equipment supplied under this contract has been installed as per the latest CAN/ULC S537 and CAN/ULC-S524 standards and as per the latest edition of the Ontario Building Code.
- .8 For new fire alarm systems provide the NRC Departmental Representative with a certificate of verification stating that the equipment has been installed as per the latest CAN/ULC-S537 and CAN/ULC-S524 standards and as per the latest edition of the National Building Code.

### **3.6 SUPPORT FOR INSTALLER AND OWNER MAINTENANCE**

- .1 Provide a coded one-man walk test feature. Allow audible or silent testing. Signal alarms and troubles during test. Allow receipt of alarms and programmed operations for alarms from areas not under test.
- .2 Provide internal system diagnostics and maintenance user interface controls to display/report the power, communication, and general status of specific panel components, detectors, and modules.
- .3 Provide loop controller diagnostics to identify common alarm, trouble, ground fault, Class A fault, and map faults. Map faults include wire changes, device type changes by location, device additions/deletions and conventional open, short, and ground conditions. Ground faults on the circuit wiring of remote module shall be identified by device address.



- .4 Allow the user to display/report the condition of addressable analog detectors. Include device address, device type, percent obscuration, and maintenance indicator. The maintenance indicator shall provide the user with a measure of contamination of a device upon which cleaning decisions can confidently be made.
- .5 Allow the user to report history for alarm, supervisory, monitor, trouble, smoke verification, watchdog, and restore activity. Include Facility Name, Licensee, Project Program Compilation date, Compiler Version, Project Revision Number, and the time and date of the History Report.
- .6 Allow the user to disable/enable devices, zones, actions, timers and sequences. Protect the disable function with a password.
- .7 Allow the user to activate/restore outputs, actions, sequences, and simulate detector smoke levels.
- .8 Allow the service user to enter time and date, reconfigure an external port for download programming, initiate auto programming and change passwords. Protect these functions with a password.

### **3.7 TRAINING SESSION**

- .1 Provide training of the newly installed fire alarm system to NRC staff upon job completion.

### **3.8 WARRANTY**

- .1 All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance or approval by AHJ. The full cost of maintenance, labor and materials required to correct any defect during this one year period shall be included in the submittal bid.

**END OF SECTION**



**TP1 Amount Payable – General**

1.1 Subject to any other provisions of the contract, Her Majesty shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which

1.1.1 the aggregate of the amounts described in TP2 exceeds

1.1.2 the aggregate of the amounts described in TP3

and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by him in respect of the work to which the payment relates.

**TP2 Amounts Payable to the Contractor**

2.1 The amounts referred to in TP1.1.1 are the aggregate of

2.1.1 the amounts referred to in the Articles of Agreement, and

2.1.2 the amounts, if any, that are payable to the Contractor pursuant to the General Conditions.

**TP3 Amounts Payable to Her Majesty**

3.1 The amounts referred to in TP1.1.2 are the aggregate of the amounts, in any, that the Contractor is liable to pay Her Majesty pursuant to the contract.

3.2 When making any payments to the Contractor, the failure of Her Majesty to deduct an amount referred to in TP3.1 from an amount referred to in TP2 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.

**TP4 Time of Payment**

4.1 In these Terms of Payment

4.1.1 The “payment period” means a period of 30 consecutive days or such other longer period as is agreed between the Contractor and the Departmental Representative.

4.1.2 An amount is “due and payable” when it is due and payable by Her Majesty to the Contractor according to TP4.4, TP4.7 or TP4.10.

4.1.3 An amount is overdue when it is unpaid on the first day following the day upon which it is due and payable.

4.1.4 The “date of payment” means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada and given for payment.

4.1.5 The “Bank Rate” means the discount rate of interest set by the Bank of Canada in effect at the opening of business on the date of payment.



- 4.2 The Contractor shall, on the expiration of a payment period, deliver to the Departmental Representative in respect of that payment period a written progress claim 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.
- 4.3 The Departmental Representative shall, not later than ten days after receipt by him of a progress claim referred to in TP4.2,
- 4.3.1 inspect the part of the work and the material described in the progress claim; and
- 4.3.2 issue a progress report, a copy of which the Departmental Representative will give 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 the Departmental Representative,
- 4.3.2.1 is in accordance with the contract, and
- 4.3.2.2 was not included in any other progress report relating to the contract.
- 4.4 Subject to TP1 and TP4.5 Her Majesty shall, not later than 30 days after receipt by the Departmental Representative of a progress claim referred to in TP4.2, pay the Contractor
- 4.4.1 an amount that is equal to 95% of the value that is indicated in the progress report referred to in TP4.3.2 if a labour and material payment bond has been furnished by the Contractor, or
- 4.4.2 an amount that is equal to 90% of the value that is indicated in the progress report referred to in TP4.3.2 if a labour and material payment bond has not been furnished by the Contractor.
- 4.5 It is a condition precedent to Her Majesty's obligation under TP4.4 that the Contractor has made and delivered to the Departmental Representative,
- 4.5.1 a statutory declaration described in TP4.6 in respect of a progress claim referred to in TP4.2,
- 4.5.2 in the case of the Contractor's first progress claim, a construction schedule in accordance with the relevant sections of the Specifications, and
- 4.5.3 if the requirement for a schedule is specified, an update of the said schedule at the times identified in the relevant sections of the Specifications.
- 4.6 A statutory declaration referred to in TP4.5 shall contain a deposition by the Contractor that
- 4.6.1 up to the date of the Contractor's progress claim, the Contractor has complied with all his lawful obligations with respect to the Labour Conditions; and
- 4.6.2 up to the date of the Contractor's immediately preceding progress claim, all lawful obligations of the Contractor to subcontractors and suppliers of material in respect of the



work under the contract have been fully discharged.

- 4.7 Subject to TP1 and TP4.8, Her Majesty shall, not later than 30 days after the date of issue of an Interim Certificate of Completion referred to in GC44.2, pay the Contractor the amount referred to in TP1 less the aggregate of
- 4.7.1 the sum of all payments that were made pursuant to TP4.4;
  - 4.7.2 an amount that is equal to the Departmental Representative's estimate of the cost to Her Majesty or rectifying defects described in the Interim Certificate of Completion; and
  - 4.7.3 an amount that is equal to the Departmental Representative's estimate of the cost to Her Majesty of completing the parts of the work described in the Interim Certificate of Completion other than the defects referred to in TP4.7.2.
- 4.8 It is a condition precedent to Her Majesty's obligation under TP4.7 that the Contractor has made and delivered to the Departmental Representative,
- 4.8.1 a statutory declaration described in TP4.9 in respect of an Interim Certificate of Completion referred to in GC44.2, and
  - 4.8.2 if so specified in the relevant sections of the Specifications, and update of the construction schedule referred to in TP4.5.2 and the updated schedule shall, in addition to the specified requirements, clearly show a detailed timetable that is acceptable to the Departmental Representative for the completion of any unfinished work and the correction of all defects.
- 4.9 A statutory declaration referred to in TP4.8 shall contain a deposition by the contractor that up to the date of the Interim Certificate of Completion the Contractor has
- 4.9.1 complied with all of the Contractor's lawful obligations with respect to the Labour Conditions;
  - 4.9.2 discharged all of the Contractor's lawful obligations to the subcontractors and suppliers of material in respect of the work under the contract; and
  - 4.9.3 discharged the Contractor's lawful obligations referred to in GC14.6.
- 4.10 Subject to TP1 and TP4.11, Her Majesty shall, not later than 60 days after the date of issue of a Final Certificate of Completion referred to in GC44.1, pay the Contractor the amount referred to in TP1 less the aggregate of
- 4.10.1 the sum of all payments that were made pursuant to TP4.4; and
  - 4.10.2 the sum of all payments that were made pursuant to TP4.7.
- 4.11 It is a condition precedent to Her Majesty's obligation under TP4.10 that the Contractor has made and delivered a statutory declaration described in TP4.12 to the Departmental Representative.



- 4.12 A statutory declaration referred to in TP4.11 shall, in addition to the depositions described in TP4.9, contain a deposition 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.

**TP5 Progress Report and Payment Thereunder Not Binding on Her Majesty**

- 5.1 Neither a progress report referred to in TP4.3 nor any payment made by Her Majesty pursuant to these Terms of Payment shall be construed as an admission by Her Majesty that the work, material or any part thereof is complete, is satisfactory or is in accordance with the contract.

**TP6 Delay in Making Payment**

- 6.1 Notwithstanding GC7 any delay by Her Majesty in making any payment when it is due pursuant to these Terms of Payment shall not be a breach of the contract by Her Majesty.

- 6.2 Her Majesty shall pay, without demand from the Contractor, simple interest at the Bank Rate plus 1 -1/4 per centum on any amount which is overdue pursuant to TP4.1.3, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment except that

- 6.2.1 interest shall not be payable or paid unless the amount referred to in TP6.2 has been overdue for more than 15 days following

6.2.1.1 the date the said amount became due and payable, or

6.2.1.2 the receipt by the Departmental Representative of the Statutory Declaration referred to in TP4.5, TP4.8 or TP4.11,

whichever is the later, and

- 6.6.2 interest shall not be payable or paid on overdue advance payments if any.

**TP7 Right of Set-off**

- 7.1 Without limiting any right of set-off or deduction given or implied by law or elsewhere in the contract, Her Majesty may set off any amount payable to Her Majesty by the Contractor under this contract or under any current contract against any amount payable to the Contractor under this contract.

- 7.2 For the purposes of TP7.1, "current contract" means a contract between Her Majesty and the Contractor

7.2.1 under which the Contractor has an undischarged obligation to perform or supply work, labour or material, or

7.2.2 in respect of which Her Majesty has, since the date of which the Articles of Agreement were made, exercised any right to take the work that is the subject of the contract out of the Contractor's hands.



**TP8 Payment in Event of Termination**

- 8.1 If the contract is terminated pursuant to GC41, Her Majesty shall pay the Contractor any amount that is lawfully due and payable to the Contractor as soon as is practicable under the circumstances.

**TP9 Interest on Settled Claims**

- 9.1 Her Majesty shall pay to the Contractor simple interest on the amount of a settled claim at an average Bank Rate plus 1 ¼ per centum from the date the settled claim was outstanding until the day prior to the date of payment.
- 9.2 For the purposes of TP9.1,
- 9.2.1 a claim is deemed to have been settled when an agreement in writing is signed by the Departmental Representative and the Contractor setting out the amount of the claim to be paid by Her Majesty and the items or work for which the said amount is to be paid.
- 9.2.2 an "average Bank Rate" means the discount rate of interest set by the Bank of Canada in effect at the end of each calendar month averaged over the period the settled claim was outstanding.
- 9.2.3 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.
- 9.3 For the purposes of TP9 a claim means a disputed amount subject to negotiation between Her Majesty and the Contractor under the contract.



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## **GC1 Interpretation**

### **1.1 In the contract**

- 1.1.1 where reference is made to a part of the contract by means of numbers preceded by letters, the reference shall be construed to be 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;
- 1.1.2 “contract” means the contract document referred to in the Articles of Agreement;
- 1.1.3 “contract security” means any security given by the Contractor to Her Majesty in accordance with the contract;
- 1.1.4 “Departmental Representative” means the officer or employee of Her Majesty who is designated pursuant to the Articles of Agreement and includes a person specially authorized by him to perform, on his behalf, any of his functions under the contract and is so designated in writing to the Contractor;
- 1.1.5 “material” includes all commodities, articles and things required to be furnished by or for the Contractor under the contract for incorporation into the work;
- 1.1.6 “Minister” includes a person acting for, or if the office is vacant, in place of the Minister and his successors in the office, and his or their lawful deputy and any of his or their representatives appointed for the purposes of the contract;
- 1.1.7 “person” includes, unless the context otherwise requires, a partnership, proprietorship, firm, joint venture, consortium and a corporation;
- 1.1.8 “plant” includes all animals, tools, implements, machinery, vehicles, buildings, structures, equipment and commodities, articles and things other than material, that are necessary for the due performance of the contract;
- 1.1.9 “subcontractor” means a person to whom the Contractor has, subject to GC4, subcontracted the whole or any part of the work;
- 1.1.10 “superintendent” means the employee of the Contractor who is designated by the Contractor to act pursuant to GC19;
- 1.1.11 “work includes, 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.

1.2 The headings in the contract documents, other than in the Plans and Specifications, form no part of the contract but are inserted for convenience of reference only.

1.3 In interpreting the contract, in the event of discrepancies or conflicts between anything in the Plans and Specifications and the General Conditions, the General Conditions govern.





- 1.4 In interpreting the Plans and Specifications, in the event of discrepancies or conflicts between
- 1.4.1 the Plans and Specifications, the Specifications govern;
  - 1.4.2 the Plans, the Plans drawn with the largest scale govern; and
  - 1.4.3 figured dimensions and scaled dimensions, the figured dimensions govern.

**GC2 Successors and Assigns**

- 2.1 The contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and assigns.

**GC3 Assignment of Contract**

- 3.1 The contract may not be assigned by the Contractor, either in whole or in part, without the written consent of the Minister.

**GC4 Subcontracting by Contractor**

- 4.1 Subject to this General Condition, the Contractor may subcontract any part of the work.
- 4.2 The Contractor shall notify the Departmental Representative in writing of his intention to subcontract.
- 4.3 A notification referred to in GC4.2 shall identify the part of the work, and the subcontractor with whom it is intended to subcontract.
- 4.4 The Departmental Representative may object to the intended subcontracting by notifying the Contractor in writing within six days of receipt by the Departmental Representative of a notification referred to in GC4.2.
- 4.5 If the Departmental Representative objects to a subcontracting pursuant to GC4.4, the Contractor shall not enter into the intended subcontract.
- 4.6 The contractor shall not, without the written consent of the Departmental Representative, change a subcontractor who has been engaged by him in accordance with this General Condition.
- 4.7 Every subcontract entered into by the Contractor shall adopt all of the terms and conditions of this contract that are of general application.
- 4.8 Neither a subcontracting nor the Departmental Representative's consent to a subcontracting by the Contractor shall be construed to relieve the Contractor from any obligation under the contract or to impose any liability upon Her Majesty.

