# DONNACONA INSTITUTION Roots rehabilitation – Services building and Postern



1537, Highway 138, Donnacona, QC G3M 1C9 Ref : 550-2-321-3703



FOR TENDER AUGUST 2017



# CONSTRUCTION SPÉCIFICATION

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# **Donnacona Institution**

Roof rehabilitation - Services building and postern

OWNER

# **Correctional Service Canada - CSC**

1537, Highway 138 Donnacona (Quebec) G3M 1C9 Contact information : Allen Leclerc

# CONSTRUCTION SPÉCIFICATION (ARCHITECTURE)

# FOR TENDER

AUGUST 2017

### ARCHITECTURE

# **ABCP** architecture

300, Saint-Paul street, office 412 Quebec (Quebec) G1K 7R1 P 418 649-7369 Project manager : Cathy Dumas, architecte

# PART 1 - GENERAL

### 1.01 REFERENCES

.1 National Building Code of Canada (NBC) 2010, including all amendments up to the date of bid closing.

### 1.02 DESCRIPTION OF THE WORK

- .1 The project includes the following work. The list below is not necessarily exhaustive and in no way releases the Contractor from the obligation of carrying out the project in its entirety according to generally accepted practices as well as the intentions and general principles as described in these specifications and drawings.
  - .1 Remove existing gravel only on the services building roof;
  - .2 Remove sealing membrane till insulation on two building roof;
  - .3 Remove support panel on two building roof;
  - .4 Remove all the metal flashing and trim on two building roof;
  - .5 Remove and store the mechanicals equipments (gooseneck, chimney, fan, etc.) on two building roof in view of it's reinstallation;
  - .6 Remove vent pipe on two building roof in view of it's replacement;
  - .7 Remove roof drain on the postern building in view of it's replacement;
  - .8 Install a new sealing system in modified bituminous membrane on two building roof;
  - .9 Install a new vent pipe and roof drain on two building roof;
  - .10 Reinstall all the existing equipments temporarily removed;
  - .11 Install new metal flashing and trim on two building roof.

### 1.03 SITE INSPECTION BY BIDDERS

- .1 For security reasons at the penitentiary, the site inspection shall be conducted at a set time that will be specified in the tender documents. The meeting place will be the main entrance of the institution concerned. **The site inspection is optional.**
- .2 The Contractor shall examine the site and conditions that could have an impact on the work prior to submitting his proposal. Submitting a bid indicates that the bidder accepts the terms and conditions of the solicitation and agrees to be bound by them.

### 1.04 SECURITY SCREENING

.1 All workers shall undergo security screening in order to be granted a security classification as required by the Correctional Service of Canada and Public Works and Government Services Canada.

- .2 Section 01 35 13 provides a detailed description of the procedures involved in the security screening.
- .3 At the start of work, a job-site special meeting will be held with institution representatives to define the instructions governing security and site operation in a correctional environment.

### 1.05 CODES

- .1 The specifications will require that the work and materials comply with the National Building Code of Canada (NBC) and all other applicable provincial or local codes. The strictest requirements shall apply in case of contradiction or discrepancy.
- .2 The work shall be performed in a manner that meets or exceeds the following requirements:
  - .1 Contract documents
  - .2 Specified standards and codes as well as other documents cited as references

### 1.06 REQUIRED DOCUMENTS

- .1 A copy of the following documents shall be kept at the job site:
  - .1 Contract drawings
  - .2 Specifications
  - .3 Amendments
  - .4 Amended shop drawings
  - .5 Modification orders
  - .6 Other contract amendments
  - .7 On-site test reports
  - .8 Approved work schedule
  - .9 Manufacturer installation and start-up instructions

### 1.07 WORK SCHEDULE

- .1 The successful bidder shall initiate work immediately upon receiving notice that the contract has been awarded. The work covered by this document, including measures to correct construction deficiencies, must be completed within the schedule specified herein. Failure to comply with the schedule shall be dealt with as provided for in the Standard Acquisition Clauses and Conditions (SACC) Manual, Public Works and Government Services Canada (PWGSC).
- .2 Within 10 business days of contract award, submit a work schedule for the various project phases and the completion date, **which must be within 6** weeks of contract award.
- .3 Within 10 business days of contract award, submit shop drawings, technical data sheets, samples, and security screening applications for approval.
- .4 The work sequence is as follows:
  - .1 Start-up meeting and schedule submission, shop drawings, technical data sheets, samples, and security screening applications for approval
  - .2 Approval of documents submitted
  - .3 Construction start-up
  - .4 Submission of operating and maintenance manuals for approval
  - .5 Provisional acceptance
  - .6 Training of maintenance and operating personnel

- .6 Correction of deficiencies
- .7 Final approval
- .5 Within 10 business days of contract award, the Contractor shall provide, in a format acceptable to the Project Manager, a work schedule indicating:
  - .1 Dates for submitting shop drawings, lists of materials, and samples;
  - .2 Start-up and completion dates for the work described in each section of the specifications;
  - .3 Final completion date with respect to the completion date stipulated in the contract documents
- .6 Changes to milestones in the submitted schedule shall be at the discretion of the CSC Project Manager. The schedule shall be updated by the Contractor with the cooperation and approval of the CSC Project Manager.

### 1.08 ACCEPTANCE OF EQUIVALENTS

- .1 When products, material, or equipment are specified by brand or trade name or the manufacturer's or supplier's name, the bid shall be based on the designated products, material, or equipment. During the tender period, the substitution can be considered if the contracting authority receives, in writing, complete technical data at least ten (10) days before the deadline specified in the tender documents. If a substitution is approved for tendering purposes, an addendum to the tender documents will be issued.
- .2 The Contractor shall be responsible for providing supporting data of equivalence. The substitution request must be presented clearly and include all the details required to analyze it properly.
- .3 The main criteria for accepting substitutions are: construction, performance, capacity, dimensions, arrangement of connections, availability of replacement parts, ease of maintenance, delivery times, the existence of similar equipment in service for some time.
- .4 If a proposed substitution requires changes to installations shown on plans or in specifications, the General Contractor shall be responsible for such changes and shall also assume responsibility for the ensuing modifications that may be required to the work of specialized subcontractors.

### 1.09 COST BREAKDOWN

.1 With the bid, the Contractor shall present an itemized breakdown of the costs related to this contract, including the overall contract value, on the bid summary provided as an attachment. Once approved, the cost breakdown will be used as a baseline for calculating progress payments.

### 1.10 PAYMENT

.1 Payments shall be made monthly on a pro rata basis according to work progress. Before submitting an invoice, the Contractor shall submit an itemized request for payment, as per the bid summary, for approval with the percent of progress for each item. 10% percent of the total amount of the request for payment, before tax deductions, will be held back. The hold back is payable upon final acceptance of the work.

### 1.11 CONTRACTOR'S USE OF THE SITE

- .1 The institution must remain fully operational during construction. With this end in view, the CSC Project Manager or the institution's head of security can require the Contractor to halt work immediately on a temporary basis to prevent institution activities from being compromised.
- .2 Use of premises; limited access to the job site. Work and affected engineering structures outside the construction site must be carried out by a crew accompanied by an escort provided by CSC (see section 01 35 13).
- .3 The Contractor shall perform the work so as to disturb the occupants as little as possible and, to the degree possible, ensure that normal use can be made of the facilities. The Contractor shall also cooperate with the CSC Project Manager to facilitate performance of the work.
- .4 Existing services in the buildings must be maintained during the project.
- .5 No vehicle or mobile construction equipment shall remain on institution premises outside of working hours. All construction vehicles must be parked in the lot in front of the postern (main entrance). Refer to section 01 35 13.

### 1.12 NOISY ENVIRONMENT AND CELL-PHONE USE

- .1 No radios or "boom boxes" shall be tolerated at the job site.
- .2 Cell telephones are prohibited within the perimeter of the penitentiary.

### 1.13 PARKING AT THE SITE

.1 The Contractor shall restrict parking to those areas authorized by the Institutional Head.

### 1.14 JOB-SITE MEETINGS

- .1 Job-site meetings shall be held at times and places subject to the approval of the CSC Project Manager.
- .2 All participants shall be informed of meetings being called.
- .3 The Architecte shall organize job-site meetings, set their dates and times, and ensure that minutes are drafted and distributed.

### 1.15 LOCATION OF EQUIPMENT AND VARIOUS PIECES OF EQUIPMENT

.1 The location of various devices and pieces of equipment as well as the electrical outlets indicated on the drawings and in the specifications must be considered approximate.

### 1.16 MODIFICATIONS, ADDITIONS, OR RENOVATION OF EXISTING BUILDINGS

- .1 The Contractor shall perform the work so as to disturb the occupants as little as possible and, to the degree possible, ensure that normal use can be made of the facilities. The Contractor shall also cooperate with the CSC Project Manager to facilitate performance of the work.
- .2 At no time shall the safety measures be relaxed because of the work to be carried out under this contract. The Contractor shall take the steps required to ensure the level of safety required.

### 1.17 SUPPLEMENTAL DRAWINGS

.1 The Architecte may provide supplemental drawings for clarification Such supplemental drawings shall be considered to have the same meaning and scope as the contract documents.

### 1.18 RESTRICTIONS RELATED TO TOBACCO USE

.1 Restrictions regarding the use of tobacco inside buildings shall be complied with.

### 1.19 ASBESTOS

.1 Removing sprayed or troweled-on asbestos can be a health risk. If, during the course of the work, the Contractor encounters materials that appear to be sprayed or troweled-on asbestos, he shall halt work and immediately inform the Architecte and the CSC project manager. Work shall not be resumed unless so authorized in writing by the Architecte.

### 1.20 OPERATING MANUAL

- .1 The Contractor shall submit, for approval, three (3) copies of an operating manual containing the following items:
  - .1 Table of contents
  - .2 List of suppliers and their contact information
  - .3 Warranties
  - .4 Approved shop drawings
  - .5 Operating and maintenance guides
  - .6 As-built drawings

# PART 2 - PRODUCTS

### 2.01 NOT USED

.1 Not used.

### PART 3 - EXECUTION

### 3.01 NOT USED

.1 Not used.

# PART 1 - GENERAL

### 1.01 RELATED REQUIREMENTS

.1 All the technicals section of present project.

### 1.02 GENERAL

- .1 Except otherwise indicated, all the requested warranties will be singed by the sub-contractor and/or the manufacturer. The guarantees should be issued in the name of the client and submitted ti the Architect and client.
- .2 All the detected defects during the project or during the prescribed warranty period, will be corrected to the satisfaction of the Architect, at expense of the the sub-contractor's.
- .3 Refer to the other contract documents for all materials, equipment and all non specifically mentioned installations in this section.
- .4 The sub-contractor should keep all guarantees and include them in the requested binder at the end of the project.

### PART 2 – PRODUCTS

### 2.01 NOT USED

.1 Not used.

# PART 3 – EXECUTION

### 3.01 NOT USED

.1 Not used.