**GC5 Amendments**



- 5.1 No amendment or change in any of the provisions of the contract shall have any force or effect until it is reduced to writing.

**GC6 No Implied Obligations**

- 6.1 No implied terms or obligations of any kind by or on behalf of Her Majesty shall arise from anything in the contract and the express covenants and agreements therein contained and made by Her Majesty are the only covenants and agreements upon which any rights against Her Majesty are to be founded.
- 6.2 The contract supersedes all communications, negotiations and agreements, either written or oral, relating to the work that were made prior to the date of the contract.

**GC7 Time of Essence**

- 7.1 Time is of the essence of the contract.

**GC8 Indemnification by Contractor**

- 8.1 The Contractor shall indemnify and save Her Majesty harmless from and against all claims, demand, losses, costs, damages, actions, suits, or proceedings by whomever made, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by or attributable to the activities of the Contractor, his servants, agents, subcontractors and sub-subcontractors in performing the work including an infringement or an alleged infringement of a patent of invention or any other kind of intellectual property.
- 8.2 For the purpose of GC8.1, "activities" includes any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

**GC9 Indemnification by Her Majesty**

- 9.1 Her Majesty shall, subject to the Crown Liability Act, the Patent Act, and any other law that affects Her Majesty's rights, powers, privileges or obligations, indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of his activities under the contract that are directly attributable to
- 9.1.1 lack of or a defect in Her Majesty's title to the work site whether real or alleged; or
- 9.1.2 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 Her Majesty to the Contractor.

**GC10 Members of House of Commons Not to Benefit**



- 10.1 As required by the Parliament of Canada Act, it is an express condition of the contract that no member of the House of Commons shall be admitted to any share of part of the contract or to any benefit arising therefrom.

### **GC11 Notices**

- 11.1 Any notice, consent, order, decision, direction or other communication, other than a notice referred to in GC11.4, that may be given to the Contractor pursuant to the contract may be given in any manner.
- 11.2 Any notice, consent, order, decision, direction or other communication required to be given in writing, to any party pursuant to the contract shall, subject to GC11.4, be deemed to have been effectively given
- 11.2.1 to the Contractor, if delivered personally to the Contractor or the Contractor's superintendent, or forwarded by mail, telex or facsimile to the Contractor at the address set out in A4.1, or
- 11.2.2 to Her Majesty, if delivered personally to the Departmental Representative, or forwarded by mail, telex or facsimile to the Departmental Representative at the address set out in A1.2.1.
- 11.3 Any such notice, consent, order, decision, direction or other communication given in accordance with GC11.2 shall be deemed to have been received by either party
- 11.3.1 if delivered personally, on the day that it was delivered,
- 11.3.2 if forwarded by mail, on the earlier of the day it was received and the sixth day after it was mailed, and
- 11.3.3 if forwarded by telex or facsimile, 24 hours after it was transmitted.
- 11.4 A notice given under GC38.1.1, GC40 and GC41, if delivered personally, shall be delivered to the Contractor if the Contractor is doing business as sole proprietor or, if the Contractor is a partnership or corporation, to an officer thereof.

### **GC12 Material, Plant and Real Property Supplied by Her Majesty**

- 12.1 Subject to GC12.2, the Contractor is liable to Her Majesty 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 Her Majesty for use in connection with the contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 12.2 The Contractor is not liable to Her Majesty for any loss or damage to material, plant or real property referred to in GC12.1 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 12.3 The Contractor shall not use any material, plant or real property referred to in GC12.1 except for



the purpose of performing this contract.

- 12.4 When the Contractor fails to make good any loss or damage for which he is liable under GC12.1 within a reasonable time after being required to do so by the Departmental Representative, the Departmental Representative may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to Her Majesty for the cost thereof and shall, on demand, pay to Her Majesty an amount equal to that cost.
- 12.5 The Contractor shall keep such records of all material, plant and real property referred to in GC12.1 as the Departmental Representative from time to time requires and shall satisfy the Departmental Representative, when requested, that such material, plant and real property are at the place and in the condition which they ought to be.

### **GC13 Material, Plant and Real Property Become Property of Her Majesty**

- 13.1 Subject to GC14.7 all material and plant and the interest of the Contractor in all real property, licenses, powers and privileges purchased, used or consumed by the Contractor for the contract shall, after the time of their purchase, use or consumption be the property of Her Majesty for the purposes of the work and they shall continue to be the property of Her Majesty.
- 13.1.1 in the case of material, until the Departmental Representative indicates that he is satisfied that it will not be required for the work, and
- 13.1.2 in the case of plant, real property, licenses, powers and privileges, until the Departmental Representative indicates that he is satisfied that the interest vested in Her Majesty therein is no longer required for the purposes of the work.
- 13.2 Material or plant that is the property of Her Majesty by virtue of GC13.1 shall not be taken away from the work site or used or disposed of except for the purposes of the work without the written consent of the Departmental Representative.
- 13.3 Her Majesty is not liable for loss of or damage from any cause to the material or plant referred to in GC13.1 and the Contractor is liable for such loss or damage notwithstanding that the material or plant is the property of Her Majesty.

### **GC14 Permits and Taxes Payable**

- 14.1 The Contractor shall, within 30 days after the date of the contract, 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 a person other than Her Majesty.
- 14.2 Within 10 days of making a tender pursuant to GC14.1, the Contractor shall notify the Departmental Representative of his action and of the amount tendered and whether or not the municipal authority has accepted that amount.
- 14.3 If the municipal authority does not accept the amount tendered pursuant to GC14.1 the Contractor shall pay that amount to Her Majesty within 6 days after the time stipulated in GC14.2.



- 14.4 For the purposes of GC14.1 to GC14.3 “municipal authority” means any authority that would have jurisdiction respecting permission to perform the work if the owner were not Her Majesty.
- 14.5 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.
- 14.6 In accordance with the Statutory Declaration referred to in TP4.9, a Contractor who has neither residence nor place of business in the province in which work under the contract is being performed shall provide Her Majesty with proof of registration with the provincial sales tax authorities in the said province.
- 14.7 For the purpose of the payment of any applicable tax or the furnishing of security for the payment of any applicable tax arising from or related to the performance of the work under the contract, the Contractor shall, notwithstanding the fact that all material, plant and interest of the Contractor in all real property, licenses, powers and privileges, have become the property of Her Majesty after the time of purchase, be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any applicable tax payable, at the time of the use or consumption of that material, plant or interest of the Contractor in accordance with the relevant legislation.

#### **GC15 Performance of Work under Direction of Departmental Representative**

- 15.1 The Contractor shall
- 15.1.1 permit the Departmental Representative to have access to the work and its site at all times during the performance of the contract;
  - 15.1.2 furnish the Departmental Representative with such information respecting the performance of the contract as he may require; and
  - 15.1.3 give the Departmental Representative every possible assistance to enable the Departmental Representative to carry out his duty to see that the work is performed in accordance with the contract and to carry out any other duties and exercise any powers specially imposed or conferred on the Departmental Representative under the contract.

#### **CG16 Cooperation with Other Contractors**

- 16.1 Where, in the opinion of the Departmental Representative, it is necessary that other contractors or workers with or without plant and material, be sent onto the work or its site, the Contractor shall, to the satisfaction of the Departmental Representative, allow them access and cooperate with them in the carrying out of their duties and obligation.
- 16.2 If
- 16.2.1 the sending onto the work or its site of other contractors or workers pursuant to GC16.1 could not have been reasonably foreseen or anticipated by the Contractor when entering into the contract, and



16.2.2 the Contractor incurs, in the opinion of the Departmental Representative, extra expense in complying with GC16.1, and

16.2.3 The Contractor has given the Departmental Representative written notice of his claim for the extra expense referred to in GC16.2.2 within 30 days of the date that the other contractors or workers were sent onto the work or its site,

Her Majesty shall pay the Contractor the cost, calculated in accordance with GC48 to GC50, of the extra labour, plant and material that was necessarily incurred.

### **GC17 Examination of Work**

17.1 If, at any time after the commencement of the work but prior to the expiry of the warranty or guarantee period, the Departmental Representative has reason to believe that the work or any part thereof has not been performed in accordance with the contract, the Departmental Representative may have that work examined by an expert of his choice.

17.2 If, as a result of an examination of the work referred to in GC17.1, it is established that the work was not performed in accordance with the contract, then, in addition to and without limiting or otherwise affecting any of Her Majesty's rights and remedies under the contract either at law or in equity, the Contractor shall pay Her Majesty, on demand, all reasonable costs and expenses that were incurred by Her Majesty in having that examination performed.

### **GC18 Clearing of Site**

18.1 The Contractor shall maintain the work and its site in a tidy condition and free from the accumulation of waste material and debris, in accordance with any directions of the Departmental Representative.

18.2 Before the issue of an interim certificate referred to in GC44.2, the Contractor shall remove all the plant and material not required for the performance of the remaining work, and all waste material and other debris, and shall cause the work and its site to be clean and suitable for occupancy by Her Majesty's servants, unless otherwise stipulated in the contract.

18.3 Before the issue of a final certificate referred to in GC44.1, the Contractor, shall remove from the work and its site all of the surplus plant and material and any waste material and other debris.

18.4 The Contractor's obligations described in GC18.1 to GC18.3 do not extend to waste material and other debris caused by Her Majesty's servants or contractors and workers referred to in GC16.1.

### **GC19 Contractor's Superintendent**

19.1 The Contractor shall, forthwith upon the award of the contract, designate a superintendent.

19.2 The Contractor shall forthwith notify the Departmental Representative of the name, address and telephone number of a superintendent designate pursuant to GC19.1.



- 19.3 A superintendent designated pursuant to GC19.1 shall be in full charge of the operations of the Contractor in the performance of the work and is authorized to accept any notice, consent, order, direction, decision or other communication on behalf of the Contractor that may be given to the superintendent under the contract.
- 19.4 The Contractor shall, until the work has been completed, keep a competent superintendent at the work site during working hours.
- 19.5 The Contractor shall, upon the request of the Departmental Representative, remove any superintendent who, in the opinion of the Departmental Representative, is incompetent or has been conducting himself improperly and shall forthwith designate another superintendent who is acceptable to the Departmental Representative.
- 19.6 Subject to GC19.5, the Contractor shall not substitute a superintendent without the written consent of the Departmental Representative.
- 19.7 A breach by the Contractor of GC19.6 entitles the Departmental Representative to refuse to issue any certificate referred to in GC44 until the superintendent has returned to the work site or another superintendent who is acceptable to the Departmental Representative has been substituted.

#### **GC20 National Security**

- 20.1 If the Minister is of the opinion that the work is of a class or kind that involves the national security, he may order the Contractor
- 20.1.1 to provide him with any information concerning persons employed or to be employed by him for purposes of the contract; and
  - 20.1.2 to remove any person from the work and its site if, in the opinion of the Minister, that person may be a risk to the national security.
- 20.2 The Contractor shall, in all contracts with persons who are to be employed in the performance of the contract, make provision for his performance of any obligation that may be imposed upon him under GC19 to GC21.
- 20.3 The Contractor shall comply with an order of the Minister under GC20.1

#### **GC21 Unsuitable Workers**

- 21.1 The Contractor shall, upon the request of the Departmental Representative, remove any person employed by him for purposes of the contract who, in the opinion of the Departmental Representative, is incompetent or has conducted himself improperly, and the Contractor shall not permit a person who has been removed to return to the work site.

#### **GC22 Increased or Decreased Costs**



- 22.1 The amount set out in the Articles of Agreement shall not be increased or 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 or material or any wage adjustment arising pursuant to the Labour Conditions.
- 22.2 Notwithstanding GC22.1 and GC35, an amount set out in the Articles of Agreement shall be adjusted in the manner provided in GC22.3, if any change in a tax imposed under the Excise Act, the Excise Tax Act, the Old Age Security Act, the Customs Act, the Customs Tariff or any provincial sales tax legislation imposing a retail sales tax on the purchase of tangible personal property incorporated into Real Property
- 22.2.1 occurs after the date of the submission by the Contractor of his tender for the contract,
- 22.2.2 applies to material, and
- 22.2.3 affects the cost to the Contractor of that material.
- 22.3 If a change referred to in GC22.2 occurs, the appropriate amount set out in the Articles of Agreement shall be increased or decreased by an amount equal to the amount that is established by an examination of the relevant records of the Contractor referred to in GC51 to be the increase or decrease in the cost incurred that is directly attributable to that change.
- 22.4 For the purpose of GC22.2, where a tax is changed after the date of submission of the tender but public notice of the change has been given by the Minister of Finance before that date, the change shall be deemed to have occurred before the date of submission of the tender.

### **GC23 Canadian Labour and Material**

- 23.1 The Contractor shall use Canadian labour and material in the performance of the work to the full extent to which they are procurable, consistent with proper economy and expeditious carrying out of the work.
- 23.2 Subject to GC23.1, the Contractor shall, in the performance of the work, employ labour from the locality where the work is being performed to the extent to which it is available, and shall use the offices of the Canada Employment Centres for the recruitment of workers wherever practicable.
- 23.3 Subject to GC23.1 and GC23.2, the Contractor shall, in the performance of the work, employ a reasonable proportion of persons who have been on active service with the armed forces of Canada and have been honourably discharged therefrom.

### **GC24 Protection of Work and Documents**

- 24.1 The Contractor shall guard or otherwise protect the work and its site, and protect the contract, specifications, plans, drawings, information, material, plant and real property, whether or not they are supplied by Her Majesty to the Contractor, against loss or damage from any cause, and he shall not use, issue, disclose or dispose of them without the written consent of the Minister, except as may be essential for the performance of the work.





- 24.2 If any document or information given or disclosed to the Contractor is assigned a security rating by the person who gave or disclosed it, the Contractor shall take all measures directed by the Departmental Representative to be taken to ensure the maintenance of the degree of security that is ascribed to that rating.
- 24.3 The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by the Minister to inspect or to take security measures in respect of the work and its site.
- 24.4 The Departmental Representative may direct the Contractor to do such things and to perform such additional work as the Departmental Representative considers reasonable and necessary to ensure compliance with or to remedy a breach of GC24.1 to GC24.3.

### **GC25 Public Ceremonies and Signs**

- 25.1 The Contractor shall not permit any public ceremony in connection with the work without the prior consent of the Minister.
- 25.2 The Contractor shall not erect or permit the erection of any sign or advertising on the work or its site without the prior consent of the Departmental Representative.

### **GC26 Precautions against Damage, Infringement of Rights, Fire, and Other Hazards**

- 26.1 The Contractor shall, at his own expense, do whatever is necessary to ensure that
- 26.1.1 no person, property, right, easement or privilege is injured, damaged or infringed by reasons of the Contractor's activities in performing the contract;
  - 26.1.2 pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted or endangered by the performance or existence of the work or plant;
  - 26.1.3 fire hazards in or about the work or its site are eliminated and, subject to any direction that may be given by the Departmental Representative, any fire is promptly extinguished;
  - 26.1.4 the health and safety of all persons employed in the performance of the work is not endangered by the method or means of its performance;
  - 26.1.5 adequate medical services are available to all persons employed on the work or its site at all times during the performance of the work;
  - 26.1.6 adequate sanitation measures are taken in respect of the work and its site; and
  - 26.1.7 all stakes, buoys and marks placed on the work or its site by or under the authority of the Departmental Representative are protected and are not removed, defaced, altered or destroyed.
- 26.2 The Departmental Representative may direct the Contractor to do such things and to perform such additional work as the Departmental Representative considers reasonable and necessary to ensure



compliance with or to remedy a breach of GC26.1.

- 26.3 The Contractor shall, at his own expense, comply with a direction of the Departmental Representative made under GC26.2.

#### **GC27 Insurance**

- 27.1 The Contractor shall, at his own expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to the Departmental Representative in accordance with the requirements of the Insurance Conditions "E".

- 27.2 The insurance contracts referred to in GC27.1 shall

27.2.1 be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in Insurance Conditions "E", and

27.2.2 provide for the payment of claims under such insurance contracts in accordance with GC28.

#### **GC28 Insurance Proceeds**

- 28.1 In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the Contractor pursuant to GC27, the proceeds of the claim shall be paid directly to Her Majesty, and

28.1.1 the monies so paid shall be held by Her Majesty for the purposes of the contract, or

28.1.2 if Her Majesty elects, shall be retained by Her Majesty, in which event they vest in Her Majesty absolutely.

- 28.2 In the case of a claim payable under a General Liability insurance contract maintained by the Contractor pursuant to GC27, the proceeds of the claim shall be paid by the insurer directly to the claimant.

- 28.3 If an election is made pursuant to GC28.1, the Minister may cause an audit to be made of the accounts of the Contractor and of Her Majesty in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between

28.3.1 the aggregate of the amount of the loss or damage suffered or sustained by Her Majesty, including any cost 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 Her Majesty under the contract, minus any monies retained pursuant to GC28.12, and

28.3.2 the aggregate of the amounts payable by Her Majesty to the Contractor pursuant to the contract up to the date of the loss or damage.

- 28.4 A difference that is established pursuant to GC28.3 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the



creditor.

- 28.5 When payment of a deficiency has been made pursuant to GC28.4, all rights and obligations of Her Majesty 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 GC28.3, be deemed to have been expended and discharged.
- 28.6 If an election is not made pursuant to GC28.1.2 the Contractor shall, subject to GC28.7, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at his own expense as if that part of the work had not yet been performed.
- 28.7 When the Contractor clears and cleans the work and its site and restores and replaces the work referred to in GC 28.6, Her Majesty shall pay him out of the monies referred to in GC28.1 so far as they will thereunto extend.
- 28.8 Subject to GC28.7, payment by Her Majesty pursuant to GC28.7 shall be made in accordance with the contract but the amount of each payment shall be 100% of the amount claimed notwithstanding TP4.4.1 and TP4.4.2.

### **GC29 Contract Security**

- 29.1 The Contractor shall obtain and deliver contract security to the Departmental Representative in accordance with the provisions of the Contract Security Conditions.
- 29.2 If the whole or a part of the contract security referred to in GC29.1 is in the form of a security deposit, it shall be held and disposed of in accordance with GC43 and GC45.
- 29.3 If a part of the contract security referred to in GC29.1 is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond on the work site.

### **GC30 Changes in the Work**

- 30.1 Subject to GC5, the Departmental Representative may, at any time before he issues his Final Certificate of Completion,
- 30.1.1 order work or material in addition to that provided for in the Plans and Specifications;  
and
- 30.1.2 delete or change the dimensions, character, quantity, quality, description, location or position of the whole or any part of the work or material provided for in the Plans and Specifications or in any order made pursuant to GC30.1.1,
- if that additional work or material, deletion, or change is, in his opinion, consistent with the general intent of the original contract.
- 30.2 The Contractor shall perform the work in accordance with such orders, deletions and changes that are made by the Departmental Representative pursuant to GC30.1 from time to time as if they had appeared in and been part of the Plans and Specifications.



- 30.3 The Departmental Representative shall determine whether or not anything done or omitted by the Contractor pursuant to an order, deletion or change referred to in GC30.1 increased or decreased the cost of the work to the Contractor.
- 30.4 If the Departmental Representative determines pursuant to GC30.3 that the cost of the work to the Contractor has been increased, Her Majesty shall pay the Contractor the increased cost that the Contractor necessarily incurred for the additional work calculated in accordance with GC49 or GC50.
- 30.5 If the Departmental Representative determines pursuant to GC30.3 that the cost of the work to the Contractor has been decreased, Her Majesty shall reduce the amount payable to the Contractor under the contract by an amount equal to the decrease in the cost caused by the deletion or change referred to in GC30.1.2 and calculated in accordance with GC49.
- 30.6 GC30.3 to GC30.5 are applicable only to a contract or a portion of a contract for which a Fixed Price Arrangement is stipulated in the contract.
- 30.7 An order, deletion or change referred to in GC30.1 shall be in writing, signed by the Departmental Representative and given to the Contractor in accordance with GC11.

### **GC31 Interpretation of Contract by Departmental Representative**

- 31.1 If, at any time before the Departmental Representative has issued a Final Certificate of Completion referred to in GC44.1, 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
- 31.1.1 the meaning of anything in the Plans and Specification,
  - 31.1.2 the meaning to be given to the Plans and Specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their working or intention,
  - 31.1.3 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,
  - 31.1.4 whether or not the labour, plant or material provided by the Contractor for performing the work and carrying out the contract are adequate to ensure that the work will be performed in accordance with the contract and that the contract will be carried out in accordance with its terms,
  - 31.1.5 what quantity of any kind of work has been completed by the Contractor, or
  - 31.1.6 the timing and scheduling of the various phases of the performance of the work,
- the question shall be decided by the Departmental Representative whose decision shall be final and conclusive in respect of the work.
- 31.2 The Contractor shall perform the work in accordance with any decisions of the Departmental



Representative that are made under GC31.1 and in accordance with any consequential directions given by the Departmental Representative.

### **GC32 Warranty and Rectification of Defects in Work**

- 32.1 Without restricting any warranty or guarantee implied or imposed by law or contained in the contract documents, the Contractor shall, at his own expense,
- 32.1.1 rectify and make good any defect or fault that appears in the work or comes to the attention of the Minister with respect to those parts of the work accepted in connection with the Interim Certificate of Completion referred to GC44.2 within 12 months from the date of the Interim Certificate of Completion;
- 32.1.2 rectify and make good any defect or fault that appears in or comes to the attention of the Minister in connection with those parts of the work described in the Interim Certificate of Completion referred to in GC44.2 within 12 months from the date of the Final Certificate of Completion referred to in GC44.1.
- 32.2 The Departmental Representative may direct the Contractor to rectify and make good any defect or fault referred to in GC32.1 or covered by any other expressed or implied warranty or guarantee.
- 32.3 A direction referred to in GC32.2 shall be in writing, may include a stipulation in respect of the time within which a defect or fault is required to be rectified and made good by the Contractor, and shall be given to the Contractor in accordance with GC11.
- 32.4 The Contractor shall rectify and make good any defect or fault described in a direction given pursuant to GC32.2 within the time stipulated therein.

### **GC33 Non-Compliance by Contractor**

- 33.1 If the Contractor fails to comply with any decision or direction given by the Departmental Representative pursuant to GC18, GC24, GC26, GC31 or GC32, the Departmental Representative may employ such methods as he deems advisable to do that which the Contractor failed to do.
- 33.2 The Contractor shall, on demand, pay Her Majesty an amount that is equal to the aggregate of all cost, expenses and damage incurred or sustained by Her Majesty by reason of the Contractor's failure to comply with any decision or direction referred to in GC33.1, including the cost of any methods employed by the Departmental Representative pursuant to GC33.1.

### **GC34 Protesting Departmental Representative's Decisions**

- 34.1 The Contractor may, within ten days after the communication to him of any decision or direction referred to in GC30.3 or GC33.1, protest that decision or direction.
- 34.2 A protest referred to in GC34.1 shall be in writing, contain full reasons for the protest, be signed



by the Contractor and be given to Her Majesty by delivery to the Departmental Representative.

- 34.3 If the Contractor gives a protest pursuant to GC34.2, any compliance by the Contractor with the decision or direction that was protested shall not be construed as an admission by the Contractor of the correctness of that decision or direction, or prevent the Contractor from taking whatever action he considers appropriate in the circumstances.
- 34.4 The giving of a protest by the Contractor pursuant to GC34.2 shall not relieve him from complying with the decision or direction that is the subject of the protest.
- 34.5 Subject to GC34.6, the Contractor shall take any action referred to in GC34.3 within three months after the date that a Final Certificate of Completion is issued under GC44.1 and not afterwards.
- 34.6 The Contractor shall take any action referred to in GC34.3 resulting from a direction under GC32 within three months after the expiry of a warranty or guarantee period and not afterwards.
- 34.7 Subject to GC34.8, if Her Majesty determines that the Contractor's protest is justified, Her Majesty shall pay the Contractor the cost of the additional labour, plant and material necessarily incurred by the Contractor in carrying out the protested decision or direction.
- 34.8 Costs referred to in GC34.7 shall be calculated in accordance with GC48 to GC50.

### **GC35 Changes in Soil Conditions and Neglect or Delay by Her Majesty**

- 35.1 Subject to GC35.2 no payment, other than a payment that is expressly stipulated in the contract, shall be made by Her Majesty to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.
- 35.2 If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to
- 35.2.1 a substantial difference between the information relating to soil conditions at the work site that is contained in the Plans and Specifications or other documents supplied to the Contractor for his use in preparing his tender or a reasonable assumption of fact based thereon made by the Contractor, and the actual soil conditions encountered by the Contractor at the work site during the performance of the contract, or
- 35.2.2 any neglect or delay that occurs after the date of the contract on the part of Her Majesty in providing any information or in doing any act that the contract either expressly requires Her Majesty to do or that would ordinarily be done by an owner in accordance with the usage of the trade,

he shall, within ten days of the date the actual soil conditions described in GC35.2.1 were encountered or the neglect or delay described in GC35.2.2 occurred, give the Departmental Representative written notice of his intention to claim for that extra expense or that loss or damage.

- 35.3 When the Contractor has given a notice referred to in GC35.2, he shall give the Departmental Representative a written claim for extra expense or loss or damage within 30 days of the date that



a Final Certificate of Completion referred to in GC44.1 is issued and not afterwards.

- 35.4 A written claim referred to in GC35.3 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable the Departmental Representative to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as the Departmental Representative requires from time to time.
- 35.5 If the Departmental Representative determines that a claim referred to in GC35.3 is justified, Her Majesty shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC47 to GC50.
- 35.6 If, in the opinion of the Departmental Representative, an occurrence described in GC35.2.1 results in a savings of expenditure by the Contractor in performing the contract, the amount set out in the Articles of Agreement shall, subject to GC35.7, be reduced by an amount that is equal to the saving.
- 35.7 The amount of the saving referred to in GC35.6 shall be determined in accordance with GC47 to GC49.
- 35.8 If the Contractor fails to give a notice referred to in GC35.2 and a claim referred to in GC35.3 within the times stipulated, an extra payment shall not be made to him in respect of the occurrence.

### **GC36 Extension of Time**

- 36.1 Subject to GC36.2, the Departmental Representative may, on the application of the Contractor made before the day fixed by the Articles of Agreement for completion of the work or before any other date previously fixed under this General Condition, extend the time for its completion by fixing a new date if, in the opinion of the Departmental Representative, causes beyond the control of the Contractor have delayed its completion.
- 36.2 An application referred to in GC36.1 shall be accompanied by the written consent of the bonding company whose bond forms part of the contract security.

### **GC37 Assessments and Damages for Late Completion**

- 37.1 For the purposes of this General Condition
- 37.1.1 the work shall be deemed to be completed on the date that an Interim Certificate of Completion referred to in GC44.2 is issued, and
- 37.1.2 "period of delay" means the number of days commencing on the day fixed by the Articles of Agreement 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 GC36.1, and any other day on which, in the opinion of the Departmental Representative, completion of the work was delayed for reasons beyond the control of the Contractor.