# PART 1 – GENERAL

### 1.01 RELATED REQUIREMENTS

- .1 Section 01 00 50 Generals instruction CSC
- .2 Section 01 33 01 Identification sheet
- .3 Section 01 35 30 Heal tans safety requirements CSC
- .4 Section 01 45 00 Quality control
- .5 Section 01 73 00 Execution
- .6 Section 01 78 00 Closeout submittals
- .7 All technical section of this document

### 1.02 ADMINISTRATIVE

- .1 Submit to Architecte submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Architecte. 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 Architecte, 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 Architecte's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Architecte review.
- .10 Keep one reviewed copy of each submission on site.

### 1.03 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 drawings stamped and signed by professional engineer registered or licensed in the Province of Quebec, 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 10 days for Architecte's review of each submission.
- .5 Adjustments made on shop drawings by Architecte are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Architecte prior to proceeding with Work.
- .6 Make changes in shop drawings as Architecte may require, consistent with Contract Documents. When resubmitting, notify Architecte in writing of revisions other than those requested.
- .7 Accompany submissions with identification sheet (section 01 33 01) completed, in PDF form:
  - .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 identification sheet (section 01 33 01), submit a completed electronic copy:
  - .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 Relationship to adjacent work.
- .9 After Architecte's review, distribute copies.
- .10 Submit an electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by Architecte where shop drawings will not be prepared due to standardized manufacture of product.
- .11 Submit an electronic copy of certificates for requirements requested in specification Sections and as requested by Architecte.
  - .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.
- .12 Submit an electronic copy of manufacturers instructions for requirements requested in specification Sections and as requested by Architecte.
  - .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.
- .13 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .14 Submit an electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Architecte.
- .15 Delete information not applicable to project.
- .16 Supplement standard information to provide details applicable to project.
- .17 If upon review by Architecte, 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.

### 1.04 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 Architecte's business address.
- .3 Notify Architecte 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 Architecte are not intended to change Contract Price. If

adjustments affect value of Work, state such in writing to Architecte prior to proceeding with Work.

- .6 Make changes in samples which Architecte 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.

### 1.05 MOCK-UPS

.1 Erect mock-ups in accordance with 01 45 00 - Quality Control.

### 1.06 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

# PART 2 - PRODUCTS

### 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

### 3.01 NOT USED

.1 Not used.

# **Donnacona Institution**

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# PROJECT:

CONTRACTOR :	
SUB-CONTRACTOR	
NAME :	SPECIALTY :
CONTACT :	ADDRESS :
E-MAIL :	CITY:
PHONE :	POSTAL CODE :

MATERIAL IDENTIFICATION							
TITLE / DESCRIPTION :							
Shop drawing	Data sheet	Sample					
SPECIFICATION SECTION & ARTICLE(S) :		NUMBER OF SHEETS :					
SUPPLIER :		MANUFACTURER :					
SUBMITTED PRODUCT : As plans and specifications Equivalence							
EQUIVALENCE REASON (S) :							
If the submitted products are different from the tender documents, complete « equivalence reason (s) ». It's the contractor is responsibility to prove the equivalence of the submitted products, otherwise the equivalence can be rejected.							
COLOR (S) CHOICE	As plans and specificati	ions 🗌 To be specify	Non-applicable				
I, the undersigned, attest that the shop drawing, data sheet or sample that I sudmited represents exactly the specified materials, products or equipments on the tender documents in terms of quality, form, brand(s), sizes, installation method and is complying, where required, to the required warranty.							
SUB-CONTRACTOR SIGNATURE :		DATE :					

DOCUMENT TRACKING								
SUB-CONTRACTOR RECIEVED :	PROFESSIONAL TRANSMIT :	PROFESSIONAL RETURN :	SUB-CONTRACTOR RETURN :	NO. :				

### PROFESSIONAL COMMENTS

THIS DOCUMENT IS AN INTEGRAL PART OF THE SHOP DRAWINGS AND SAMPLES AND MUST ACCOMPANY THEM AT AL TIME.

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# PART 1 - GENERAL

#### 1.01 PURPOSE

To ensure that both the construction project and the institutional operations may proceed without .1 undue disruption or hindrance and that the security of the Institution is maintained at all times.

#### DEFINITIONS 1.02

- .1 "Contraband" means:
  - an intoxicant, including alcoholic beverages, drugs and narcotics, a)
  - a weapon or a component thereof, ammunition for a weapon, and anything that is b) designed to kill, injure or disable a person or that is altered so as to be capable of killing, injuring or disabling a person, when possessed without prior authorization,
  - an explosive or a bomb or a component thereof, C)
  - any item not described in paragraphs a) to d) that could jeopardize the security of a d) Penitentiary or the safety of persons, when that item is possessed without prior authorization
- .2 "Unauthorized Smoking Items" means all smoking items including, but not limited to, cigarettes, cigars, tobacco, chewing or snuffing tobacco, cigarette making machines, matches and lighters.
- .3 "Commercial Vehicle" means any motor vehicle used for the shipment of material, equipment and tools required for the construction project.
- .4 "CSC" means Correctional Service Canada.
- .5 "Director" means Director or Warden of the Institution as applicable or their representative.
- .6 "Construction employees" means persons working for the general contractor, the subcontractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies.
- .7 "Departmental Representative" means the Public Works and Government Services Canada (PWGSC) or the Correctional Service Canada (CSC) project manager depending on project.
- "Perimeter" means the fenced or walled area of the institution that restrains the movement of the .8 inmates.
- "Construction zone" means the area as shown on the contract drawings where the contractor will .9 be allowed to work. This area may or may not be isolated from the security area of the institution.

#### 1.03 PRELIMINARY PROCEEDINGS

- .1 Prior to the commencement of work, the contractor shall meet with the Director to:
  - .1 Discuss the nature and extent of all activities involved in the Project.

- .2 Establish mutually acceptable security procedures in accordance with this instruction and the institution's particular requirements.
- .2 The contractor will:
  - .a Ensure that all construction employees are aware of the CSC security requirements.
  - .b Ensure that a copy of the CSC security requirements is always prominently on display at the job site.
  - .c Co-operate with institutional personnel in ensuring that security requirements are observed by all construction employees.

### 1.04 CONSTRUCTION EMPLOYEES

- .1 Submit to the Director a list of the names with date of birth of all construction employees to be employed on the construction site and a security clearance form for each employee.
- .2 Allow two (2) weeks for processing of security clearances. Employees will not be admitted to the Institution without a valid security clearance in place and a recent picture identification such as a provincial driver's license. Security clearances obtained from other CSC institutions are not valid at the institution where the project is taking place.
- .3 The Director may require that facial photographs may be taken of construction employees and these photographs may be displayed at appropriate locations in the institution or in an electronic database for identification purposes. The Director may require that Photo ID cards be provided for all construction workers. ID cards will then be left at the designated entrance to be picked upon arrival at the institution and shall be displayed prominently on the construction employees clothing at all time while employees are at the institution.

<u>SPEC NOTE</u>: Any taking pictures is authorize on the site. Access card will be delivered to the Construction employees for the postern works.

- .4 Entry to Institutional Property will be refused to any person there may be reason to believe may be a security risk.
- .5 Any person employed on the construction site will be subject to immediate removal from Institutional Property if they:
  - .1 appear to be under the influence of alcohol, drugs or narcotics.
  - .2 behave in an unusual or disorderly manner.
  - .3 are in possession of contraband.

### 5 VEHICLES

- .1 All unattended vehicles on CSC property shall have windows closed; doors and trunks shall be locked and keys removed. The keys shall be securely in the possession of the owner or an employee of the company that owns the vehicle.
- .2 The director may limit at any time the number and type of vehicles allowed within the Institution.

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.3 Drivers of delivery vehicles for material required by the project shall not require security clearances but must remain with their vehicle the entire time that the vehicle is in the Institution. The director may require that these vehicles be escorted by Institutional staff or Commissionaires while in the Institution.

SPEC NOTE: All the drives delivery have to do the security check.

.4 If the Director permits trailers to be left inside the secure perimeter of the Institution, these trailer doors will be locked at all times. All windows will be securely locked when left unoccupied. All trailer windows shall be covered with expanded metal mesh. All storage trailers inside and outside the perimeter must be locked when not in use.

#### 1.06 PARKING

The parking area(s) to be used by construction employees will be designated by the Director. .1 Parking in other locations will be prohibited and vehicles may be subject to removal.

#### 1.07 SHIPMENTS

.1 All shipments of project material, equipment and tools shall be addressed in the Contractor's name to avoid confusion with the institution's own shipments. The contractor must have his own employees on site to receive any deliveries or shipments. CSC staff will NOT accept receipt of deliveries or shipments of any material equipment or tools for the contractor.

#### 1.08 **TELEPHONES**

- .1 There will be no installation of telephones, Facsimile machines and computers with Internet connections permitted within the perimeter of the institution unless prior approval of the Director is received.
- .2 The Director will ensure that approved telephones, Facsimile machine and computers with Internet connections are located where they are not accessible to inmates. All computers will have an approved password protection that will stop an Internet connection to unauthorized personnel.
- .3 Wireless cellular and digital telephones, including but not limited to devices for telephone messaging, pagers, BlackBerries, telephone used as 2-way radios, are not permitted within the perimeter of the Institution unless approved by the Director. If wireless cellular telephones are permitted, the user will not permit their use by any inmate.
- .4. The Director may approve but limit the use of two way radios.

SPEC NOTE: It will be interdict to use cell phone or bidirectional radio on the site.

#### **WORK HOURS** 1.09

- .1 Work hours within the Institution are: Monday to Friday 07h00 to 17h30.
- .2 Work will not be permitted during weekends and statutory holidays without the permission of the Director. A minimum of seven days advance notice will be required to obtain the required permission. In case of emergencies or other special circumstances, this advance notice may be waved by the Director.

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#### 1.10 **OVERTIME WORK**

- .1 No overtime work will be allowed without permission of the Director. Give a minimum forty-eight (48) hours advance notice when overtime work on the construction project is necessary and approved. If overtime work is required because of an emergency such the completion of a concrete pour or work to make the construction safe and secure, the contractor shall advise the Director as soon as this condition is known and follow the directions given by the Director. Costs to Canada for such events may be attributed to the contractor.
- .2 When overtime work, weekend statutory holiday work is required and approved by the Director, extra staff members may be posted by the Director or his designate, to maintain the security surveillance. The actual cost of this extra staff may be attributed to the contractor.

#### **TOOLS AND EQUIPMENT** 1.11

.1 Maintain on site a complete list of all tools and equipment to be used during the construction project. Make this inventory available for inspection when required.

**SPEC NOTE**: The high-impact tools have to be authorized by Director.

- .2 Throughout the construction project maintain an up-to-date list of tools and equipment specified above.
- .3 Keep all tools and equipment under constant supervision, particularly power-driven and cartridge-driven tools, cartridges, files, saw blades, rod saws, wire, rope, ladders and any sort of jacking device.
- .4 Store all tools and equipment in approved secure locations.
- .5 Lock all tool boxes when not in use. Keys to remain in the possession of the employees of the contractor.
- .6 Scaffolding shall be secured and locked when not erected and when erected, shall be secured in a manner agreed upon with the director.
- .7 All missing or lost tools or equipment shall be reported immediately to the Director.
- .8 The Director will ensure that the security staff members carry out checks of the Contractor's tools and equipment against the list provided by the Contractor. These checks may be carried out at the following intervals:
  - .1 At the beginning and conclusion of every construction project.
  - .2 Weekly, when the construction project extends longer than a one week period.
- .9 Certain tools/equipment such as cartridges and hacksaw blades are highly controlled items. The contractor will be given at the beginning of the day, a quantity that will permit one day's work. Used blades/cartridges will be returned to the Director's representative at the end of each day.
- .10 If propane or natural gas is used for heating the construction, the institution will require that an employee of the contractor supervise the construction site during non-working hours.