- 37.2 If the Contractor does not complete the work by the day fixed for its completion by the Articles of Agreement but completes it thereafter, the Contractor shall pay Her Majesty an amount equal to the aggregate of
- 37.2.1 all salaries, wages and travelling expenses incurred by Her Majesty in respect of persons overseeing the performance of the work during the period of delay;
  - 37.2.2 the cost incurred by Her Majesty as a result of the inability to use the completed work for the period of delay; and
  - 37.2.3 all other expenses and damages incurred or sustained by Her Majesty during the period of delay as a result of the work not being completed by the day fixed for its completion.
- 37.3 The Minister may waive the right of Her Majesty to the whole or any part of the amount payable by the Contractor pursuant to GC37.2 I, in the opinion of the Minister, it is in the public interest to do so.

#### **GC38 Taking the Work Out of the Contractor's Hands**

- 38.1 The Minister may, at his sole discretion, by giving a notice in writing to the Contractor in accordance with GC11, take all or any part of the work out of the Contractor's hands, and may employ such means as he sees fit to have the work completed if the Contractor
- 38.1.1 Has not, within six days of the Minister or the Departmental Representative giving notice to the Contractor in writing in accordance with GC11, remedied any delay in the commencement or any default in the diligent performance of the work to the satisfaction of the Departmental Representative;
  - 38.1.2 has defaulted in the completion of any part of the work within the time fixed for its completion by the contract;
  - 38.1.3 has become insolvent;
  - 38.1.4 has committed an act of bankruptcy;
  - 38.1.5 has abandoned the work;
  - 38.1.6 has made an assignment of the contract without the consent required by GC3.1; or
  - 38.1.7 has otherwise failed to observe or perform any of the provisions of the contract.
- 38.2 If the whole or any part of the work is taken out of the Contractor's hands pursuant to GC38.1,
- 38.2.1 the Contractor's right to any further payment that is due or accruing due under the contract is, subject only to GC38.4, extinguished, and
  - 38.2.2 the Contractor is liable to pay Her Majesty, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by Her Majesty in respect of the





Contractor's failure to complete the work.

- 38.3 If the whole or any part of the work that is taken out of the Contractor's hands pursuant to GC38.1 is completed by Her Majesty, the Departmental Representative shall determine the amount, if any, of the holdback or a progress claim 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 Her Majesty for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 38.4 Her Majesty may pay the Contractor the amount determined not to be required pursuant to GC38.3.

**GC39 Effect of Taking the Work Out of the Contractor's Hands**

- 39.1 The taking of the work or any part thereof out of the Contractor's hands pursuant to GC38 does not operate so as to relieve or discharge him from any obligation under the contract or imposed upon him by law except the obligation to complete the performance of that part of the work that was taken out of his hands.
- 39.2 If the work or any part thereof is taken out of the Contractor's hands pursuant to GC38, all plant and material and the interest of the Contractor is all real property, licenses, powers and privileges acquired, used or provided by the Contractor under the contract shall continue to be the property of Her Majesty without compensation to the Contractor.
- 39.3 When the Departmental Representative certifies that any plant, material, or any interest of the Contractor referred to in GC39.2 is no longer required for the purposes of the work, or that it is not in the interest of Her Majesty to retain that plant, material or interest, it shall revert to the Contractor.

**G40 Suspension of Work by Minister**

- 40.1 The Minister may, when in his opinion it is in the public interest to do so, 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 GC11.
- 40.2 When a notice referred to in GC40.1 is received by the Contractor in accordance with GC11, he shall suspend all operations in respect of the work except those that, in the opinion of the Departmental Representative, are necessary for the care and preservation of the work, plant and material.
- 40.3 The Contractor shall not, during a period of suspension, remove any part of the work, plant or material from its site without the consent of the Departmental Representative.
- 40.4 If a period of suspension is 30 days or less, the Contractor shall, upon the expiration of that period, resume the performance of the work and he is entitled to be paid the extra cost, calculated in accordance with GC48 to GC50, of any labour, plant and material necessarily incurred by him as a result of the suspension.



- 40.5 If, upon the expiration of a period of suspension of more than 30 days, the Minister and the Contractor agree that the performance of the work will be continued by the Contractor, the Contractor shall resume performance of the work subject to any terms and conditions agreed upon by the Minister and the Contractor.
- 40.6 If, upon the expiration of a period of suspension of more than 30 days, the Minister and the Contractor do not agree that performance of the work will be continued by the Contractor or upon the terms and conditions under which the Contractor will continue the work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC41.

#### **GC41 Termination of Contract**

- 41.1 The Minister may terminate the contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC11.
- 41.2 When a notice referred to in GC41.1 is received by the Contractor in accordance with GC11, he shall, subject to any conditions stipulated in the notice, forthwith cease all operations in performance of the contract.
- 41.3 If the contract is terminated pursuant to GC41.1, Her Majesty shall pay the Contractor, subject to GC41.4, an amount equal to
- 41.3.1 the cost to the contractor of all labour, plant and material supplied by him under the contract up to the date of termination in respect of a contract or part thereof for which a Unit Price Arrangement is stipulated in the contract, or
  - 41.3.2 the lesser of
    - 41.3.2.1 an amount, calculated in accordance with the Terms and Payment, that would have been payable to the Contractor had he completed the work, and
    - 41.3.2.2 an amount that is determined to be due to the Contractor pursuant to GC49 in respect of a contract or part thereof for which a Fixed Price Arrangement is stipulated in the contract
- less the aggregate of all amounts that were paid to the Contractor by Her Majesty and all amounts that are due to Her Majesty from the Contractor pursuant to the contract.
- 41.4 If Her Majesty and the Contractor are unable to agree about an amount referred to in GC41.3 that amount shall be determined by the method referred to in GC50.

#### **GC42 Claims Against and Obligations of the Contractor or Subcontractor**

- 42.1 Her Majesty may, in order to discharge lawful obligations of and satisfy claims against the Contractor or a subcontractor arising out of the performance of the contract, pay any amount that is due and payable to the Contractor pursuant to the contract directly to the obligees of and the claimants against the Contractor or the subcontractor but such amount if any, as is paid by Her Majesty, shall not exceed that amount which the Contractor would have been obliged to pay to



such claimant had the provisions of the Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, been applicable to the work. Any such claimant need not comply with the provisions of such legislation setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which claimant might have had;

- 42.2 Her Majesty will not make any payment as described in GC42.1 unless and until that claimant shall have delivered to Her Majesty:
- 42.2.1 a binding and enforceable Judgment or Order of a court of competent jurisdiction setting forth such amount as would have been payable by the Contractor to the claimant pursuant to the provisions of the applicable Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, had such legislation been applicable to the work; or
  - 42.2.2 a final and enforceable award of an arbitrator setting forth such amount as would have been payable by the Contractor to the claimant pursuant to the provisions of the applicable Provincial or Territorial lien legislation, or, in the Province of Quebec, the law relating to privileges, had such legislation been applicable to the work; or
  - 42.2.3 the consent of the Contractor authorizing a payment.
- For the purposes of determining the entitlement of a claimant pursuant to GC42.2.1 and GC42.2.2, the notice required by GC42.8 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 any applicable legislation.
- 42.3 The Contractor shall, by the execution of his contract, be deemed to have consented to submit to binding arbitration at the request of any claimant those questions that need be answered to establish the entitlement of the claimant to payment pursuant to the provisions of GC42.1 and such arbitration shall have as parties to it any subcontractor to whom the claimant supplied material, performed work or rented equipment should such subcontractor wish to be adjoined and the Crown shall not be a party to such arbitration and, subject to any agreement between the Contractor and the claimant to the contrary, the arbitration shall be conducted in accordance with the Provincial or Territorial legislation governing arbitration applicable in the Province or Territory in which the work is located.
- 42.4 A payment made pursuant to GC42.1 is, to the extent of the payment, a discharge of Her Majesty's liability to the Contractor under the contract and may be deducted from any amount payable to the Contractor under the contract.
- 42.5 To the extent that the circumstances of the work being performed for Her Majesty permit, the Contractor shall comply with all laws in force in the Province or Territory where the work is being performed relating to payment period, mandatory holdbacks, and creation and enforcement of mechanics' liens, builders' liens or similar legislation or in the Province of Quebec, the law relating to privileges.
- 42.6 The Contractor shall discharge all his lawful obligations and shall satisfy all lawful claims against him arising out of the performance of the work at least as often as the contract requires Her



Majesty to pay the Contractor.

- 42.7 The Contractor shall, whenever requested to do so by the Departmental Representative, make a statutory declaration deposing to the existence and condition of any obligations and claims referred to in GC42.6.
- 42.8 GC42.1 shall only apply to claims and obligations
- 42.8.1 the notification of which has been received by the Departmental Representative in writing before payment is made to the Contractor pursuant to TP4.10 and within 120 days of the date on which the claimant
- 42.8.1.1 should have been paid in full under the claimant's contract with the Contractor or subcontractor where the claim is for money that was lawfully required to be held back from the claimant; or
- 42.8.1.2 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 subcontractor where the claim is not for money referred to in GC42.8.1.1, and
- 42.8.2 the proceedings to determine the right to payment of which, pursuant to GC42.2. shall have commenced within one year from the date that the notice referred to in GC42.8.1 was received by the Departmental Representative, and
- the notification required by GC42.8.1 shall set forth the amount claimed to be owing and the person who by contract is primarily liable.
- 42.9 Her Majesty may, upon receipt of a notice of claim under GC42.8.1, 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.
- 42.10 The Departmental Representative shall notify the Contractor in writing of receipt of any claim referred to in GC42.8.1 and of the intention of Her Majesty to withhold funds pursuant to GC42.9 and the Contractor may, at any time thereafter and until payment is made to the claimant, be entitled to post, with Her Majesty, security in a form acceptable to Her Majesty in an amount equal to the value of the claim, the notice of which is received by the Departmental Representative and upon receipt of such security Her Majesty shall release to the Contractor any funds which would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of GC42.9 in respect of the claim of any claimant for whom the security stands.

### **GC43 Security Deposit – Forfeiture or Return**

- 43.1 If
- 43.1.1 the work is taken out of the Contractor's hands pursuant to GC38,
- 43.1.2 the contract is terminated pursuant to GC41, or
- 43.1.3 the Contractor is in breach of or in default under the contract,



Her Majesty may convert the security deposit, if any, to Her own use.

- 43.2 If Her Majesty converts the contract security pursuant to GC43.1, the amount realized shall be deemed to be an amount due from Her Majesty to the Contractor under the contract.
- 43.3 Any balance of an amount referred to in GC43.2 that remains after payment of all losses, damage and claims of Her Majesty and others shall be paid by Her Majesty to the Contractor if, in the opinion of the Departmental Representative, it is not required for the purposes of the contract.

#### **GC44 Departmental Representative's Certificates**

44.1 On the date that

44.1.1 the work has been completed, and

44.1.2 the Contractor has complied with the contract and all orders and directions made pursuant thereto,

both to the satisfaction of the Departmental Representative, the Departmental Representative shall issue a Final Certificate of Completion to the Contractor.

44.2 If the Departmental Representative is satisfied that the work is substantially complete he shall, at any time before he issues a certificate referred to in GC44.1, issue an Interim Certificate of Completion to the Contractor, and

44.2.1 for the purposes of GC44.2 the work will be considered to be substantially complete,

44.2.1.1 when the work under the contract or a substantial part thereof is, in the opinion of the Departmental Representative, ready for use by Her Majesty or is being used for the purpose intended; and

44.2.1.2 when the work remaining to be done under the contract is, in the opinion of the Departmental Representative, capable of completion or correction at accost of not more than

44.2.1.2.1 -3% of the first \$500,000, and

44.2.1.2.2 -2% of the next \$500,000, and

44.2.1.2.3 -1% of the balance

of the value of the contract at the time this cost is calculated.

44.3 For the sole purpose of GC44.2.1.2, where the work or a substantial part thereof is ready for use or is being used for the purposes intended and the remainder of the work or a part thereof cannot be completed by the time specified in A2.1, or as amended pursuant to GC36, for reasons beyond the control of the Contractor or where the Departmental Representative and the Contractor agree not to complete a part of the work within the specified time, the cost of that part of the work



which was either beyond the control of the Contractor to complete or the Departmental Representative and the Contractor have agreed not to complete by the time specified shall be deducted from the value of the contract referred to GC44.2.1.2 and the said cost shall not form part of the cost of the work remaining to be done in determining substantial completion.

44.4 An Interim Certificate of Completion referred to in GC44.2 shall describe the parts of the work not completed to the satisfaction of the Departmental Representative and all things that must be done by the Contractor

44.4.1 before a Final Certificate of Completion referred to in GC44.1 will be issued, and

44.4.2 before the 12-month period referred to in GC32.1.2 shall commence for the said parts and all the said things.

44.5 The Departmental Representative may, in addition to the parts of the work described in an Interim Certificate of Completion referred to in GC44.2, require the Contractor to rectify any other parts of the work not completed to his satisfaction and to do any other things that are necessary for the satisfactory completion of the work.

44.6 If the contract or a part thereof is subject to a Unit Price Arrangement, the Departmental Representative shall measure and record the quantities of labour, plant and material, performed, used and supplied by the Contractor in performing the work and shall, at the request of the Contractor, inform him of those measurements.

44.7 The Contractor shall assist and co-operate with the Departmental Representative in the performance of his duties referred to in GC44.6 and shall be entitled to inspect any record made by the Departmental Representative pursuant to GC44.6.

44.8 After the Departmental Representative has issued a Final Certificate of Completion referred to in GC44.1, he shall, if GC44.6 applies, issue a Final Certificate of Measurement.

44.9 A Final Certificate of Measurement referred to in GC44.8 shall

44.9.1 contain the aggregate of all measurements of quantities referred to in GC44.6, and

44.9.2 be binding upon and conclusive between Her Majesty and the Contractor as to the quantities referred to therein.

#### **GC45 Return of Security Deposit**

45.1 After an Interim Certificate of Completion referred to in GC44.2 has been issued, Her Majesty shall, if the Contractor is not in breach of or in default under the contract, return to the Contractor all or any part of the security deposit that, in the opinion of the Departmental Representative, is not required for the purposes of the contract.

45.2 After a Final Certificate of Completion referred to in GC44.1 has been issued, Her Majesty shall return to the Contractor the remainder of any security deposit unless the contract stipulates otherwise.



- 45.3 If the security deposit was paid into the Consolidated Revenue Fund of Canada, Her Majesty shall pay interest thereon to the Contractor at a rate established from time to time pursuant to section 21(2) of the Financial Administration Act.

#### **GC46 Clarification of Terms in GC47 to GC50**

- 46.1 For the purposes of GC47 to GC50,
- 46.1.1 "Unit Price Table" means the table set out in the Articles of Agreement, and
- 46.1.2 "plant" does not include tools customarily provided by a tradesman in practicing his trade.

#### **GC47 Additions or Amendments to Unit Price Table**

- 47.1 Where a Unit Price Arrangement applies to the contract or a part thereof the Departmental Representative and the Contractor may, by an agreement in writing,
- 47.1.1 add classes of labour or material, and units of measurement, prices per unit and estimated quantities to the Unit Price Table if any labour, plant or material that is to be included in the Final Certificate of Measurement referred to in GC44.8 is not included in any class of labour, plant or material set out in the Unit Price Table; or
- 47.1.2 subject to GC47.2 and GC47.3, amend a price set out in the Unit Price Table for any class of labour, plant or material included therein if the Final Certificate of Measurement referred to in GC44.8 shows or is expected to show that the total quantity of that class of labour, plant or material actually performed, used or supplied by the Contractor in performing the work is
- 47.1.2.1 less than 85% of that estimated total quantity, or
- 47.1.2.2 in excess of 115% of that estimated total quantity.
- 47.2 In no event shall the total cost of an item set out in the Unit Price Table that has been amended pursuant to GC47.1.2.1 exceed the amount that would have been payable to the Contractor had the estimated total quantity actually been performed, used or supplied.
- 47.3 An amendment that is made necessary by GC47.1.2.2 shall apply only to the quantities that are in excess of 115%.
- 47.4 If the Departmental Representative and the Contractor do not agree as contemplated in GC47.1, the Departmental Representative shall determine the class and the unit of measurement of the labour, plant or material and, subject to GC47.2 and GC47.3, the price per unit therefore shall be determined in accordance with GC50.

#### **GC48 Determination of Cost – Unit Price Table**



- 48.1 Whenever, for the purposes of the contract, it is necessary to determine the cost of labour, plant or material, it shall be determined by multiplying the quantity of that labour, plant or material expressed in the unit set out in column 3 of the Unit Price Table by the price of that unit set out in column 5 of the Unit Price Table.

#### **GC49 Determination of Cost – Negotiation**

- 49.1 If the method described in GC48 cannot be used because the labour, plant or material is of a kind or class that is not set out in the Unit Price Table, the cost of that labour, plant or material for the purposes of the contract shall be the amount agreed upon from time to time by the Contractor and the Departmental Representative.
- 49.2 For the purposes of GC49.1, the Contractor shall submit to the Departmental Representative any necessary cost information requested by the Departmental Representative in respect of the labour, plant and material referred to in GC49.1

#### **GC50 Determination of Cost – Failing Negotiation**

- 50.1 If the methods described in GC47, GC48 or GC49 fail for any reason to achieve a determination of the cost of labour, plant and material for the purposes referred to therein, that cost shall be equal to the aggregate of
- 50.1.1 all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, plant and material that falls within one of the classes of expenditure described in GC50.2 that are directly attributable to the performance of the contract,
  - 50.1.2 an allowance for profit and all other expenditures or costs, including overhead, general administration cost, financing and interest charges, and every other cost, charge and expenses, but not including those referred to in GC50.1.1 or GC50.1.3 or a class referred to in GC50.2, in an amount that is equal to 10% of the sum of the expenses referred to in GC50.1.1, and
  - 50.1.3 interest on the cost determined under GC50.1.1 and GC50.1.2, which interest shall be calculated in accordance with TP9,

provide that the total cost of an item set out in the Unit Price Table that is subject to the provisions of GC47.1.2.1 does not exceed the amount that would have been payable to the Contractor had the estimated total quantity of the said item actually be performed, used or supplied.

- 50.2 For purposes of GC50.1.1 the classes of expenditure that may be taken into account in determining the cost of labour, plant and material are,
- 50.2.1 payments to subcontractors;
  - 50.2.2 wages, salaries and travelling expenses of employees of the Contractor while they are actually and properly engaged on the work, other than wages, salaries, bonuses, living





and travelling expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor unless they are engaged at the work site with the approval of the Departmental Representative,

- 50.2.3 assessments payable under any statutory authority relating to workmen's compensation, unemployment insurance, pension plan or holidays with pay;
- 50.2.4 rent that is paid for plant or an amount equivalent of 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 of the equivalent amount is reasonable and use of that plant has been approved by the Departmental Representative;
- 50.2.5 payments for maintaining and operating plant necessary for and used in the performance of the work, and payments for effecting such repairs thereto as, in the opinion of the Departmental Representative, are necessary to 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;
- 50.2.6 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;
- 50.2.7 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
- 50.2.8 any other payments made by the Contractor with the approval of the Departmental Representative that are necessary for the performance of the contract.

#### **GC51 Records to be kept by Contractor**

##### **51.1 The Contractor shall**

- 51.1.1 maintain full records of his estimated and actual cost of the work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto.
- 51.1.2 make all records and material referred to in GC5.1.1 available to audit and inspection by the Minister and the Deputy Receiver General for Canada or by persons acting on behalf of either of both of them, when requested;
- 51.1.3 allow any of the person referred to in GC51.1.2 to make copies of and to take extracts from any of the records and material referred to in GC51.1.1; and
- 51.1.4 furnish any person referred to in GC51.1.2 with any information he may require from time to time in connection with such records and material.

- 51.2 The records maintained by the Contractor pursuant to GC51.1.1 shall be kept intact by the Contractor until the expiration of two years after the date that a Final Certificate of Completion referred to in GC44.1 was issued or until the expiration of such other period of time as the



Minister may direct.

- 51.3 The Contractor shall cause all subcontractors 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 GC51.1 and GC51.2 as if they were the Contractor.

**GC52 Conflict of Interest**

- 52.1 It is a term of this contract that no former public office holder who is not in compliance with the Conflict of Interest and Post-Employment Code for Public Office Holders shall derive a direct benefit from this contract.

**GC53 Contractor Status**

- 53.1 The Contractor shall be engaged under the contract as an independent contractor.
- 53.2 The Contractor and any employee of the said Contractor is not engaged by the contract as an employee, servant or agent of Her Majesty.
- 53.3 For the purposes of GC53.1 and GC53.2 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, Unemployment Insurance, Worker's Compensation or Income Tax.



## **GENERAL CONDITONS**

- IC 1 Proof of Insurance**
- IC 2 Risk Management**
- IC 3 Payment of Deductible**
- IC 4 Insurance Coverage**

## **GENERAL INSUANCE COVERAGES**

- GCI 1 Insured**
- GIC 2 Period of Insurance**
- GIC 3 Proof of Insurance**
- GIC 4 Notification**

## **COMMERCIAL GENERAL LIABILITY**

- CGL 1 Scope of Policy**
- CGL 2 Coverages/Provisions**
- CGL 3 Additional Exposures**
- CGL 4 Insurance Proceeds**
- CGL 5 Deductible**

## **BUILDER'S RISK – INSTALLATION FLOATER – ALL RISKS**

- BR 1 Scope of Policy**
- BR 2 Property Insured**
- BR 3 Insurance Proceeds**
- BR 4 Amount of Insurance**
- BR 5 Deductible**
- BR 6 Subrogation**
- BR 7 Exclusion Qualifications**

## **INSURER'S CERTIFICATE OF INSURANCE**



## **General Conditions**

### **IC 1 Proof of Insurance (02/12/03)**

Within thirty (30) days after acceptance of the Contractor's tender, the Contractor shall, unless otherwise directed in writing by the Contracting Officer, deposit with the Contracting Officer an Insurer's Certificate of Insurance in the form displayed in this document and, if requested by the Contracting Officer, the originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the Insurance Coverage Requirements shown hereunder.

### **IC 2 Risk Management (01/10/94)**

The provisions of the Insurance Coverage Requirements contained hereunder are not intended to cover all of the Contractor's obligations under GC8 of the General Conditions "C" of the contract. Any additional risk management measures or additional insurance coverages the Contractor may deem necessary to fulfill its obligations under GC8 shall be at its own discretion and expense.

### **IC 3 Payment of Deductible (01/10/94)**

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

### **IC 4 Insurance Coverage (02/12/03)**

The Contractor has represented that it has in place and effect the appropriate and usual liability insurance coverage as required by these Insurance Conditions and the Contractor has warranted that it shall obtain, in a timely manner and prior to commencement of the Work, the appropriate and usual property insurance coverage as required by these Insurance Conditions and, further, that it shall maintain all required insurance policies in place and effect as required by these Insurance Conditions.



## INSURANCE COVERAGE REQUIREMENTS

### PART I GENERAL INSURANCE COVERAGES (GIC)

#### **GCI 1 Insured (02/12/03)**

Each insurance policy shall insure the Contractor, and shall include, as an Additional Named Insured, Her Majesty the Queen in right of Canada, represented by the National Research Council Canada.

#### **GIC 2 Period of Insurance (02/12/03)**

Unless otherwise directed in writing by the Contracting Officer or otherwise stipulated elsewhere in these Insurance Conditions, the policies required hereunder shall be in force and be maintained from the date of the contract award until the day of issue of the Departmental Representative's Final Certificate of Completion.

#### **GIC 3 Proof of Insurance (01/10/94)**

Within twenty five (25) days after acceptance of the Contractor's tender, the Insurer shall, unless otherwise directed by the Contractor, deposit with the Contractor an Insurer's Certificate of Insurance in the form displayed in the document and, if requested, the originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the requirements of these Insurance Coverages.

#### **GIC 4 Notification (01/10/94)**

Each Insurance policy shall contain a provision that (30) days prior written notice shall be given by the Insurer to Her Majesty in the event of any material change in or cancellation of coverage. Any such notice received by the Contractor shall be transmitted forthwith to Her Majesty.

### PART II COMMERCIAL GENERAL LIABILITY

#### **CGL 1 Scope of Policy (01/10/94)**

The policy shall be written on a form similar to that known and referred to in the insurance industry as IBC 2100 – Commercial General Liability policy (Occurrence form) and shall provide for limit of liability of not less than \$2,000,000 inclusive for Bodily Injury and Property Damage for any one occurrence or series of occurrences arising out of one cause. Legal or defence cost incurred in respect of a claim or claims shall not operate to decrease the limit of liability.

#### **CGL 2 Coverages/Provisions (01/10/94)**



The policy shall include but not necessarily be limited to the following coverages/provisions.

- 2.1 Liability arising out of or resulting from the ownership, existence, maintenance or use of premises by the Contractor and operations necessary or incidental to the performance of this contract.
- 2.2 "Broad Form" Property Damage including the loss of use of property.
- 2.3 Removal or weakening of support of any building or land whether such support be natural or otherwise.
- 2.4 Elevator liability (including escalators, hoists and similar devices).
- 2.5 Contractor's Protective Liability
- 2.6 Contractual and Assumed Liabilities un this contact.
- 2.7 Completed Operations Liability – The insurance, including all aspects of this Part II of these Insurance Conditions shall continue for a period of at least one (1) year beyond the date of the Departmental Representative's Final Certificate of Completion for the Completed Operations.
- 2.8 Cross Liability – The Clause shall be written as follows:

Cross Liability – The insurance as is afforded by this policy shall apply in respect to any claim or action brought against any one Insured by any other Insured. The coverage shall apply in the same manner and to the same extent as though a separate policy had been issued to each Insured. The inclusion herein of more than one Insured shall not increase the limit of the Insurer's liability.

- 2.9 Severability of Interests – The Clause shall be written as follows:

Severability of Interests – This policy, subject to the limits of liability stated herein, shall apply separately to each Insured in the same manner and to the same extent as if a separate policy had been issued to each. The inclusion herein of more than one insured shall not increase the limit of the Insurer's liability.

### **CGL 3 Additional Exposures (02/12/03)**

The policy shall either include or be endorsed to include the following exposures of hazards if the Work is subject thereto:

- 3.1 Blasting
- 3.2 Pile driving and calsson work
- 3.3 Underpinning
- 3.4 Risks associated with the activities of the Contractor on an active airport



- 3.5 Radioactive contamination resulting from the use of commercial isotopes
- 3.6 Damage to the portion of an existing building beyond that directly associated with an addition, renovation or installation contract.
- 3.7 Marine risks associated with the contraction of piers, wharves and docks.

**CGL 4 Insurance Proceeds  
(01/10/94)**

Insurance Proceeds from this policy are usually payable directly to a Claimant/Third Party.

**CGL 5 Deductible  
(02/12/03)**

This policy shall be issued with a deductible amount of not more than \$10,000 per occurrence applying to Property Damage claims only.

**PART III  
BUILDER'S RISK - INSTALLATION FLOATER - ALL RISKS**

**BR 1 Scope of Policy  
(01/10/94)**

The policy shall be written on an "All Risks" basis granting coverages similar to those provided by the forms known and referred to in the insurance industry as "Builder's Risk Comprehensive Form" or "Installation Floater - All Risks".