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SPEC NOTE: Any works with permanent eating needs. The using of brazing torch require closeness fire extinguisher and check-out before to live site.

#### PRESCRIPTION DRUGS 1.12

.1 Employees of the contractor who are required to take prescription drugs during the workday shall obtain approval of the Director to bring a one day supply only into the Institution.

#### **SMOKING RESTRICTIONS** 1.13

- .1 Contractors and construction employees are not permitted to smoke inside correctional facilities or outdoors within the perimeter of a correctional facility and must not possess unauthorized smoking items within the perimeter of a correctional facility.
- .2 Contractors and construction employees who are in violation of this policy will be requested to immediately cease smoking or dispose of any unauthorized smoking items and, if they persist, will be directed to leave the institution.
- .3 Smoking is only permitted outside the perimeter of a correctional facility in an area to be designated by the Director.

#### 1.14 CONTRABAND

- .1 Weapons, ammunition, explosives, alcoholic beverages, drugs and narcotics are prohibited on institutional property.
- .2 The discovery of contraband on the construction site and the identification of the person(s) responsible for the contraband shall be reported immediately to the Director.
- .3 Contractors should be vigilant with both their staff and the staff of their sub-contractors and suppliers that the discovery of contraband may result in cancellation of the security clearance of the affected employee. Serious infractions may result in the removal of the company from the Institution for the duration of the construction.
- .4 Presence of arms and ammunition in vehicles of contractors, sub-contractors and suppliers or employees of these will result in the immediate cancellation of security clearances for the driver of the vehicle.

#### **SEARCHES** 1.15

- .1 All vehicles and persons entering institutional property may be subject to search.
- .2 When the Director suspects, on reasonable grounds, that an employee of the Contractor is in possession of contraband or unauthorized items, he may order that person to be searched.
- .3 All employees entering the Institution may be subject to screening of personal effects for traces of contraband drug residue.

#### ACCESS TO AND REMOVAL FROM INSTITUTIONAL PROPERTY 1.16

.1 Construction personnel and commercial vehicles will not be admitted to the institution after normal working hours, unless approved by the Director.

### **Donnacona Institution**

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#### **MOVEMENT OF VEHICLES** 1.17

- .1 Escorted commercial vehicles will be allowed to enter or leave the institution through the vehicle access gate during the following hours:
  - .1 from 07h45 to 11h00;
  - .2 from 13h00 to 15h30.

After 15h30 Construction vehicles shall not leave the Institution until an inmate count is completed.

- .2 The contractor shall advise the Director twenty four (24) hours in advance to the arrival on the site of heavy equipment such as concrete trucks, cranes, etc.
- .3 Vehicles being loaded with soil or other debris, or any vehicle considered impossible to search, must be under continuous supervision by CSC staff or Commissionaires working under the authority of the Director.
- .4 Commercial vehicles will only be allowed access to institutional property when their contents are certified by the Contractor or his representative as being strictly necessary to the execution of the construction project.
- .5 Vehicles shall be refused access to institutional property if, in the opinion of the Director, they contain any article which may jeopardize the security of the institution.
- .6 Private vehicles of construction employees will not be allowed within the security perimeter of medium or maximum security institutions without the authorization of the Director.
- .7 With prior approval of the Director, a vehicle may be used in the morning and evening to transport a group of employees to the work site. This vehicle will not remain within the Institution the remainder of the day.
- .8 With the approval of the Director, certain equipment may be permitted to remain on the construction site overnight or over the weekend. This equipment must be securely locked, with the battery removed. The Director may require that the equipment be secured with a chain and padlock to another fixed object.

#### 1.18 MOVEMENT OF CONSTRUCTION EMPLOYEES ON INSTITUTIONAL PROPERTY

- .1 Subject to the requirements of good security, the Director will permit the Contractor and his employees as much freedom of action and movement as is possible.
- .2 However, notwithstanding paragraph above, the Director may:
  - .1 Prohibit or restrict access to any part of the institution.
  - .2 Require that in certain areas of the institution, either during the entire construction project or at certain intervals, construction employees only be allowed access when escorted by a member of the CSC security staff or a commissionaire.
- .3 During the lunch and coffee/health breaks, all construction employees will remain within the construction site. Construction employees are not permitted to eat in the officer's lounge or the dining room of the institution.

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#### SURVEILLANCE AND INSPECTION 1.19

- .1 Construction activities and all related movement of personnel and vehicles will be subject to surveillance and inspection by CSC security staff members to ensure that established security requirements are met.
- .2 CSC staff members will ensure that an understanding of the need to carry out surveillance and inspections, as specified above, is established among construction employees and maintained throughout the construction project.

#### 1.20 **STOPPAGE OF WORK**

.1 The director may order at any time that the contractor, his employees, sub-contractors and their employees to not enter or to leave the work site immediately due to a security situation occurring within the Institution. The contractor's site supervisor shall note the name of the CSC staff member giving this instruction, the time of the request and obey the order as quickly as possible.

The contractor shall advise the Departmental Representative of this interruption of the work within 24 hours.

#### **CONTACT WITH INMATES** 1.21

- .1 Unless specifically authorized, it is forbidden to come into contact with inmates, to talk with them, to receive objects from them or to give them objects. Any construction employee doing any of the above will be removed from the site and his security clearance revoked.
- .2 It is to be noted that cameras are not allowed on CSC property.
- .3 Notwithstanding the above paragraph, if the director approves of the usage of cameras, it is strictly forbidden to take pictures of inmates, of CSC staff members or of any part of the Institution other than those required as part of this contract.

#### 1.22 **COMPLETION OF CONSTRUCTION PROJECT**

.1 Upon completion of the construction project or, when applicable, the takeover of a facility, the Contractor shall remove all remaining construction material, tools and equipment that are not specified to remain in the Institution as part of the construction contract.

# PART 1 - GENERAL

# 1.01 CONTENT

.1 The general contractor must make sure that during his activities, the public and his employees' health and safety and the protection of the environment will always prevail on cost or schedule issues.

### 1.02 REFERENCES

- .1 Working canadian code, part II, Canada Occupational Safety and Health Regulations.
- .2 Canadian Standard Association (CSA).
- .3 Workplace Hazardous Materials Information System (SIMDUT) /Health Canada.
  - .1 Data sheet.
- .4 Act respecting Occupational health and safety, L.R.Q. Chapitre S-2.1 2002.
- .5 Safety Code for the construction industry, S-2.1, r.6 2001.

### 1.03 DOCUMENTS/SAMPLES

- .1 Submit all documents and samples in conformity with the section 01 33 00 Submittal procedures.
- .2 10 days before construction start, transmit to the CSC representative and to the Commission de la santé et de la sécurité du travail (CSST) the health and safety program specific to the construction activity as described in the section 1.8. If necessary, the general contractor must update his prevention program to reflect any changes to the initial plans. Following the reception of the prevention program and at any time during the work, the CSC representative can ask for its modification to adapt it to the work on site. The general contractor will have to proceed with the required modifications before work start.
- .3 Transmit to the CSC representative a copy of any federal or provincial inspector's inspection reports, notice of corrections or recommendations within 24 hours of their reception.
- .4 Transmit to the CSC representative any investigation report concerning any accident with injury or pointing out any potential hazard for health and safety within 24 hours of their reception.
- .5 Transmit to the CSC representative the data sheet for all controlled product at least three (3) days before they are used on site.
- .6 Transmit to the CSC representative a copy of the formation certificates required for the application of the prevention program including :
  - .1 General health and safety course on work sites;
  - .2 Security agent certificate;
  - .3 First-aid and CPR on work sites;
  - .4 Work subject to asbestos conditions;
  - .5 Work in enclosed spaces;
  - .6 Locking/securing procedures;
  - .7 Wearing and adjustment of individual protection equipments;

- .8 Forklift truck safe use;
- .9 Working platform lift;
- .10 and any other formation required by regulations or by the prevention program.
- .7 Medical examinations : when required by law, regulation, directive, specification or by a prevention program, the general contractor must :
  - .1 Before mobilisation, transmit to the CSC representative the medical examination certificate for all surveillance employees and any other employee attending the first site meeting concerned by this article's first paragraph.
  - .2 Afterwards, transmit as one goes along and without any delays all medical examination certificates of any new incoming worker concerned by this article's first paragraph.
- .8 Emergency plan : the emergency plan, as described in the article 1.7.3, must be transmitted to the CSC representative with the prevention program.
- .9 Notice of work start : the notice of work start must be transmitted to Commission de la santé et de la sécurité du travail before the work start and copied to the CSC representative. A copy of this notice must be available and visible on site at all time. During demobilisation, the notice of end of work must be transmitted to the CSST with a copy to the CSC representative.
- .10 Architecte's plans and notice of conformity : the general contractor must transmit to the CSST and to the CSC representative an engineer' signed and sealed copy of all the plans and notice of conformity required in virtue of the Safety Code for the construction industry (S-2.1, r. 6), of any other law, rules or any clause from the specifications or the contract. A copy of those documents must be available at all time on the work site.
- .11 Certificate of conformity delivered by the CSST : the certificate of conformity is a document delivered by the CSST and confirms that the general contractor complies with the CSST requirements, that he has paid all amount due in relation with the awarded contract. This document must be transmitted to the CSC representative at the end of work.

### 1.04 EVALUATION OF THE RISKS

- .1 The general contractor must identify all related risks to the various tasks on site.
- .2 The general contractor must plan and organize his work in order to favour the elimination of the danger at the source or the collective protection and minimize the use of individual protection equipments. When the use of individual protection equipment is required in situations of falling hazards, the workers must use a safety harness in conformity with the norm CAN/CSA-Z-259.10-M90. The safety belt must not be used as a falling protection.
- .3 Any equipment, tool or mean of protection that cannot be installed or used without compromizing the health and safety of the workers is considered inadequate for the work.
- .4 All mechanical equipments must be inspected before their delivery on site. Before using mechanical equipment, the general contractor must transmit to the CSC representative a certificate of conformity signed by an approved mechanic. At any time, if the CSC representative suspects a defect or a risk of accident, he can order the immediate shutdown of the machine and require a second inspection performed by a specialist of his choice.

### 1.05 MEETINGS

.1 A decision-making representative of the general contractor must attend all meetings about job site health and safety issues.

### 1.06 RULING AGENCY REQUIREMENTS

- .1 Comply with all rules, regulations and applicable norms for the execution of the work.
- .2 Follow the prescribed norms and rules in order to assure a normal course of events in the work progress in situations of contaminated grounds by toxic products.
- .3 Despite the publication date of the indicated norms in the Safety Code for the construction industry, always use its most recent and applicable version during work.

### 1.07 HEALTH AND SAFETY MANAGEMENT

- .1 Accept and assume all tasks and obligations normally assigned to the master-builder in accordance with the Loi sur la santé et la sécurité du travail (L.R.Q., chapitre S-2.1) and the Safety Code for the construction industry (S-2.1, r.6).
- .2 Develop a prevention program specific for the work based on identification of the risks and put this program in application from the beginning of work to its demobilization. The prevention program must take into account the information in the article 1.7. It must be transmitted to all person involved in conformity with the article 1.2. The prevention program must include :
  - .1 The business policy regarding health and safety;
  - .2 The description of the work, the total cost of the work, the schedule with its workforce chart;
  - .3 A flowchart of the health and safety's responsabilities;
  - .4 The physical and material organization of the job site;
  - .5 The first-aid norms;
  - .6 The identified risks on the job site;
  - .7 The identification of the risks related to the work to be executed, including the prevention program and their applicability modality;
  - .8 The required formation;
  - .9 The procedures in situation of accident/injuries;
  - .10 A written commitment from all stakeholders to comply with this prevention program;
  - .11 A job site inspection schedule based on the prevention measures.
- .3 The general contractor must develop an efficient emergency plan, in relation with the job site caracteristics and conditions. The emergency plan must be transmitted to all invloved stakeholders, in conformity with the article 1.2. The emergency plan must include :
  - .1 The evacuation procedure;
  - .2 The identification of the ressources (police, firefighter, ambulance, etc.);
  - .3 The identification of the persons in charge of the job site;
  - .4 The identification of the first-aiders;
  - .5 The required formation for the persons in charge of its application;
  - .6 And any other information necessary related to the job site characteristics.

### 1.08 RESPONSABILITIES

.1 No matter what is the size of the job site or the number of workers on site, always have an identified competent superviser responsible of the health and safety. Take all necessary measures to assure the health and safety of peoples and goods on and in the proximity of the job site that could be affected by the execution of the work.

- .2 Take all necessary measures to assure the application and the respect of all health and safety requirements indicated in the contractual documents, the federal and provincial regulations, the applicable norms and the prevention program specific for the job site and comply immediately to any prescription or notice of correction issued by the CSST.
- .3 Take all necessary measures to maintain the job site clean and in good order during the work.

### 1.09 COMMUNICATION AND SIGNAGE

- .1 Take all necessary measures to assure an efficient communication of the health and safety information on the job site. As soon as they arrive on the job site, all workers must be informed of the particularities of the prevention program, of their obligations and rights. The general contractor must insist on the worker's right to refuse to execute a work if they believe this work could imperil their health, their safety, their own physical integrity or the one of the other persons on the job site. The general contractor must maintain on the job site an updated register with the information transmitted and the signature of all the workers who received this formation.
- .2 The following information and documents must be displayed in an easily accessible place for the workers :
  - .1 Notice of work start;
  - .2 Identification of the master-builder;
  - .3 The business policy regarding health and safety at work;
  - .4 The prevention program specific to the job site;
  - .5 The emergency plan;
  - .6 Data sheet of all controlled products used on the job site;
  - .7 Minutes of meeting of the construction site committee;
  - .8 Name of the first-aiders;
  - .9 Intervention and correction reports published by the CSST.

### 1.10 UNFORSEENS

.1 When a source of danger not specified in the specifications and not identified during the preliminary inspection of the job site occurs during the execution of the work, the general contractor must immediately stop the work, set up temporary protection measures for the workers and the public and warn the CSC representative verbally and by writing. The general contractor must afterwards proceed with the necessary modifications to the prevention program for the work to resume safely.

### 1.11 DYNAMITING

- .1 Dynamiting and the use of explosives is forbidden, unless authorized by written by the CSC representative.
- .2 Any operation involving explosives must be executed under the immediate supervision of a qualified blaster.
- .3 The acquisition, the transport, the storage and the use of explosives must respect all applicable federal and provincial rules and regulations.:
- .4 Canada: Explosives Act (E-17), Explosives regulations (C.R.C. CH. 599), norm related to the storage of explosives and detonators, TDG Act & Regulations.

- .1 Quebec: Act respecting explosives (E-22), Regulation under the Act respecting explosives (E-22, r.1), Safety Code for the construction industry (S-2.1, r.6), Regulation on the transportation of dangerous substances.
- .5 The general contractor must secure all required permits in accordance with the above mentionned rules and regulations and he must keep a copy easily accessible on the job site.
- .6 The general contractor must facilitate the visit of the job site, of the explosives deposits and the inspection of the vehicles used for their transportation to all governmental representatives and police officers accredited to supervise explosives.

### 1.12 CAULKING GUNS AND OTHER CARTRIDGE DEVICES

.1 Caulking guns or any other cartridge devices are forbidden on the CSC property. See section 01 35 13 – Security requirements CSC

# PART 1 – GENERAL

### 1.01 RELATED REQUIREMENTS

.1 Allt section of this project

### 1.02 REFERENCES

- .1 Definitions:
  - .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
  - .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.
- .2 Reference Standards:
  - .1 Canadian Construction Documents Committee (CCDC) .1 CCDC 2-2008 Stipulated Price Contract.

### 1.03 FIRES

- .1 Fires and burning of rubbish on site [permitted only when approved by Departmental Representative.
- .2 Where fires or burning is permitted, prevent staining or smoke damage to structures, materials or vegetation which is to be preserved.

### 1.04 DRAINAGE

- .1 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .2 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

### 1.05 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties as indicated.
- .2 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m minimum.

### 1.06 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.

.3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

# 1.07 NOTIFICATION

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
  - .1 Take action only after receipt of written approval by Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

# PART 2 - PRODUCTS

### 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

### 3.01 NOT USED

.1 Not used.

# PART 1 – GENERAL

### 1.01 RELATED REQUIREMENTS

- .1 Division 1 Generals conditions
- .2 All the technical section of this document

### 1.02 REFERENCES AND CODES

- .1 Perform Work in accordance with National Building Code of Canada (NBC) including amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
  - .1 Contract documents.
  - .2 Specified standards, codes and referenced documents.

# PART 2 - PRODUCTS

### 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

### 3.01 NOT USED

.1 Not used.

# PARTIE 1 - GENERAL

### 1.01 RELATED REQUIREMENTS

- .1 Section 01 33 00 Submittal procedures
- .2 Section 01 61 00 Common product requirements
- .3 Section 01 78 00 Closeout submittals
- .4 All the technical section of this document

### 1.03 INSPECTION

- .1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

### 1.04 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and reinspection.

### 1.05 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

### 1.06 PROCÉDURE

.1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.

- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

### 1.07 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative.

### 1.08 REPORTS

- .1 Submit an electronic copy of inspection and test reports to Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested.

### 1.09 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as requested.
- .2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by Departmental Representative and may be authorized as recoverable.

### 1.10 ÉCHANTILLONS D'OUVRAGES

- .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of Sections required to provide mock-ups.
- .2 Construct in locations acceptable to Departmental Representative as specified in specific Section.
- .3 Prepare mock-ups for Departmental Representative review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 If requested, Departmental Representative will assist in preparing schedule fixing dates for preparation.
- .6 Remove mock-up at conclusion of Work or when acceptable to Departmental Representative.
- .7 Mock-ups may remain as part of Work.
- .8 Specification section identifies whether mock-up may remain as part of Work or if it is to be

removed and when.

### 1.11 MILL TESTS

.1 Submit mill test certificates as required of specification Sections.

### 1.12 EQUIPMENT AND SYSTEMS

.1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.

# PART 2 - PRODUCTS

### 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

### 3.01 NOT USED

.1 Not used.

# <u>PART 1 – GENERAL</u>

## 1.01 RELATED REQUIREMENTS

.1 Division 1 – Generals conditions

## 1.02 REFERENCES

- .1 Canadian Standards Association (CSA International)
  - .1 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
  - .2 CSA-0121-M1978(R2003), Douglas Fir Plywood.
  - .3 CAN-CSA-S269.2-FM1987(C2003), Scaffolding
  - .4 CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.

### 1.03 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

# 1.04 INSTALLATION AND REMOVAL

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .2 Identify areas which have to be gravelled to prevent tracking of mud.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

### 1.05 SCAFFOLDING

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

#### 1.06 HOISTING

- .1 Provide, operate and maintain hoists cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2 Hoists cranes to be operated by qualified operator.

### 1.07 SITE STORAGE/LOADING

.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

# 1.08 CONSTRUCTION PARKING

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

### 1.09 SECURITY

.1 Provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

### 1.10 OFFICES

- .1 Site meetings will occur in the Administrative centre.
- .2 Provide marked and fully stocked first-aid case in a readily available location.

### 1.11 EQUIPMENT, TOOL AND MATERIALS STORAGE

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

### 1.12 SANITARY FACILITIES

.1 Sanitary facilities will be provides for the Contractor's use such as mentionned in section 01 11 01 - Work related general information. The facilities must be kept clean for the length of the construction.

#### 1.13 CONSTRUCTION SIGNAGE

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

# 1.14 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by [Departmental Representative] [DCC Representative] [Consultant].
- .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .4 Protect travelling public from damage to person and property.

- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.
- .7 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .8 Dust control: adequate to ensure safe operation at all times.
- .9 Provide snow removal during period of Work.

## 1.15 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 Stack stored new or salvaged material not in construction facilities.

# PART 2 - PRODUCTS

- 2.01 NOT USED
  - .1 Not used.

# PART 3 - EXECUTION

## 3.01 NOT USED

.1 Not used.

# PART 1 - GENERAL

### 1.01 RELATED REQUIREMENTS

- .1 Section 01 45 00 Quality control
- .2 All the technical section of this document

# 1.01 RÉFÉRENCES

- .1 Within text of each specifications section, reference may be made to reference standards.
- .2 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .3 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be born by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.

## 1.02 QUALITY

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .4 Should disputes arise as to quality or fitness of products, decision rests strictly with [Departmental Representative] [DCC Representative] [Consultant] based upon requirements of Contract Documents.
- .5 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .6 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

# 1.03 AVAILABILITY

.1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

.2 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

# 1.04 STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store sheet materials, lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .5 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .6 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .7 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

### 1.05 TRANSPORTATION

.1 Pay costs of transportation of products required in performance of Work.

## 1.06 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

# 1.07 QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

### 1.08 CO-ORDINATION

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

#### 1.09 CONCEALMENT

- .1 In finished areas conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
- .2 Before installation inform Departmental Representative if there is interference. Install as directed by Departmental Representative.

### 1.10 REMEDIAL WORK

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

### 1.11 LOCATION OF FIXTURES

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.

### 1.12 FASTENINGS

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

### 1.13 FASTENINGS - EQUIPMENT

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.

- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

# 1.14 **PROTECTION OF WORK IN PROGRESS**

.1 Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of Departmental Representative.

### 1.15 EXISTING UTILITIES

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work and/or building occupants and pedestrian and vehicular traffic.
- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

# PART 2 - PRODUCTS

# 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

# 3.01 NOT USED

.1 Not used.