**BR 2 Property Insured  
(01/10/94)**

The property insured shall include:

- 2.1 The Work and all property, equipment and materials intended to become part of the finished Work at the site of the project while awaiting, during and after installation, erection or construction including testing.
- 2.2 Expenses incurred in the removal from the construction site of debris of the property insured, including demolition of damaged property, de-icing and dewatering, occasioned by loss, destruction or damage to such property and in respect of which insurance is provided by this policy.

**BR 3 Insurance Proceeds  
(01/10/94)**

- 3.1 Insurance proceeds from this policy are payable in accordance with GC28 of the General Conditions "C" of the contract.
- 3.2 This policy shall provide that the proceeds thereof are payable to Her Majesty or as the Minister may direct.



- 3.3 The Contractor shall do such things and execute such documents as are necessary to effect payment of the proceeds.

**BR 4 Amount of Insurance**  
(01/10/94)

The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by Her Majesty at the site of the project to be incorporated into and form part of the finished Work.

**BR 5 Deductible**  
(02/12/03)

The Policy shall be issued with a deductible amount of not more than \$10,000.

**BR 6 Subrogation**  
(01/10/94)

The following Clause shall be included in the policy:

"All rights of subrogation or transfer of rights are hereby waived against any corporation, firm, individual or other interest, with respect to which, insurance is provided by this policy".

**BR 7 Exclusion Qualifications**  
(01/10/94)

The policy may be subject to the standard exclusions but the following qualifications shall apply:

- 7.1 Faulty materials, workmanship or design may be excluded only to the extent of the cost of making good thereof and shall not apply to loss or damage resulting therefrom.
- 7.2 Loss or damage caused by contamination by radioactive material may be excluded except for loss or damage resulting from commercial isotopes used for industrial measurements, inspection, quality control radiographic or photographic use.
- 7.3 Use and occupancy of the project or any part of section thereof shall be permitted where such use and occupancy is for the purpose for which the project is intended upon completion.





**INSURER'S CERTIFICATE OF INSURANCE**

(TO BE COMPLETED BY INSURER (NOT BOKER) AND DELIVERD TO NATIONAL RESEARCH COUNCIL CANADA WITH 30 DAYS FOLLOWING ACCEPTANCE OF TENDER)

**CONTRACT**

DESCRIPTION OF WORK	CONTRACT NUMBER	AWARD DATE
LOCATION		

**INSURER**

NAME
ADDRESS

**BROKER**

NAME
ADDRESS

**INSURED**

NAME OF CONTRACTOR
ADDRESS

**ADDITIONAL INSURED**

HER MAJESTY THE QUEEN IN RIGHT OF CANADA AS REPRESENTED BY THE NATIONAL RESEARCH COUNCIL CANADA
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THIS DOCUENT CERTIFIES THAT THE FOLLOWING POLICES OF INSURANCE ARE AT PRESENT IN FORCE COVERING ALL OPERATIONS OF THE INSURE IN CONNECTION WITH THE CONTRACT MADE BETWEEN THE NAMED INSURED AND THE NATIONAL RESEARCH COUNCIL CANADA AND IN ACCORDANCE WITH THE INSURANCE CONDITIONS "E"

POLICY					
TYPE	NUMBER	INCEPTION DATE	EXPIRY DATE	LIMITS OF LIABILITY	DEDUCTIBLE
COMMERCIAL GENERAL LIABILITY					
BUILDERS RISK "AL RISKS"					
INSTALLATION FLOATER "ALL RISKS"					

THE INSURER AGREES TO NOTIFY THE NATIONAL RESEARCH COUNCIL CANADA IN WRITING 30 DAYS PRIOR TO ANY MATERIAL CHANGE IN OR CANCELLATION OF ANY POLICY OR COVERAGE SPECIFICALLY RELATED TO THE CONTRACT

NAME OF INSURER'S OFFICER OR AUTHORIZED EMPLOYEE	SIGNATURE	DATE:
		TELEPHONE NUMBER:

ISSUANCE OF THIS CERTIFIATE SHALL NOT LIMIT OR RESTRICT THE RIGHT OF THE NATIONAL RESEARCH COUNCIL CANADA TO REQUEST AT ANY TIME DUPLICATE COPIES OF SAID INSURANCE POLICIES



**CS1 Obligation to provide Contract Security**

- 1.1 The Contractor shall, at the Contractor's own expense, provide one or more of the forms of contract security prescribed in CS2.
- 1.2 The Contractor shall deliver to the Departmental Representative the contract security referred to in CS1.1 within 14 days after the date that the Contractor receives notice that the Contractor's tender or offer was accepted by Her Majesty.

**CS2 Prescribed Types and Amounts of Contract Security**

- 2.1 The Contractor shall deliver to the Departmental Representative pursuant to CS1
  - 2.1.1 a performance bond and a labour and material payment bond each in an amount that is equal to not less than 50% of the contract amount referred to in the Articles of Agreement, or
  - 2.1.2 a labour and material payment bond in an amount that is equal to not less than 50% of the contract amount referred to in the Articles of Agreement, and a security deposit in an amount that is equal to
    - 2.1.2.1 not less than 10% of the contract amount referred to in the Articles of Agreement where that amount does not exceed \$250,000, or
    - 2.1.2.2 \$25,000 plus 5% of the part of the contract amount referred to in the Articles of Agreement that exceeds \$250,000, or
  - 2.1.3 a security deposit in an amount prescribed by CS2.12 plus an additional amount that is equal to 10% of the contract amount referred to in the Articles of Agreement.
- 2.2 A performance bond and a labour and material payment bond referred to in CS2.1 shall be in a form and be issued by a bonding or surety company that is approved by Her Majesty.
- 2.3 The amount of a security deposit referred to in CS2.1.2 shall not exceed \$250,000 regardless of the contract amount referred to in the Articles of Agreement.
- 2.4 A security deposit referred to in CS2.1.2 and CS2.1.3 shall be in the form of
  - 2.4.1 a bill of exchange made payable to the Receiver General of Canada and certified by an approved financial institution or drawn by an approved financial institution on itself, or
  - 2.4.2 bonds of or unconditionally guaranteed as to principal and interest by the Government of Canada.
- 2.5 For the purposes of CS2.4
  - 2.5.1 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, and

- 2.5.2 If a bill of exchange is certified by a financial institution other than a chartered bank then it must be accompanied by a letter or stamped certification confirming that the financial institution is in at least one of the categories referred to in CS2.5.3
- 2.5.3 an approved financial institution is
  - 2.5.3.1 any corporation or institution that is a member of the Canadian Payments Association,
  - 2.5.3.2 a corporation that accepts deposits that are insured by the Canada Deposit Insurance Corporation or the Régie de l'assurance-dépôts du Québec to the maximum permitted by law,
  - 2.5.3.3 a credit union as defined in paragraph 137(6)(b) of the *Income Tax Act*,
  - 2.5.3.4 a corporation that accepts deposits from the public, if repayment of the deposit is guaranteed by Her Majesty in right of a province, or
  - 2.5.3.5 The Canada Post Corporation.
- 2.5.4 the bonds referred to in CS2.4.2 shall be
  - 2.5.4.1 made payable to bearer, or
  - 2.5.4.2 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
  - 2.5.4.3 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, and
  - 2.5.4.4 provided on the basis of their market value current at the date of the contract.



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

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

4. Brief Description of Work / Brève description du travail

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 <input type="checkbox"/>	NATO / OTAN <input type="checkbox"/>	Foreign / Étranger <input type="checkbox"/>
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7. b) Release restrictions / Restrictions relatives à la diffusion

No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>	All NATO countries Tous les pays de l'OTAN <input type="checkbox"/>	No release restrictions Aucune restriction relative à la diffusion <input type="checkbox"/>
Not releasable À ne pas diffuser <input type="checkbox"/>		
Restricted to: / Limité à : <input type="checkbox"/> Specify country(ies): / Préciser le(s) pays :	Restricted to: / Limité à : <input type="checkbox"/> Specify country(ies): / Préciser le(s) pays :	Restricted to: / Limité à : <input type="checkbox"/> Specify country(ies): / Préciser le(s) pays :

7. c) Level of information / Niveau d'information

PROTECTED A PROTÉGÉ A <input type="checkbox"/>	NATO UNCLASSIFIED NATO NON CLASSIFIÉ <input type="checkbox"/>	PROTECTED A PROTÉGÉ A <input type="checkbox"/>
PROTECTED B PROTÉGÉ B <input type="checkbox"/>	NATO RESTRICTED NATO DIFFUSION RESTREINTE <input type="checkbox"/>	PROTECTED B PROTÉGÉ B <input type="checkbox"/>
PROTECTED C PROTÉGÉ C <input type="checkbox"/>	NATO CONFIDENTIAL NATO CONFIDENTIEL <input type="checkbox"/>	PROTECTED C PROTÉGÉ C <input type="checkbox"/>
CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>	NATO SECRET NATO SECRET <input type="checkbox"/>	CONFIDENTIAL CONFIDENTIEL <input type="checkbox"/>
SECRET SECRET <input type="checkbox"/>	COSMIC TOP SECRET COSMIC TRÈS SECRET <input type="checkbox"/>	SECRET SECRET <input type="checkbox"/>
TOP SECRET TRÈS SECRET <input type="checkbox"/>		TOP SECRET TRÈS SECRET <input type="checkbox"/>
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>		TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) <input type="checkbox"/>

Security Classification / Classification de sécurité
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Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

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

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?  No  Yes  
 Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?  Non  Oui  
 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  Yes  
 Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?  Non  Oui  
  
 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

<input type="checkbox"/> RELIABILITY STATUS COTE DE FIABILITÉ	<input type="checkbox"/> CONFIDENTIAL CONFIDENTIEL	<input type="checkbox"/> SECRET SECRET	<input type="checkbox"/> TOP SECRET TRÈS SECRET
<input type="checkbox"/> TOP SECRET-SIGINT TRÈS SECRET - SIGINT	<input type="checkbox"/> NATO CONFIDENTIAL NATO CONFIDENTIEL	<input type="checkbox"/> NATO SECRET NATO SECRET	<input type="checkbox"/> COSMIC TOP SECRET COSMIC TRÈS SECRET
<input type="checkbox"/> SITE ACCESS ACCÈS AUX EMBLEMES			

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  Yes  
 Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?  Non  Oui  
 If Yes, will unscreened personnel be escorted?  
 Dans l'affirmative, le personnel en question sera-t-il escorté?  No  Yes  
 Non  Oui

**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  Yes  
 Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?  Non  Oui

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

**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  Yes  
 Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?  Non  Oui

**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  Yes  
 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?  Non  Oui

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



**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			CONFIDENTIAL CONFIDENTIEL	SECRET	TOP SECRET TRÈS SECRET
											A	B	C			
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, classifiez 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, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquez qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).**



Contract Number / Numéro du contrat
Security Classification / Classification de sécurité

**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?			<input type="checkbox"/> No / Non <input type="checkbox"/> Yes / Oui
16. Procurement Officer / Agent d'approvisionnement			
Name (print) - Nom (en lettres moulées) Collin Long		Title - Titre Senior Contracting Officer	Signature
Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel Collin.Long@nrc-cnrc.gc.ca	Date
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

## Instructions for completion of a Security Requirements Check List (SRCL)

The instruction sheet should remain attached until Block #17 has been completed.

### GENERAL - PROCESSING THIS FORM

The project authority shall arrange to complete this form.

The organization security officer shall review and approve the security requirements identified in the form, in cooperation with the project authority.

The contracting security authority is the organization responsible for ensuring that the suppliers are compliant with the security requirements identified in the SRCL.

**All requisitions and subsequent tender / contractual documents including subcontracts that contain PROTECTED and/or CLASSIFIED requirements must be accompanied by a completed SRCL.**

It is important to identify the level of PROTECTED information or assets as Level "A," "B" or "C," when applicable; however, certain types of information may only be identified as "PROTECTED". No information pertaining to a PROTECTED and/or CLASSIFIED government contract may be released by suppliers, without prior written approval of the individual identified in Block 17 of this form.

The classification assigned to a particular stage in the contractual process does not mean that everything applicable to that stage is to be given the same classification. Every item shall be PROTECTED and/or CLASSIFIED according to its own content. If a supplier is in doubt as to the actual level to be assigned, they should consult with the individual identified in Block 17 of this form.

### PART A - CONTRACT INFORMATION

#### Contract Number (top of the form)

This number must be the same as that found on the requisition and should be the one used when issuing an RFP or contract. This is a unique number (i.e. no two requirements will have the same number). A new SRCL must be used for each new requirement or requisition (e.g. new contract number, new SRCL, new signatures).

**1. Originating Government Department or Organization**

Enter the department or client organization name or the prime contractor name for which the work is being performed.

**2. Directorate / Branch**

This block is used to further identify the area within the department or organization for which the work will be conducted.

**3. a) Subcontract Number**

If applicable, this number corresponds to the number generated by the Prime Contractor to manage the work with its subcontractor.

**b) Name and Address of Subcontractor**

Indicate the full name and address of the Subcontractor if applicable.

**4. Brief Description of Work**

Provide a brief explanation of the nature of the requirement or work to be performed.

**5. a) Will the supplier require access to Controlled Goods?**

*The Defence Production Act (DPA) defines "Controlled Goods" as certain goods listed in the Export Control List, a regulation made pursuant to the *Export and Import Permits Act* (EIPA). Suppliers who examine, possess, or transfer Controlled Goods within Canada must register in the Controlled Goods Directorate or be exempt from registration. More information may be found at [www.cgd.gc.ca](http://www.cgd.gc.ca).*

**b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations?**

The prime contractor and any subcontractors must be certified under the U.S./Canada Joint Certification Program if the work involves access to unclassified military data subject to the provisions of the Technical Data Control Regulations. More information may be found at [www.dlis.dla.mil/jcp](http://www.dlis.dla.mil/jcp).