# PART 1 - GENERAL

#### 1.01 RELATED REQUIREMENTS

- .1 Section 01 33 00 Submittal procedures
- .2 Section 01 74 21 Construction / demolition waste management and disposal

### 1.02 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.

### 1.03 MATERIALS

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 Submittal Procedures.

### 1.04 **PREPARATION**

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

# 1.05 EXECUTION

- .1 Execute cutting, fitting, and patching [including excavation and fill,] to complete Work.
- .2 Fit several parts together, to integrate with other Work.
- .3 Uncover Work to install ill-timed Work.
- .4 Remove and replace defective and non-conforming Work.
- .5 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- .6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .7 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .8 Restore work with new products in accordance with requirements of Contract Documents.

- .9 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .10 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.

### 1.5 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 -Construction/Demolition Waste Management And Disposal.

# PART 2 - PRODUCTS

### 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

# 3.01 NOT USED

.1 Not used.

# PART 1 - GENERAL

#### 1.01 RELATED REQUIREMENTS

- .1 Section 01 74 21 Construction / demolition waste management and disposal
- .2 All the technical section of this document

### 1.02 REFERENCES

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

### 1.01 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including other than that caused by Owner or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.
- .3 Clear snow and ice from access to building, bank/pile snow in designated areas only.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Dispose of waste materials and debris at designated dumping areas on Crown property.
- .7 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

# 1.02 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.
- .5 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

- .6 Remove stains, spots, marks and dirt from electrical and mechanical fixtures and all other exterior surfaces.
- .7 Clean lighting reflectors, lenses, and other lighting surfaces.
- .8 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
- .9 Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.
- .10 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.

### 1.03 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 -Construction/Demolition Waste Management And Disposal.

# PART 2 - PRODUCTS

# 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

- 3.01 NOT USED
  - .1 Not used.

# PART 1 - GENERAL

# 1.01 WASTE MANAGEMENT GOALS

.1 Protect environment and prevent environmental pollution damage.

## 1.02 RELATED REQUIREMENTS

- .1 Section 01 33 00 Submittal procedures
- .2 Section 01 78 00 Closeout submittals
- .3 All the technical section of this document

# 1.03 REFERENCES

- .1 Definitions:
  - .1 Approved/Authorized recycling facility: waste recycler approved by applicable provincial authority or other users of material for recycling approved by the CSC Representative.
  - .2 Class III: non-hazardous waste construction renovation and demolition waste.
  - .3 Construction, Renovation and/or Demolition (CRD) Waste: Class III solid, nonhazardous waste materials generated during construction, demolition, and/or renovation activities.
  - .4 Inert Fill: inert waste exclusively asphalt and concrete.
  - .5 Waste Source Separation Program (WSSP): implementation and co-ordination of ongoing activities to ensure designated waste materials will be sorted into pre-defined categories and sent for recycling and reuse, maximizing diversion and potential to reduce disposal costs.
  - .6 Recyclable: ability of product or material to be recovered at end of its life cycle and remanufactured into new product for reuse.
  - .7 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
  - .8 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
  - .9 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
    - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
    - .2 Returning reusable items including pallets or unused products to vendors.

- .10 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .11 Separate Condition: refers to waste sorted into individual types.
- .12 Source Separation: act of keeping different types of waste materials separate beginning from the point they became waste.

# 1.04 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

# 1.05 USE OF SITE AND FACILITIES

- .1 Execute Work with minimal interference and disturbance to normal use of premises.
- .2 Maintain security measures established by facility provide temporary security measures approved by Departmental Representative.

### 1.06 WASTE PROCESSING SITES

.1 Contractor is responsible to research and locate waste diversion resources and service providers. Salvaged materials are to be transported off site to approved and/or authorized recycling facilities or to users of material for recycling.

# 1.07 QUALITY ASSURANCE

.1 After award of Contract, a mandatory site examination will be held for this Project for Contractor and/or sub-contractors responsible for construction, renovation demolition/deconstruction waste management.

#### 1.08 STORAGE, HANDLING AND PROTECTION

.1 Protect surface drainage, mechanical and electrical from damage and blockage.

# 1.09 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of all waste into waterways, storm, or sanitary sewers.

### 1.10 SCHEDULING

.1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

# PART 2 - PRODUCTS

# 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

# 3.01 GENERAL

.1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

# 3.02 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 Cleaning.

# PART 1 - GENERAL

### 1.01 RELATED REQUIREMENTS

.1 Section 01 78 00 – Closeout submittals

### 1.02 REFERENCES

- .1 Canadian Construction Documents Committee (CCDC)
  - .1 CCDC 2-200, Price contract

### 1.03 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
  - .1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
    - .1 Notify Departemental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
    - .2 Request Departemental Representative's inspection.
  - .2 Departemental Representative's Inspection:
    - .1 Departemental Representative and Contractor to inspect Work and identify defects and deficiencies.
    - .2 Contractor to correct Work as directed.
  - .3 Completion Tasks: submit written certificates in French that tasks have been performed as follows:
    - .1 Work: completed and inspected for compliance with Contract Documents.
    - .2 Defects: corrected and deficiencies completed.
    - .3 Equipment and systems: tested, adjusted and balanced and fully operational.
    - .4 Certificates required: submitted.
    - .5 Operation of systems: demonstrated to Owner's personnel.
    - .6 Work: complete and ready for final inspection.
  - .4 Final Inspection:
    - .1 When completion tasks are done, request final inspection of Work by Departemental Representative, and Contractor.
    - .2 When Work incomplete according to Departemental Representative, complete outstanding items and request re-inspection.
  - .5 Declaration of Substantial Performance: when Departemental Representative considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
  - .6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to be date for commencement for

warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

- .7 Final Payment:
  - .1 When Departemental Representative considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
  - .2 When Work deemed incomplete by Departemental Representative, complete outstanding items and request re-inspection.
- .8 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

# PART 2 - PRODUCTS

# 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

# 3.01 NOT USED

.1 Not used.

# PART 1 - GENERAL

#### 1.01 RELATED REQUIREMENTS

- .1 Section 01 45 00 Quality control
- .2 Section 01 77 00 Closeout procedures
- .3 All the technical section of this document

### 1.02 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 Submittal Procedures.
- .2 Two weeks prior to Substantial Performance of the Work, submit to the Departemental Representative, two final copies of operating and maintenance manuals in French.
- .3 Provide spare parts, maintenance materials and special tools of same quality and manufacture as products provided in Work.
- .4 Provide evidence, if requested, for type, source and quality of products supplied.

#### 1.03 FORMAT

- .1 Organize data as instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3 When multiple binders are used correlate data into related consistent groupings.
  - .1 Identify contents of each binder on spine.
- .4 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- .5 Arrange content by process flow, under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: manufacturer's printed data, or typewritten data.
- .8 Drawings: provide with reinforced punched binder tab.
  - .1 Bind in with text; fold larger drawings to size of text pages.
- .9 Provide 1:1 scaled CAD files in dwg format on CD.

# 1.04 CONTENTS - PROJECT RECORD DOCUMENTS

- .1 Table of Contents for Each Volume: provide title of project;
  - .1 Date of submission; names.
  - .2 Addresses, and telephone numbers of Consultant and Contractor with name of

responsible parties.

- .3 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:
  - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: as required to supplement product data.
  - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 Quality Control.

## 1.05 AS-BUILT DOCUMENTS AND SAMPLES

- .1 Maintain, for Departemental Representative one record copy of:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Change Orders and other modifications to Contract.
  - .5 Reviewed shop drawings, product data, and samples.
  - .6 Field test records.
  - .7 Inspection certificates.
  - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction.
  - .1 Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
  - .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.
  - .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departemental Representative.

## 1.06 MATERIALS AND FINISHES

- .1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
  - .1 Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and

methods, and recommended schedule for cleaning and maintenance.

- .3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional requirements: as specified in individual specifications sections.

## 1.07 MAINTENANCE MATERIALS

- .1 Spare Parts:
  - .1 Provide spare parts, in quantities specified in individual specification sections.
  - .2 Provide items of same manufacture and quality as items in Work.
  - .3 Deliver to location as directed; place and store.
  - .4 Receive and catalogue items.
    - .1 Submit inventory listing to Departemental Representative.
    - .2 Include approved listings in Maintenance Manual.
  - .5 Obtain receipt for delivered products and submit prior to final payment.
- .2 Extra Stock Materials:
  - .1 Provide maintenance and extra materials, in quantities specified in individual specification sections.
  - .2 Provide items of same manufacture and quality as items in Work.
  - .3 Deliver to site; place and store.
  - .4 Receive and catalogue items.
    - .1 Submit inventory listing to Departemental Representative.
    - .2 Include approved listings in Maintenance Manual.
  - .5 Obtain receipt for delivered products and submit prior to final payment.
- .3 Special Tools:
  - .1 Provide special tools, in quantities specified in individual specification section.
  - .2 Provide items with tags identifying their associated function and equipment.
  - .3 Deliver to site location as directed; place and store.
  - .4 Receive and catalogue items.
    - .1 Submit inventory listing to Departemental Representative.
    - .2 Include approved listings in Maintenance Manual.

### 1.08 DELIVERY, STORAGE AND HANDLING

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and for review by Departemental Representative.

## 1.09 WARRANTIES AND BONDS

- .1 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
  - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
  - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
  - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
  - .4 Verify that documents are in proper form, contain full information, and are notarized.
  - .5 Co-execute submittals when required.
  - .6 Retain warranties and bonds until time specified for submittal.
- .2 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.

# PART 2 - PRODUCTS

# 2.01 NOT USED

.1 Not used.

# PART 3 - EXECUTION

# 3.01 NOT USED

.1 Not used.

# PART 1 - GENERAL

### 1.00 SCOPE OF WORK (NON LIMITATIVE)

.1 This section includes all demolition work specified in the present documents, indicated on drawings as well as all non-indicated demolition necessary to complete construction work.

#### 1.01 RELATED REQUIREMENTS

- .1 Division 01 General conditions
- .2 Demolition drawing

### 1.02 RÉFÉRENCES

- .1 CSA International
  - .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.

# 1.03 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures and 01 74 21 Construction / demolition waste management and disposal.

# 1.04 SITE CONDITIONS

- .1 If material resembling spray or trowel-applied asbestos or other designated substance [listed as hazardous] be encountered, stop work, take preventative measures, and notify Departmental Representative immediately.
  - .1 Proceed only after receipt of written instructions have been received from Departmental Representative.
- .3 Notify CSC Representative before disrupting building access or services.
- .4 Provide necessary protection for all work in asbestos or lead low-risk conditions.
- .5 Submit work method for the removal and demolition of existing resilient flooring containing asbestos.

## 1.05 EXECUTION DATE RANGE

- .1 In function of intervention priority, the demolition work should be coordinated with the CSC representative.
- .2 This demolition work should begin immediately after CSC representative allowed access to the work area.

### 1.06 EXECUTION TIMEFRAME

.1 Refer at the tender documents for the generals' conditions and owner requirement for the work schedule and the timescale for completion.

# 1.07 COORDINATION

- .1 The general contractor should coordinate all the demolition work of all sub-contractor.
- .2 Coordinate the demolition work of architecture with mechanic too.

### 1.08 DEMOLITION SURFACES CONDITION

.1 Begin the demolition work with the demolition surfaces condition the day of the signing contract.

# 1.09 DEMOLITION TECHNIQUE AND EQUIPMENT

- .1 The demolition technique and equipment, security installations and protection should be submitted beforehand, to the Architecte for approval and should be takes in consideration the institution context, the building occupancy, the structure type and the capacity of the building and noise generation work.
- .2 Any demolition work can begin without the CSC representative approbation.
- .3 In anytime, the CSC representative can interrupt the ongoing work and ask to modify the pace of work, used equipments and technique to reduce the impact of work on the occupants, without extra cost.

### 1.10 PROTECTION

- .1 Limit without delay all dust source and limit the working noise, and all other disadvantage incur the occupants of the building.
- .2 Also conform you to the requirements statements of the generals conditions and especially to the tender document issued by the Architecte.

# 1.11 FINISH SURFACES AND EQUIPMENTS PROTECTION

- .1 Protect partially or totally the equipments and finish surfaces during the work.
- .2 Protect all the existing elements who should rest in place and the equipments who should be recover. If they are damaged during works, replacing them or repair immediately, to the satisfaction of the CSC representative, without extra change.
- .3 Take responsibility for damages caused by failure to lack of protection or inappropriate protection.
- .4 Disposal of demolition or construction waste should respect the time window allowed by the CSC representative.

# 1.12 TOOLING

- .1 The large-calibre hammer drill and others impact-type tooling cannot be use, it is strictly prohibited. Unless agreement with CSC representative.
- .2 The Contractor should use appropriate tooling for work to do.

# 1.13 **PROTECTIVES MESURES**

- .1 Be sure that the demolition works cannot contaminate the ventilation system or mechanical shafts.
- .2 Be sure that the demolition works don't obstruct the drainage water system, the electrical and mechanical system that shoul remain function.
- .3 Take the necessary measure for prevent shifting or structural breakdown, used pipeline, walkway, road surfaces, trees, landscape or adjacent ground during container transportation for project waste.

# 1.14 DEMOLITION MATERIAL DISPOSAL

- .1 The CSC representative reserves the right to recover all materials who judges reusable not even it is identified on drawing.
- .2 The CSC representatives can recover all materials he wants.
  - .1 When the materials or equipment are mentioned on drawing to be demolish and to take back to CSC representative, they will be take off carefully by the contractor, wrapped with polyethylene sheet and will be delivered by the contractor in location identify by the CSC representative.
  - .2 When the materials or equipment are mentioned on drawing to be demolish, it will be demolish by the contractor.
  - .3 When the materials or equipment are identify before the beginning of the project by the CSC representative as been recovered, they will be take of carefully by the contractor and the CSC representative will pass on project to take it.
- .3 During a visit on the site before the beginning of works, the CSC representative will identify the materials or equipment he want to recovered.
- .4 The material who isn't recovered should be evacuated of sites and be transported out-sides of site daily.
- .5 Any accumulation of materials will be tolerate on site.
- .6 Unless otherwise noted, clear the site of all demolition materials in respect to the competent authority requirement and the requirement of present section.

# PART 2 - PRODUCTS

## 2.01 WASTE CONTAINER

- .1 For demolition works, supply and install, to the outside of building, at specified area by the CSC representative, a waste container, of adapted size for woks to do.
- .2 The access will be like the CSC representative according requirements.

# PART 3 - EXECUTION

### 3.01 EXAMINATION

- .1 Inspect building with CSC representative and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
- .2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.
- .3 Notify and obtain approval of utility companies before starting demolition.

### 3.02 PREPARATION

- .1 Protection systems
  - .1 Prevent movement, settlement, or damage to adjacent structures, utilities, and landscaping features and parts of building]to remain in place. Provide bracing and shoring required.
  - .2 Keep noise, dust, and inconvenience to occupants to minimum.
  - .3 Protect building systems, services and equipment.
  - .4 Provide temporary dust screens, covers, railings, supports and other protection as required.
  - .5 Do Work in accordance with Section 01 35 30 Health and Safety Requirements.

#### 3.03 DEMOLITION WORK

.1 Undertake all complete or partial demolition work indicated on plans.

#### 3.04 REPAIR AND RESURFACING

- .1 All the damaged surfaces by the present works should be repair or properly redo with same adjacent material.
- .2 The REPAIR word mean:
  - .1 consolidate, blow, equalize, align, adjust, level, finish, submit to the existing;
  - .2 with new materials and similar at the existing;
  - .3 shape way for the product look like new and there wasn't significant difference between existing and new.

#### 3.05 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 Cleaning.

- .3 Refer to demolition drawings and specifications for items to be salvaged for reuse.
- .4 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 -Construction/Demolition Waste Management and Disposal

# PART 1 – GENERAL

### 1.00 SCOPE OF WORK (NON LIMITATIVE)

- .1 The list below is not necessarily exhaustive and in no way releases the Contractor from the obligation of carrying out the project in its entirety according to generally accepted practices as well as the intentions and general principles as described in these specifications and drawings.
- .2 Roof intervention:
  - .1 Remove existing gravel only on the services building roof;
  - .2 Remove sealing membrane till insulation on two building roof;
  - .3 Remove deck covering on two building roof;
  - .4 Remove all the metal flashing and trim on two building roof;
  - .5 Remove and store the mechanicals equipments (gooseneck, chimney, fan, etc.) on two building roof in view of it's reinstallation;
  - .6 Remove vent pipe on two building roof in view of it's replacement;
  - .7 Remove roof drain on the postern building in view of it's replacement;
- .2 Install a new sealing system in modified bituminous membrane on two building roof;
- .3 Install a new vent pipe and roof drain on two building roof;
- .4 Reinstall all the existing equipments temporarily removed;
- .5 Install new metal flashing and trim on two building roof.
- .6 Any other woks required to the complete rehabilitation roof work.

#### 1.01 RELATED REQUIREMENTS

- .1 Division 1 Generals conditions.
- .2 Section 07 62 00 Sheet metal flashing and trim.
- .3 Section 07 92 00 Joint sealants

## 1.02 REFERENCES

- .1 ASTM International Inc.
  - .1 ASTM C 726-05, Standard Specification for Mineral Fiber Roof Insulation Board.
  - .2 ASTM C 728-05, Standard Specification for Perlite Thermal Insulation Board.
  - .3 ASTM C 1177/C 1177M-06, Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.

- .4 ASTM C 1396/C 1396M-06a, Standard Specification for Gypsum Board.
- .5 ASTM D 41-05, Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
- .6 ASTM D 312-00(2006), Standard Specification for Asphalt Used in Roofing.
- .7 ASTM D 448-03a, Standard Classification for Sizes of Aggregate for Road and Bridge Construction.
- .8 ASTM D 2178-04, Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
- .9 ASTM D 6162-00a, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fibre Reinforcements.
- .10 ASTM D 6163-00e1, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fibre Reinforcements.
- .11 ASTM D 6164-05, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- .12 ASTM D 6222-02e1, Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcement.
- .13 ASTM D 6223-02e1, Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcement.
- .14 ASTM D 6509-00, Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcement.
- .2 Canadian General Standards Board (CGSB)
  - .1 CGSB 37-GP-9Ma-83, Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing.
  - .2 CGSB 37-GP-56M-80b(A1985), Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing.
  - .3 CAN/CGSB-51.33-M89, Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction.
- .3 Canadian Roofing Contractors Association (CRCA)
  - .1 CRCA Roofing Specifications Manual-1997.
- .4 Canadian Standards Association (CSA International)
  - .1 CSA A123.21-04, Standard Test Method for the Dynamic Wind Uplift Resistance of Mechanically Attached Membrane-Roofing Systems .

- .2 CSA-A123.3-05, Asphalt Saturated Organic Roofing Felt.
- .3 CSA-A123.4-04, Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems.
- .4 CSA A231.1-06, Precast Concrete Paving Slabs.
- .5 CSA O121-08, Douglas Fir Plywood.
- .6 CSA O151-04, Canadian Softwood Plywood.
- .5 Factory Mutual (FM Global)
  - .1 FM Approvals Roofing Products.
- .6 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .7 Underwriters Laboratories' of Canada (ULC)
  - .1 CAN/ULC-S701-05, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.
  - .2 CAN/ULC-S702.2-03, Standard for Mineral Fibre Thermal Insulation for Buildings.
  - .3 CAN/ULC-S704-[03], Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.
  - .4 CAN/ULC-S706-[02], Standard for Wood Fibre Thermal Insulation for Buildings.

## 1.03 CONTRACTOR QUALIFICATION

.1 Only a qualified roofing working force can execute the work.

# 1.04 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 Submittal Procedures.
- .2 Product Data:
  - .1 Provide of most recent technical roofing components data sheets describing materials' physical properties and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Provide shop drawings:
  - .1 Indicate flashing, control joints, tapered insulation details.
- .4 Manufacturer's Certificate: certify that products meet or exceed specified requirements.
- .5 Test and Evaluation Reports: submit laboratory test reports certifying compliance of bitumens and roofing felts and membrane with specification requirements.

- .6 Manufacturer's Installation Instructions: indicate special precautions required for seaming the membrane.
- .7 Manufacturer's field report: in accordance with Section 01 45 00 Quality Control.
- .8 Reports: indicate procedures followed, ambient temperatures and wind velocity during application.

# 1.05 QUALITY ASSURANCE

.1 Installer qualifications: company or person specializing in application of modified bituminous roofing systems with 5 years experience approved by manufacturer.

# 1.06 MANUFACTURING REPRESENTATIVE

.1 At the beginning of the sealing works, a manufacturing representative of the sealing product must be present on the site.

## 1.07 FIRE PROTECTION

- .1 Following safety instructions indicate in the manufacturer manual Soprema inc.
- .2 At the end of each day, use a heat detector to find any fire area. The workshop organization should allow the presence of worker for 1 hour after each day's roofing operations cease.
- .3 Fire Extinguishers maintain one cartridge operated type or stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for A, B and C class protection. Size or as indicated on roof per torch applicator, within 6 m of torch applicator.
- .4 The felt and membrane rolls should be store standing; in case of membrane the recovery edge should be at the top.
- .5 Pull out of the storage area only the amount of materials for the working day.
- .6 Make a plywood circulation path, overhead the finish part.
- .7 Maintain the sealing product to minimum temperature of -5 degrees C or more.
- .8 Protect the insulation materials from the day light and bad weather conditions.

# 1.08 SITE CONDITIONS

.1 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

#### 1.09 WARRANTY

- .1 Sub-contractor warranty
  - .1 The roofing sub-contractor must submit a signed document, issued in the name of the owner, certifying that the work will be free from any sealing default for a period of five (5) years from the delivery with caution date.
- .2 Sealing manufacturer product warranty

- .1 The membrane manufacturer will issue a written document in the owner's name, valid for a twenty-year period, stating that it will repair any leaks in the roofing membrane to restore the roofing system to a dry and watertight condition, to the extent that manufacturing or installation defects caused such water infiltration. The warranty must cover the total cost of repair's during the entire warranty period. The warranty must be transferable, at no extra cost, to subsequent building owners. The warranty certificate must reflect these requirements.
- .2 The contractor should provide a 20 year warranty for total cost value of the roofing works, including all labor and materials for the entire sealing systems, according the Platinum 20 year warranty contract terms.
  - .1 The costs of the warranty must be included in the contractor's tender.
  - .2 The granular membrane must meet the ASTM-4977 standard test method for granule adhesion to mineral surfaced roofing by abrasion. The measured granule loss must be 0.3 gram maximum.