**6. Indicate the type of access required**

Identify the nature of the work to be performed for this requirement. The user is to select one of the following types:

**a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets?**

The supplier would select this option if they require access to PROTECTED and/or CLASSIFIED information or assets to perform the duties of the requirement.

**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.**



The supplier would select this option if they require regular access to government premises or a secure work site only. The supplier will not have access to PROTECTED and/or CLASSIFIED information or assets under this option.

**c) Is this a commercial courier or delivery requirement with no overnight storage?**

The supplier would select this option if there is a commercial courier or delivery requirement. The supplier will not be allowed to keep a package overnight. The package must be returned if it cannot be delivered.

**7. Type of information / Release restrictions / Level of information**

Identify the type(s) of information that the supplier may require access to, list any possible release restrictions, and if applicable, provide the level(s) of the information. The user can make multiple selections based on the nature of the work to be performed.

Departments must process SRCLs through PWGSC where:

- contracts that afford access to PROTECTED and/or CLASSIFIED foreign government information and assets;
- contracts that afford foreign contractors access to PROTECTED and/or CLASSIFIED Canadian government information and assets; or
- contracts that afford foreign or Canadian contractors access to PROTECTED and/or CLASSIFIED information and assets as defined in the documents entitled Identifying INFOSEC and INFOSEC Release.

**a) Indicate the type of information that the supplier will be required to access**

**Canadian government information and/or assets**

If Canadian information and/or assets are identified, the supplier will have access to PROTECTED and/or CLASSIFIED information and/or assets that are owned by the Canadian government.

**NATO information and/or assets**

If NATO information and/or assets are identified, this indicates that as part of this requirement, the supplier will have access to PROTECTED and/or CLASSIFIED information and/or assets that are owned by NATO governments. NATO information and/or assets are developed and/or owned by NATO countries and are not to be divulged to any country that is not a NATO member nation. Persons dealing with NATO information and/or assets must hold a NATO security clearance and have the required need-to-know.

Requirements involving CLASSIFIED NATO information must be awarded by PWGSC. PWGSC / CIISD is the Designated Security Authority for industrial security matters in Canada.

**Foreign government information and/or assets**

If foreign information and/or assets are identified, this requirement will allow access to information and/or assets owned by a country other than Canada.

**b) Release restrictions**

If **Not Releasable** is selected, this indicates that the information and/or assets are for **Canadian Eyes Only (CEO)**. Only Canadian suppliers based in Canada can bid on this type of requirement. NOTE: If Canadian information and/or assets coexists with CEO information and/or assets, the CEO information and/or assets must be stamped **Canadian Eyes Only (CEO)**.

If **No Release Restrictions** is selected, this indicates that access to the information and/or assets are not subject to any restrictions.

If **ALL NATO countries** is selected, bidders for this requirement must be from NATO member countries only.

**NOTE: There may be multiple release restrictions associated with a requirement depending on the nature of the work to be performed. In these instances, a security guide should be added to the SRCL clarifying these restrictions. The security guide is normally generated by the organization's project authority and/or security authority.**

**c) Level of information**

Using the following chart, indicate the appropriate level of access to information/assets the supplier must have to perform the duties of the requirement.

PROTECTED	CLASSIFIED	NATO
PROTECTED A	CONFIDENTIAL	NATO UNCLASSIFIED
PROTECTED B	SECRET	NATO RESTRICTED
PROTECTED C	TOP SECRET	NATO CONFIDENTIAL
	TOP SECRET (SIGINT)	NATO SECRET
		COSMIC TOP SECRET

**8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?**

If Yes, the supplier personnel requiring access to COMSEC information or assets must receive a COMSEC briefing. The briefing will be given to the "holder" of the COMSEC information or assets. In the case of a "personnel assigned" type of contract, the customer department will give the briefing. When the supplier is required to receive and store COMSEC information or assets on the supplier's premises, the supplier's COMSEC Custodian will give the COMSEC briefings to the employees requiring access to COMSEC information or assets. If Yes, the Level of sensitivity must be indicated.

**9. Will the supplier require access to extremely sensitive INFOSEC information or assets?**

If Yes, the supplier must provide the Short Title of the material and the Document Number. Access to extremely sensitive INFOSEC information or assets will require that the supplier undergo a Foreign Ownership Control or Influence (FOCI) evaluation by CIISD.

**PART B - PERSONNEL (SUPPLIER)**

**10. a) Personnel security screening level required**

Identify the screening level required for access to the information/assets or client facility. More than one level may be identified depending on the nature of the work. Please note that Site Access screenings are granted for access to specific sites under prior arrangement with the Treasury Board of Canada Secretariat. A Site Access screening only applies to individuals, and it is not linked to any other screening level that may be granted to individuals or organizations.

RELIABILITY STATUS	CONFIDENTIAL	SECRET
TOP SECRET	TOP SECRET (SIGINT)	NATO CONFIDENTIAL
NATO SECRET	COSMIC TOP SECRET	SITE ACCESS

If multiple levels of screening are identified, a Security Classification Guide must be provided.

**b) May unscreened personnel be used for portions of the work?**

Indicating Yes means that portions of the work are not PROTECTED and/or CLASSIFIED and may be performed outside a secure environment by unscreened personnel. The following question must be answered if unscreened personnel will be used:

**Will unscreened personnel be escorted?**

If No, unscreened personnel may not be allowed access to sensitive work sites and must not have access to PROTECTED and/or CLASSIFIED information and/or assets.

If Yes, unscreened personnel must be escorted by an individual who is cleared to the required level of security in order to ensure there will be no access to PROTECTED and/or CLASSIFIED information and/or assets at the work site.

**PART C - SAFEGUARDS (SUPPLIER)**

**11. INFORMATION / ASSETS**

**a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information and/or assets on its site or premises?**

If Yes, specify the security level of the documents and/or equipment that the supplier will be required to safeguard at their own site or premises using the summary chart.

**b) Will the supplier be required to safeguard COMSEC information or assets?**

If Yes, specify the security level of COMSEC information or assets that the supplier will be required to safeguard at their own site or premises using the summary chart.

**PRODUCTION**

**c) Will the production (manufacture, repair and/or modification) of PROTECTED and/or CLASSIFIED material and/or equipment occur at the supplier's site or premises?**

Using the summary chart, specify the security level of material and/or equipment that the supplier manufactured, repaired and/or modified and will be required to safeguard at their own site or premises.

**INFORMATION TECHNOLOGY (IT)**

**d) Will the supplier be required to use its IT systems to electronically process and/or produce or store PROTECTED and/or CLASSIFIED information and/or data?**

If Yes, specify the security level in the summary chart. This block details the information and/or data that will be electronically processed or produced and stored on a computer system. The client department and/or organization will be required to specify the IT security requirements for this procurement in a separate technical document. The supplier must also direct their attention to the following document: Treasury Board of Canada Secretariat - Operational Security Standard: Management of Information Technology Security (MITS).

**e) Will there be an electronic link between the supplier’s IT systems and the government department or agency?**

If Yes, the supplier must have their IT system(s) approved. The Client Department must also provide the Connectivity Criteria detailing the conditions and the level of access for the electronic link (usually not higher than PROTECTED B level).

**SUMMARY CHART**

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.

For users completing the form **online** (via the Internet), the Summary Chart is automatically populated by your responses to previous questions.

PROTECTED	CLASSIFIED	NATO	COMSEC
PROTECTED A	CONFIDENTIAL	NATO RESTRICTED	PROTECTED A
PROTECTED B	SECRET	NATO CONFIDENTIAL	PROTECTED B
PROTECTED C	TOP SECRET	NATO SECRET	PROTECTED C
	TOP SECRET (SIGINT)	COSMIC TOP SECRET	CONFIDENTIAL
			SECRET
			TOP SECRET

**12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?**

If Yes, classify this form by annotating the top and bottom in the area entitled “Security Classification”.

**b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?**

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).

**PART D - AUTHORIZATION**

**13. Organization Project Authority**

This block is to be completed and signed by the appropriate project authority within the client department or organization (e.g. the person responsible for this project or the person who has knowledge of the requirement at the client department or organization). This person may on occasion be contacted to clarify information on the form.

**14. Organization Security Authority**

This block is to be signed by the Departmental Security Officer (DSO) (or delegate) of the department identified in Block 1, or the security official of the prime contractor.

**15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?**

A Security Guide or Security Classification Guide is used in conjunction with the SRCL to identify additional security requirements which do not appear in the SRCL, and/or to offer clarification to specific areas of the SRCL.

**16. Procurement Officer**

This block is to be signed by the procurement officer acting as the contract or subcontract manager.

**17. Contracting Security Authority**

This block is to be signed by the Contract Security Official. Where PWGSC is the Contract Security Authority, Canadian and International Industrial Security Directorate (CIISD) will complete this block.

## Instructions pour établir la Liste de vérification des exigences relatives à la sécurité (LVERS)

La feuille d'instructions devrait rester jointe au formulaire jusqu'à ce que la case 17 ait été remplie.

### GÉNÉRALITÉS - TRAITEMENT DU PRÉSENT FORMULAIRE

Le responsable du projet doit faire remplir ce formulaire.

L'agent de sécurité de l'organisation doit revoir et approuver les exigences de sécurité qui figurent dans le formulaire, en collaboration avec le responsable du projet.

Le responsable de la sécurité des marchés est le responsable chargé de voir à ce que les fournisseurs se conforment aux exigences de sécurité mentionnées dans la LVERS.

**Toutes les demandes d'achat ainsi que tous les appels d'offres et les documents contractuels subséquents, y compris les contrats de sous-traitance, qui comprennent des exigences relatives à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS doivent être accompagnés d'une LVERS dûment remplie.**

Il importe d'indiquer si les renseignements ou les biens PROTÉGÉS sont de niveau A, B ou C, le cas échéant; cependant, certains types de renseignements peuvent être indiqués par la mention « PROTÉGÉ » seulement. Aucun renseignement relatif à un contrat gouvernemental PROTÉGÉ ou CLASSIFIÉ ne peut être divulgué par les fournisseurs sans l'approbation écrite préalable de la personne dont le nom figure à la case 17 de ce formulaire.

La classification assignée à un stade particulier du processus contractuel ne signifie pas que tout ce qui se rapporte à ce stade doit recevoir la même classification. Chaque article doit être PROTÉGÉ et/ou CLASSIFIÉ selon sa propre nature. Si un fournisseur ne sait pas quel niveau de classification assigner, il doit consulter la personne dont le nom figure à la case 17 de ce formulaire.

### PARTIE A - INFORMATION CONTRACTUELLE

#### Numéro du contrat (au haut du formulaire)

Ce numéro doit être le même que celui utilisé sur la demande d'achat et services et devrait être celui utilisé dans la DDP ou dans le contrat. Il s'agit d'un numéro unique (c.-à-d. que le même numéro ne sera pas attribué à deux besoins distincts). Une nouvelle LVERS doit être utilisée pour chaque nouveau besoin ou demande (p. ex. un nouveau numéro de contrat, une nouvelle LVERS, de nouvelles signatures).

#### 1. Ministère ou organisme gouvernemental d'origine

Inscrire le nom du ministère ou de l'organisme client ou le nom de l'entrepreneur principal pour qui les travaux sont effectués.

#### 2. Direction générale ou Direction

Cette case peut servir à fournir plus de détails quant à la section du ministère ou de l'organisme pour qui les travaux sont effectués.

#### 3. a) Numéro du contrat de sous-traitance

S'il y a lieu, ce numéro correspond au numéro généré par l'entrepreneur principal pour gérer le travail avec son sous-traitant.

#### b) Nom et adresse du sous-traitant

Indiquer le nom et l'adresse au complet du sous-traitant, s'il y a lieu.

#### 4. Brève description du travail

Donner un bref aperçu du besoin ou du travail à exécuter.

#### 5. a) Le fournisseur aura-t-il accès à des marchandises contrôlées?

La *Loi sur la production de défense* (LPD) définit « marchandises contrôlées » comme désignant certains biens énumérés dans la Liste des marchandises d'exportation contrôlée, un règlement établi en vertu de la *Loi sur les licences d'exportation et d'importation* (LLEI). Les fournisseurs qui examinent, possèdent ou transfèrent des marchandises contrôlées à l'intérieur du Canada doivent s'inscrire à la Direction des marchandises contrôlées ou être exemptés de l'inscription. On trouvera plus d'information à l'adresse [www.cgp.gc.ca](http://www.cgp.gc.ca).

#### b) 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?

L'entrepreneur et tout sous-traitant doivent être accrédités en vertu du Programme mixte d'agrément Etats-Unis / Canada si le travail comporte l'accès à des données militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques. On trouvera plus d'information à l'adresse [www.dlis.dla.mil/jcp/](http://www.dlis.dla.mil/jcp/).

## 6. Indiquer le type d'accès requis

Indiquer la nature du travail à exécuter pour répondre à ce besoin. L'utilisateur doit choisir un des types suivants :

### a) Le fournisseur et ses employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS?

Le fournisseur choisit cette option s'il doit avoir accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS pour accomplir le travail requis.

### b) 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.

Le fournisseur choisit cette option seulement s'il doit avoir accès régulièrement aux locaux du gouvernement ou à un lieu de travail protégé. Le fournisseur n'aura pas accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS en vertu de cette option.

### c) S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?

Le fournisseur choisit cette option s'il y a nécessité de recourir à un service de messagerie ou de livraison commerciale. Le fournisseur ne sera pas autorisé à garder un colis pendant la nuit. Le colis doit être retourné s'il ne peut pas être livré.

## 7. Type d'information / Restrictions relatives à la diffusion / Niveau d'information

Indiquer le ou les types d'information auxquels le fournisseur peut devoir avoir accès, énumérer toutes les restrictions possibles relatives à la diffusion, et, s'il y a lieu, indiquer le ou les niveaux d'information. L'utilisateur peut faire plusieurs choix selon la nature du travail à exécuter.