# PART2 - PRODUCTS

# 2.01 PERFORMANCE CRITERIA

- .1 Compatibility between components of roofing system is essential.
- .2 Roofing System: to CSA A123.21 for wind uplift resistance.
  - .1 24lbs/pi2 (1.1 kpa) on current surface.
  - .2 29lbs/pi2 (1.4 kpa) on perimeter (3 meters).
  - .3 57lbs/pi2 (2.8 kpa) in corners (3 meters x 3 meters)

# 2.02 DECK COVERING

- .1 Base sheet membrane, high performance panel composed of SBS modified bitumen membrane with a non-woven polyester reinforcement, factory-laminated on high density mineral fiber (stone wool) board. The panel have to be mechanically fastened with manufacturer recommandations.
  - .1 Reference product: **Xpress Board HD** from **Soprema** or approved equivalent.
  - .2 Thickness: 13 mm for services building and 25 mm for postern.
  - .3 Mounting: **Soprafix** from **Soprema** or approved equivalent.
- .2 Plywood base panel for new roof drain perimeter: exterior treated plywood, require thickness and sizes as drawing indication.

## 2.03 MEMBRANE

- .1 Base sheet for flashing and parapet: Shelf-adhésive base sheet composed of a glass mat reinforcement ans SBS modified bitumen. Silicone release film under face and thermofusible plastic film surface.
  - .1 Reference standard: conform to CGSB 37-GP-56M.

- .2 Reference product: **Sopraflash flam stick** from **Soprema** or approved equivalent.
- .3 Thickness: 3 mm.
- .4 Reinforcement: glass mat.
- .5 Modified bitumen: SBS modified bitumen.
- .6 Breaking strength:
  - .1 longitudinal: 18 kN/n.
  - .2 tranversal: 16 kN/n.
- .7 Ultimate elongation:
  - .1 longitudinal: 55%.
  - .2 tranversal: 56%.
- .8 Cold bending: -30 degrees C : no cracking.
- .9 Softening point conform to ASTM D3686:  $\geq$  110 degrees C.
- .10 Static puncture resistance:  $\geq$  380 N.
- .2 Cap sheet membrane: Heat-welded cap sheet membrane composed of a non-woven polyester reinforcement and SBS modified bitumen.
  - .1 Reference product: **Sopralene flam 250 GR** from **Soprema** or approved equivalent.
  - .2 Reinforcement: non-woven polyester.
  - .3 Modified bitumen: SBS modified bitumen.
  - .4 Surface: Granules.
  - .5 Under faces: Thermofusible plastic film.
  - .6 Sizes: 1 m x 8 m.
  - .7 Thickness: 4 mm.
- .4 Roof fasteners: Spiral nails with steel disc, length 25.4 mm or 38 mm.
- .5 Metal flashing and accessory: Prefinished factory applied galvanized steel sheet, thickness as drawing indicated. The base metal sheet with uniform zinc coating according to ASTM A446 (last revision), A grade. The minimum zinc coating will be G90 (Z275) according to ASTM A525 (last revision). Color to be chosen by the Architecte.
- .6 Anchorage at the parapet perimeter's
  - .1 Galvanised steel fixation bar with screw at each 300 mm.

## 2.04 SEALERS

.1 In addition of the specific materials, furnish all the complementary materials necessary to the complete realization.

.2 Compatible elastomer bitumen sealants: see Section 07 92 00 – joint sealants.

## 2.05 PRIMER

- .1 Primer for self-adhesive membrane.
  - .1 Description: Primer composed of synthetic polymers, adhesive enhancing resins and volatile solvents. It is designed to enhance the adhesion of self-adhesive, membrane on various substrates.
  - .2 Reference product: **Elastocol Stick Zero** from **Soprema** or approved equivalent.

### 2.06 ROOF DRAIN

- .1 Stainless steel plate, measuring 600 mm x 600 mm x 0.8 mm thickness (22 oz), such as **RD-4SS RR** model from **Thaler** company or approved equivalent.
- .2 Stainless steel strainer, mechanically adjustable by screw on rain water standpipe.

# 2.07 PLUMBING VENT

.1 Provide sealing around the plumbing event pipe, furnish news aluminum plumbing vent of 305 mm and/or 457 mm of height, such as **SJ-26** and/or **SJ-27** model from **Thaler** company or approved equivalent.

# PART 3 - EXECUTION

# 3.01 QUALITY OF WORK

.1 Assembly, component and material connections will be made in consideration of appropriate design loads.

### 3.02 EXAMINATION OF ROOF DECKS

- .1 Verification of Conditions:
  - .1 Inspect with CSC Representative deck conditions including parapets, construction joints, roof drains, plumbing vents and ventilation outlets to determine readiness to proceed.
- .2 Evaluation and Assessment:
  - .1 Prior to beginning of work ensure:
    - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.
    - .2 Curbs have been built.
    - .3 Roof drains have been installed at proper elevations relative to finished roof surface.
    - .4 Plywood and lumber nailer plates have been installed to deck, walls and parapets as indicated.
- .3 Do not install roofing materials during rain or snowfall.

## 3.03 PROTECTION OF IN-PLACE CONDITIONS

- .1 Cover walls, walks, slopped roofs and adjacent work where materials hoisted or used.
- .2 Use warning signs and barriers. Maintain in good order until completion of Work.
- .3 Clean off drips and smears of bituminous material immediately.
- .4 Dispose of rain water off roof and away from face of building until roof drains or hoppers installed and connected.
- .5 Protect roof from traffic and damage.
- .6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.
- .7 Metal connectors and decking will be treated with rust proofing or galvanization.

# 3.04 METHOD OF EXECUTION

- .1 Roofing work must be completed in a continuous fashion as surfaces are readied and as weather conditions allows it.
- .2 It's preferable to seal all joints that are not covered by a cap sheet membrane the same day. A second cap sheet cannot be installed if any moisture is present in joints.
- .3 Ensure waterproofing of roofs at all times, including protection during installation work by other trades and protection as work is completed (e.g. vents, drains, etc.).

#### 3.05 INSTALLATION OF BOARDS AND FACTORY-LAMINATED BASE SHEET

- .1 Mechanically fasten boards with screws and plates for membranes. Mechanical fasteners must be installed in the centre of the membrane side selvedge and on board surface Follow instructions of approval reports for location of fasteners.
- .2 All boards must be in perfect connection, without any significant variances in level, and must be completely adhered to the surface.
- .3 Adhere the first part of the self-adhesive side laps using a membrane roller, then heat-weld the last part (self-adhesive, heat-welded side laps).
- .4 Seal end laps by welding a 330-mm wide protection strip centered on the joint.
- .5 Avoid the formation of wrinkles, swellings or fishmouths.

### 3.06 INSTALLATION OF SELF-ADHESIVE BASE SHEET ON FLASHINGS AND PARAPETS

- .1 Apply base sheet flashing only after primer coat is dry.
- .2 Before applying membranes, always burn the plastic film from the section to be covered if there is an overlap (inside and outside corners and field surface). For sanded base sheet membranes,

apply primer for self-adhesive membrane on the area to be covered at the foot of the parapets.

- .3 Cut off corners at end laps of areas to be covered by the next roll.
- .4 Each selvedge will overlap the previous one along lines provided for this purpose, and by 150 mm at the ends.
- .5 Position the pre-cut membrane. Remove 150 mm of the silicone release film to hold the membrane in place at the top of the parapet.
- .6 Then, gradually peel off the remaining silicone release film, pressing down on the membrane with an aluminum applicator to ensure good adhesion. Use the aluminum applicator to ensure a perfect transition between the flashing and the field surface. Smooth the entire membrane surface with a membrane roller for full adhesion.
- .7 Install a reinforcing gusset at all inside and outside corners.
- .8 Always seal overlaps at the end of the workday.
- .9 Avoid the formation of wrinkles, swellings or fishmouths.

# 3.07 INSTALLATION OF THERMOFUSIBLE CAP SHEET ON FIELD SURFACE

- .1 Begin with double-selvedge starter roll. If starter roll is not used, side laps covered with granules must be de-granulated by embedding granules in torch-heated bitumen over a 75-mm width.
- .2 Unroll the membrane on the base sheet, taking care to align the edge of the first selvedge with the edge of the roof.
- .3 Cut off corners at end laps at areas to be covered by the next roll.
- .4 Each selvedge will overlap the previous one along lines provided for this purpose, and will overlap by 150 mm at the ends. Space end laps a minimum of 300 mm.
- .5 Heat-weld cap sheet membrane with a torch on the base sheet to create a bleed out of 3 to 6 mm.
- .6 During installation, be careful not to overheat the membrane or its reinforcements.
- .7 Avoid the formation of wrinkles, swellings or fishmouths.
- .8 Avoid walking over finished surfaces; use rigid protective walkways as needed.

#### 3.08 INSTALLATION OF THERMOFUSIBLE CAP SHEET ON FLASHING AND PARAPETS

- .1 This cap sheet must be installed in one-metre-wide strips
- .2 Each selvedge will overlap the previous one laterally along lines provided for this purpose, and will overlap by 150 mm the field surface. Membranes for flashings must be spaced at least 100 mm with respect to the cap sheet membranes on the field surface, to avoid areas of excessive membrane thickness.

- .3 Cut off corners at end laps on areas to be covered by the next roll.
- .4 Use a chalk line to draw a straight line on the field surface, 150 mm from flashings and parapets.
- .5 Use a torch and round-nose trowel to embed the surface granules in the layer of hot bitumen, starting from the chalk line on the field surface to the bottom edge of the flashing or parapet, as well as on the granulated vertical surfaces to be overlapped.
- .6 This cap sheet will be heat-welded directly to the base sheet membrane, proceeding from bottom to top.
- .7 Avoid the formation of wrinkles, swellings or fishmouths.
- .8 During installation, be careful not to overheat the membrane and its reinforcements.

# 3.09 INSTALLATION OF ROOF DRAIN

- .1 Burn the plastic film of the section to be covered by the roof drain.
- .2 Insert the drain sleeve into the rainwater drainage opening on the roof.
- .3 Peel off the release protection film and adhere the flexible deck flange to the base sheet membrane of the field surface.
- .4 Apply pressure over the whole surface using a membrane roller.
- .5 Seal the perimeter of the of the flexible deck flange with a torch and a round nosed-trowel.
- .6 Heat-weld the cap sheet membrane on the roof drain flexible deck flange. Allow to cool and cut the roof drain hole.
- .7 Position and centre the strainer at the upper rainwater drainage opening of the roof drain.
- .8 Insert and slide the legs of the strainer into the sleeve of the roof drain. Adjust the legs according to diameter. Tighten the upper screws to fix the legs and tighten the side screws to hold the strainer in place.

#### 3.10 INSTALLATION OF VENT STACKS

- .1 Burn the plastic film of the section to be covered by the roof drain.
- .2 Insert the aluminum vent sleeve over the main plumbing system.
- .3 Peel off the release protection film and adhere the flexible deck flange to the base sheet membrane of the field surface.
- .4 Apply pressure over the whole surface using a membrane roller.
- .5 Seal the perimeter of the of the flexible deck flange with a torch and a round nosed-trowel.
- .6 Insulate the space between the main plumbing vent system and the aluminum vent sleeve.
- .7 Insert and position the adjustable flashing into the aluminum vent sleeve. The adjustable flashing must sit on the main plumbing vent system.

- .8 Heat-weld the cap sheet membrane on the roof drain flexible deck flange. Allow to cool and cut the roof drain hole.
- .9 Install and affix the aluminum rain cap on the aluminum vent sleeve.

# 3.11 FLASHING APPLICATION

- .1 Complete installation of flashing base sheet stripping prior to installing membrane cap sheet.
- .2 Nail and cap sheet onto substrate in 1 metre wide strips.
- .3 Lap flashing base sheet to membrane base sheet minimum 150 mm and seal by mopping or torch welding.
- .4 Lap flashing cap sheet to membrane cap sheet 250 mm minimum and torch weld.
- .5 Provide 75 mm minimum side lap and seal.
- .6 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.
- .7 Do work in accordance with manufacturer's recommendations and Section 07 62 00 Sheet Metal Flashing and Trim.

## 3.12 CAULKING

.1 Seal hermetically all joint between membrane and flashing, according to the association des maîtres couvreurs du Québec (AMCQ) and the membrane manufacturer's.

# 3.13 CLEANING

- .1 Remove bituminous markings from finished surfaces.
- .2 In areas where finished surfaces are soiled caused by work of this section, consult manufacturer of surfaces for cleaning advice and complying with their documented instructions.
- .3 Repair or replace defaced or disfigured finishes caused by work of this section.

# PART 1 – GENERAL

### 1.00 SCOPE OF WORK (NON LIMITATIVE)

.1 This section includes all sheet metal flashing and trim specified in the present documents.

# 1.01 RELATED REQUIREMENTS

- .1 Section 07 52 00 Modified bituminous membrane roofing
- .2 Section 07 92 00 Joint sealants

## 1.02 REFERENCES

- .1 The Aluminum Association Inc. (AAI)
  - .1 AAI-Aluminum Sheet Metal Work in Building Construction-2002.
  - .2 AAI DAF45-[03], Designation System for Aluminum Finishes.
- .2 Canadian Roofing Contractors Association (CRCA)
  - .1 Roofing Specifications Manual 1997.
- .3 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.
  - .2 CAN/CGSB-93.1-M85, Sheet Aluminum Alloy, Prefinished, Residential.
- .4 Canadian Standards Association (CSA International)
  - .1 CSA A123.3-05, Asphalt Saturated Organic Roofing Felt.
  - .2 AAMA/WDMA/CSA 101/I.S.2/A440-2008, Standard/Specification for Windows, Doors, and Unit Skylights.
  - .3 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
- .5 Green Seal Environmental Standards
  - .1 Standard GS-03-93, Anti-Corrosive Paints.
  - .2 Standard GS-11-97, Architectural Paints.
  - .3 Standard GS-36-00, Commercial Adhesives.
- .6 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).

## 1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's printed product literature for sheet metal flashing systems materials, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

- .3 Shop Drawings:
  - .1 Shop drawings: submit drawings stamped and signed by professional engineer registered or licensed in Province Quebec of Canada.
- .4 Samples:
  - .1 Submit one 50 x 50 mm samples of each type of sheet metal material, finishes and colours.
- .5 Quality assurance submittals: submit following in accordance with Section 01 45 00 Quality Control.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 Common Product Requirements.
- .2 Waste Management and Disposal:
  - .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 Construction/Demolition Waste Management and Disposal.

# PART 2 - PRODUCTS

# 2.01 SHEET METAL MATERIALS

.1 Zinc coated steel sheet: thickness as shown on document, commercial quality to ASTM A 653/A 653M, with Z275 designation zinc coating. Factory painted, colors such as adjacent surface.

### 2.02 PREFINISHED STEEL SHEET

.1 Galvanized steel metal: Prefinished steel with factory applied, **20 gages.** The base metal sheet with uniform zinc coating according to ASTM A446 (last revision), A grade. The minimum zinc coating will be G90 (Z275) according to ASTM A525 (last revision).

### 2.04 ACCESSORIES

- .1 Isolation coating: alkali resistant bituminous paint.
- .2 Plastic cement: to CAN/CGSB 37.5.
- .3 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness same as sheet metal being secured.
- .4 Fasteners: of same material as sheet metal, to CSA B111, flat head roofing nails of length and thickness suitable for [metal flashing] application.
- .5 Washers: of same material as sheet metal, 1 mm thick with rubber packings.
- .6 Touch-up paint: as recommended by prefinished material manufacturer.

# 2.05 FABRICATION

.1 Fabricate metal flashings and other sheet metal work [in accordance with applicable

CRCA 'FL' series details as indicated.

- .2 Fabricate aluminum flashings and other sheet aluminum work in accordance with AAI-Aluminum Sheet Metal Work in Building Construction.
- .3 Form pieces in 2400 mm maximum lengths.
  - .1 Make allowance for expansion at joints.
- .4 Hem exposed edges on underside 12 mm.
  - .1 Mitre and seal corners with sealant.
- .5 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .6 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

## 2.06 METAL FLASHINGS

.1 Form flashings, copings and fascias to profiles indicated of **1.2 mm** thick galvanized mill finish.

## 2.07 PANS

- .1 Form pans to receive roofing plastic from 0.48 mm thick galvanized steel sheet metal with minimum 75 mm upstand above finished roof and 100 mm continuous flanges with no open corners.
  - .1 Rivet joints.
  - .2 Make pans minimum 50 mm wider than member passing through roof membrane.

# PART 3 - EXECUTION

## 3.01 MANUFACTURER'S INSTRUCTIONS

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

# 3.02 INSTALLATION

- .1 Install sheet metal work in accordance with as detailed.
- .2 Use concealed fastenings except where approved before installation.
- .3 Provide underlay under sheet metal. Secure in place and lap joints 100 mm.
- .4 Counterflash bituminous flashings at intersections of roof with vertical surfaces and curbs. Flash joints using standing seams forming tight fit over hook strips, as detailed.
- .5 Lock end joints and caulk with sealant.
- .6 Install surface mounted reglets true and level, and caulk top of reglet with sealant.
- .7 Insert metal flashing under cap flashing to form weather tight junction.

- .8 Turn top edge of flashing into recessed reglet or mortar joint minimum of 25 mm. Lead wedge flashing securely into joint.
- .9 Install pans, where shown around items projecting through roof membrane.

# 3.05 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.

### 3.06 CLEANING

- .1 Proceed in accordance with Section 01 74 11 Cleaning.
- .2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.
- .3 Leave work areas clean, free from grease, finger marks and stains.

# PART 1 - GENERAL

## 1.00 SCOPE OF WORK (NON LIMITATIVE)

.1 This section includes all joint sealant specified in the present documents.

# 1.01 RELATED REQUIREMENTS

- .1 Section 07 52 00 Modified bituminous membrane roofing
- .2 Section 07 62 00 Sheet metal flashing and trim

#### 1.02 REFERENCES

- .1 ASTM International
  - .1 ASTM C 919-08, Standard Practice for Use of Sealants in Acoustical Applications.
- .2 Canadian General Standards Board (CGSB)
  - .1 CGSB 19-GP-5M-1984, Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1)
  - .2 CAN/CGSB-19.13-M87, Sealing Compound, One-component, Elastomeric, Chemical Curing.
  - .3 CGSB 19-GP-14M-76, Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing (Reaffirmation of April 1976).
  - .4 CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.
  - .5 CAN/CGSB-19.24-M90, Multi-component, Chemical Curing Sealing Compound.
- .3 General Services Administration (GSA) Federal Specifications (FS)
  - .1 FS-SS-S-200-E(2)1993, Sealants, Joint, Two-Component, Jet-Blast-Resistant, Cold Applied, for Portland Cement Concrete Pavement.

#### 1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for joint sealants and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2 Manufacturer's product to describe:
    - .1 Caulking compound.
    - .2 Primers.
    - .3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.
- 3 Samples:

- .1 Submit 2 samples of each type of material and colour.
- .2 Cured samples of exposed sealants for each colour where required to match adjacent material.
- .4 Manufacturer's Instructions:
  - .1 Submit instructions to include installation instructions for each product used.

## 1.04 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual.

# 1.05 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect joint sealants from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

## 1.06 SITE CONDITIONS

- .1 Ambient Conditions:
  - .1 Proceed with installation of joint sealants only when:
    - .1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 4.4 degrees C.
    - .2 Joint substrates are dry.
    - .3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.
- .2 Joint-Width Conditions:
  - .1 Proceed with installation of joint sealants only where joint widths are more than those allowed by joint sealant manufacturer for applications indicated.
- .3 Joint-Substrate Conditions:

.1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

# 1.07 ENVIRONMENTAL REQUIREMENTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to Health Canada.
- .2 Departmental Representative will arrange for ventilation system to be operated on maximum outdoor air and exhaust during installation of caulking and sealants. Ventilate area of work as directed by Departmental Representative by use of approved portable supply and exhaust fans.

# 1.08 COMPATIBILITY

.1 Wherever sealant must be installed, where are located directly or indirectly with a concrete surface with a radiant eating incorporated, verify the compatibility between the surfaces to maintain a solid construction fit for purpose.

# PART 2 - PRODUCTS

# 2.01 SEALANT MATERIALS

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

## 2.02 SEALING PRODUCTS - DESCRIPTION

- .1 Products must be listed as a licensed product by the CGSB. If the product is licensed with a primer, only this primer can be used.
- .2 Sealant for metal / metal junction:
  - .1 Must be compliant to CAN/CGSB-19.13-M87, Sealing Compound, One-component, Elastomeric, Chemical Curing.
  - .2 Acceptable product: "**Spectrem 2**" of "**Tremco**".

## 2.03 JOINT CLEANER

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant in accordance with sealant manufacturer's written recommendations.
- .2 Primer: in accordance with sealant manufacturer's written recommendations.

# PART 3 - EXECUTION

### 3.01 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants installation in accordance with manufacturer's written instructions.

### 3.02 SURFACE PREPARATION

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

### 3.03 PRIMING

- .1 Before applying the priming and caulking product, if it necessary protect adjacent surfaces to pervent dirt.
- .2 Apply the priming on the side surfaces of the seal immediately before apply de sealling product, according to manufacturer's instructions.

### 3.04 BOND BREAKER INSTALLATION

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

## 3.05 MIXING

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

#### 3.06 APPLICATION

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

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

## 3.07 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 Cleaning.
  - .1 Leave Work area clean at end of each day.
  - .2 Clean adjacent surfaces immediately.
  - .3 Remove excess and droppings, using recommended cleaners as work progresses.
  - .4 Remove masking tape after initial set of sealant.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 Cleaning.

#### 3.08 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by joint sealants installation.





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