Les ministères doivent soumettre la LVERS à TPSGC lorsque:

- les marchés prévoient l'accès aux renseignements et aux biens de nature PROTÉGÉS et/ou CLASSIFIÉS étrangers ;
- les marchés prévoient aux entrepreneurs étrangers l'accès aux renseignements et aux biens de nature PROTÉGÉS et/ou CLASSIFIÉS canadiens; ou
- les marchés prévoient aux entrepreneurs étrangers ou canadiens l'accès aux renseignements et aux biens de nature PROTÉGÉS et/ou CLASSIFIÉS tels que définis dans les documents intitulés Moyens INFOSEC détermination et Divulgateion de INFOSEC.

### a) Indiquer le type d'information auquel le fournisseur devra avoir accès

#### Renseignements et/ou biens du gouvernement canadien

Si des renseignements et/ou des biens canadiens sont indiqués, le fournisseur aura accès à des renseignements et/ou à des biens PROTÉGÉS et/ou CLASSIFIÉS appartenant au gouvernement canadien.

#### Renseignements et/ou biens de l'OTAN

Si des renseignements et/ou des biens de l'OTAN sont indiqués, cela signifie que, dans le cadre de ce besoin, le fournisseur aura accès à des renseignements et/ou à des biens PROTÉGÉS et/ou CLASSIFIÉS appartenant à des gouvernements membres de l'OTAN. Les renseignements et/ou les biens de l'OTAN sont élaborés par des pays de l'OTAN ou leur appartiennent et ne doivent être divulgués à aucun pays qui n'est pas un pays membre de l'OTAN. Les personnes qui manient des renseignements et/ou des biens de l'OTAN doivent détenir une autorisation de sécurité de l'OTAN et avoir besoin de savoir.

Les contrats comportant des renseignements CLASSIFIÉS de l'OTAN doivent être attribués par TPSGC. La DSICI de TPSGC est le responsable de la sécurité désigné relativement aux questions de sécurité industrielle au Canada.

#### Renseignements et/ou biens de gouvernements étrangers

Si des renseignements et/ou des biens de gouvernements étrangers sont indiqués, ce besoin permettra l'accès à des renseignements et/ou à des biens appartenant à un pays autre que le Canada.

### b) Restrictions relatives à la diffusion

Si **À ne pas diffuser** est choisi, cela indique que les renseignements et/ou les biens sont **réservés aux Canadiens**. Seuls des fournisseurs canadiens installés au Canada peuvent soumissionner ce genre de besoin. NOTA : Si des renseignements et/ou des biens du gouvernement canadien coexistent avec des renseignements et/ou des biens réservés aux Canadiens, ceux-ci doivent porter la mention **Réservé aux Canadiens**.

Si **Aucune restriction relative à la diffusion** est choisi, cela indique que l'accès aux renseignements et/ou aux biens n'est assujéti à aucune restriction.

Si **Tous les pays de l'OTAN** est choisi, les soumissionnaires doivent appartenir à un pays membre de l'OTAN.

**NOTA : Il peut y avoir plus d'une restriction s'appliquant à une demande, selon la nature des travaux à exécuter. Pour ce genre de contrat, un guide de sécurité doit être joint à la LVERS afin de clarifier les restrictions. Ce guide est généralement préparé par le chargé de projet et/ou le responsable de la sécurité de l'organisme.**

**c) Niveau d'information**

À l'aide du tableau ci-dessous, indiquer le niveau approprié d'accès aux renseignements et/ou aux biens que le fournisseur doit avoir pour accomplir les travaux requis.

<b>PROTÉGÉ</b>	<b>CLASSIFIÉ</b>	<b>NATO</b>
PROTÉGÉ A	CONFIDENTIEL	NATO NON CLASSIFIÉ
PROTÉGÉ B	SECRET	NATO DIFFUSION RESTREINTE
PROTÉGÉ C	TRÈS SECRET	NATO CONFIDENTIEL
	TRÈS SECRET (SIGINT)	NATO SECRET
		COSMIC TRÈS SECRET

**8. Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?**

Si la réponse est Oui, les membres du personnel du fournisseur qui doivent avoir accès à des renseignements ou à des biens COMSEC doivent participer à une séance d'information COMSEC. Cette séance sera donnée au « détenteur autorisé » des renseignements ou des biens COMSEC. Dans le cas des contrats du type « personnel affecté », cette séance sera donnée par le ministère client. Lorsque le fournisseur doit recevoir et conserver, dans ses locaux, des renseignements ou des biens COMSEC, le responsable de la garde des renseignements ou des biens COMSEC de l'entreprise donnera la séance d'information COMSEC aux membres du personnel qui doivent avoir accès à des renseignements ou à des biens COMSEC.

**9. Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?**

Si la réponse est Oui, le fournisseur doit indiquer le titre abrégé du document, le numéro du document et le niveau de sensibilité. L'accès à des renseignements ou à des biens extrêmement délicats INFOSEC exigera que le fournisseur fasse l'objet d'une vérification Participation, contrôle et influence étrangers (PCIE) effectuée par la DSICI.

**PARTIE B - PERSONNEL (FOURNISSEUR)**

**10. a) Niveau de contrôle de la sécurité du personnel requis**

Indiquer le niveau d'autorisation de sécurité que le personnel doit détenir pour avoir accès aux renseignements, aux biens ou au site du client. Selon la nature du travail, il peut y avoir plus d'un niveau de sécurité. Veuillez noter que des cotes de sécurité sont accordées pour l'accès à des sites particuliers, selon des dispositions antérieures prises auprès du Secrétariat du Conseil du Trésor du Canada. La cote de sécurité donnant accès à un site s'applique uniquement aux personnes et n'est liée à aucune autre autorisation de sécurité accordée à des personnes ou à des organismes.

<b>COTE DE FIABILITÉ</b>	<b>CONFIDENTIEL</b>	<b>SECRET</b>
TRÈS SECRET	TRÈS SECRET (SIGINT)	NATO CONFIDENTIEL
NATO SECRET	COSMIC TRÈS SECRET	ACCÈS AUX EMPLACEMENTS

Si plusieurs niveaux d'autorisation de sécurité sont indiqués, un guide de classification de sécurité doit être fourni.

**b) Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?**

Si la réponse est Oui, cela veut dire que certaines tâches ne sont pas PROTÉGÉES et/ou CLASSIFIÉES et peuvent être exécutées à l'extérieur d'un environnement sécurisé par du personnel n'ayant pas d'autorisation de sécurité. Il faut répondre à la question suivante si l'on a recours à du personnel n'ayant pas d'autorisation de sécurité :

**Le personnel n'ayant pas d'autorisation de sécurité sera-t-il escorté?**

Si la réponse est Non, le personnel n'ayant pas d'autorisation de sécurité ne pourra pas avoir accès à des lieux de travail dont l'accès est réglementé ni à des renseignements et/ou à des biens PROTÉGÉS et/ou CLASSIFIÉS.

Si la réponse est Oui, le personnel n'ayant pas d'autorisation de sécurité devra être escorté par une personne détenant la cote de sécurité requise, pour faire en sorte que le personnel en question n'ait pas accès à des renseignements et/ou à des biens PROTÉGÉS et/ou CLASSIFIÉS sur les lieux de travail.

**PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)**

**11. RENSEIGNEMENTS / BIENS :**

**a) Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?**

Si la réponse est Oui, préciser, à l'aide du tableau récapitulatif, le niveau de sécurité des documents ou de l'équipement que le fournisseur devra protéger dans ses installations.

**b) Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?**

Si la réponse est Oui, préciser, à l'aide du tableau récapitulatif, le niveau de sécurité des renseignements ou des biens COMSEC que le fournisseur devra protéger dans ses installations.

**PRODUCTION**

**c) Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?**

Préciser, à l'aide du tableau récapitulatif, le niveau de sécurité du matériel que le fournisseur fabriquera, réparera et/ou modifiera et devra protéger dans ses installations.

**TECHNOLOGIE DE L'INFORMATION (TI)**

**d) 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?**

Si la réponse est Oui, préciser le niveau de sécurité à l'aide du tableau récapitulatif. Cette case porte sur les renseignements qui seront traités ou produits électroniquement et stockés dans un système informatique. Le ministère/organisme client devra préciser les exigences en matière de sécurité de la TI relativement à cet achat dans un document technique distinct. Le fournisseur devra également consulter le document suivant : Secrétariat du Conseil du Trésor du Canada – Norme opérationnelle de sécurité : Gestion de la sécurité des technologies de l'information (GSTI).

**e) Y aura-t-il un lien électronique entre les systèmes informatiques du fournisseur et celui du ministère ou de l'agence gouvernementale?**

Si la réponse est Oui, le fournisseur doit faire approuver ses systèmes informatiques. Le ministère client doit aussi fournir les critères de connectivité qui décrivent en détail les conditions et le niveau de sécurité relativement au lien électronique (habituellement pas plus haut que le niveau PROTÉGÉ B).

**TABLEAU RÉCAPITULATIF**

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.

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.

PROTÉGÉ	CLASSIFIÉ	NATO	COMSEC
PROTÉGÉ A	CONFIDENTIEL	NATO DIFFUSION RESTREINTE	PROTÉGÉ A
PROTÉGÉ B	SECRET	NATO CONFIDENTIEL	PROTÉGÉ B
PROTÉGÉ C	TRÈS SECRET	NATO SECRET	PROTÉGÉ C
	TRÈS SECRET (SIGINT)	COSMIC TRÈS SECRET	CONFIDENTIEL
			SECRET
			TRÈS SECRET

**12. a) La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?**

Si la réponse est Oui, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de



sécurité » au haut et au bas du formulaire.

**b) La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?**

Si la réponse est Oui, 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).

**PARTIE D - AUTORISATION**

**13. Chargé de projet de l'organisme**

Cette case doit être remplie et signée par le chargé de projet pertinent (c.-à-d. la personne qui est responsable de ce projet ou qui connaît le besoin au ministère ou à l'organisme client. On peut, à l'occasion, communiquer avec cette personne pour clarifier des renseignements figurant sur le formulaire.

**14. Responsable de la sécurité de l'organisme**

Cette case doit être signée par l'agent de la sécurité du ministère (ASM) du ministère indiqué à la case 1 ou par son remplaçant ou par le responsable de la sécurité du fournisseur.

**15. Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?**

Un Guide de sécurité ou un Guide de classification de sécurité sont utilisés de concert avec la LVERS pour faire part d'exigences supplémentaires en matière de sécurité qui n'apparaissent pas dans la LVERS et/ou pour éclaircir certaines parties de la LVERS.

**16. Agent d'approvisionnement**

Cette case doit être signée par l'agent des achats qui fait fonction de gestionnaire du contrat ou du contrat de sous-traitance.

**17. Autorité contractante en matière de sécurité**

Cette case doit être signée par l'agent de la sécurité du marché. Lorsque TPSGC est le responsable de la sécurité du marché, la Direction de la sécurité industrielle canadienne et internationale (DSICI) doit remplir cette case.

### COVID-19 vaccination requirement certification

In accordance with the COVID-19 Vaccination Policy for Supplier Personnel [COVID-19 vaccination requirement for supplier personnel - Buyandsell.gc.ca](https://buyandsell.gc.ca), all Bidders must provide with their bid, the COVID-19 Vaccination Requirement Certification attached to this bid solicitation, to be given further consideration in this procurement process. This Certification incorporated into the bid solicitation on its closing date is incorporated into, and forms a binding part of any resulting Contract.

### COVID-19 Vaccination Requirement Certification

I, \_\_\_\_\_ (*first and last name*), as the representative of \_\_\_\_\_ (*name of business*) pursuant to \_\_\_\_\_ (*insert solicitation number*), warrant and certify that all personnel that \_\_\_\_\_ (*name of business*) will provide on the resulting Contract who access federal government workplaces where they may come into contact with public servants will be:

- (a) fully vaccinated against COVID-19 with Health Canada-approved COVID-19 vaccine(s); or
- (b) for personnel that are unable to be vaccinated due to a certified medical contraindication, religion or other prohibited grounds of discrimination under the Canadian Human Rights Act, subject to accommodation and mitigation measures that have been presented to and approved by Canada; until such time that Canada indicates that the vaccination requirements of the COVID-19 Vaccination Policy for Supplier Personnel are no longer in effect.

I certify that all personnel provided by \_\_\_\_\_ (*name of business*) have been notified of the vaccination requirements of the Government of Canada's COVID-19 Vaccination Policy for Supplier Personnel, and that the \_\_\_\_\_ (*name of business*) has certified to their compliance with this requirement.

I certify that the information provided is true as of the date indicated below and will continue to be true for the duration of the Contract. I understand that the certifications provided to Canada are subject to verification at all times. I also understand that Canada will declare a contractor in default, if a certification is found to be untrue, whether made knowingly or unknowingly, during the bid or contract period. Canada reserves the right to ask for additional information to verify the certifications. Failure to comply with any request or requirement imposed by Canada will constitute a default under the Contract.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

### **Optional**

For data purposes only, initial below if your business already has its own mandatory vaccination policy or requirements for employees in place. Initialing below **is not** a substitute for completing the mandatory certification above.

Initials: \_\_\_\_\_

Information you provide on this Certification Form and in accordance with the Government of Canada's COVID-19 Vaccination Policy for Supplier Personnel will be protected, used, stored and disclosed in accordance with the Privacy Act. Please note that you have a right to access and correct any information on your file, and you have a right to file a complaint with the Office of the Privacy Commissioner regarding the handling of your personal information. These rights also apply to all individuals who are deemed to be personnel for the purpose for the Contract and who require access to federal government workplaces where they may come into contact with public servants.