



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

**Bid Receiving Public Works & Government
Services Canada/Réception des soumissions Travaux
publics et Services gouvernementaux Canada**
1713 Bedford Row
Halifax, N.S./Halifax,(N.E.)
B3J 1T3
Halifax
Bid Fax: (902) 496-5016

**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

**Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution
Atlantic Region Acquisitions/Région de l'Atlantique
Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.E.)
B3J 3C9
Halifax
Nova Scot

Title - Sujet Construction-Shearwater Hangar Door	
Solicitation No. - N° de l'invitation EB144-170695/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client EB144-17-0695	Date 2016-08-10
GETS Reference No. - N° de référence de SEAG PW-\$PWA-405-5437	
File No. - N° de dossier PWA-6-76042 (405)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-08-23	Time Zone Fuseau horaire Atlantic Daylight Saving Time ADT
F.O.B. - F.A.B.	
Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: MacDonald (PWA), Ashley	Buyer Id - Id de l'acheteur pwa405
Telephone No. - N° de téléphone (902) 496-5291 ()	FAX No. - N° de FAX (902) 496-5016
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Contract No. - N° du contract Amd. No. - N° de la modif. Buyer ID - Id de l'acheteur
EB144-170695/001/PWA 001 HAL405

Client Ref. No. - N° de réf. du client File No. - N° du dossier CCC No./N° CCC - FMS No/ N° VME
EB144-170695 PWA-6-76042

Amendment 001

Due to the technical nature of the questions below, this amendment will be available in ENGLISH ONLY

Amendment 001 is raised for incorporate the following attachments

01 35 24
01 35 25
01 35 29
01 35 43
01 35 54
01 45 00
01 50 00
01 61 00
01 74 11
01 74 21
01 77 00
01 78 00
26 28 23

All other terms and conditions remain the same

Shearwater Hangar Door Replacement

Eastern Passage, NS
Job No. R.080795.001

SPECIAL PROCEDURES ON
FIRE SAFETY REQUIREMENTS

Section 01 35 24
Page 1

- 1.1 DESCRIPTION OF WORK .1 Fire Safety Requirements.
.2 Hot Work Permit.
.3 Existing Fire Protection and Alarm Systems.
- 1.2 RELATED SECTIONS .1 Section 01 35 29 - Health and Safety Requirements.
- 1.3 REFERENCES .1 Fire Protection Standards issued by Fire Protection Services, Labour Program Division of Service Canada:
.1 FCC No. 301-June 1982 Standard for Construction Operations.
.2 FCC No. 302-June 1982 Standard for Welding and Cutting.
.2 FCC standards may be viewed at:
.1 <http://www.hrsdc.gc.ca/en/lp/lo/fp/standards/commissioner.shtml>
.2 Fire Protection Services - Atlantic Region office, Halifax, N.S, Tel. (902) 426-6053.
- 1.4 DEFINITIONS .1 Hot Work defined as:
.1 Welding work.
.2 Cutting of materials by use of torch or other open flame devices.
.3 Grinding with equipment which produces sparks.
.4 Use of open flame torches such as for roofing work.
- 1.5 SUBMITTALS .1 Submit copy of Hot Work Procedures and sample of Hot Work permit to Departmental Representative for review, within 14 calendar days of acceptance of bid.
.2 Submit in accordance with section 01 33 00.
- 1.6 FIRE SAFETY REQUIREMENTS .1 Implement and follow fire safety measures during Work. Comply with following:
.1 National Fire Code.
.2 Fire Protection Standards FCC 301 and FCC 302.
.3 Federal and Provincial Occupational Health and Safety Acts and Regulations.

- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.
- 1.7 HOT WORK AUTHORIZATION
- .1 Obtain Departmental Representative's written "Authorization to Proceed" before conducting any form of Hot Work on site.
 - .2 To obtain authorization submit to Departmental Representative:
 - .1 Contractor's typewritten Hot Work Procedures to be followed on site as specified below.
 - .2 Description of the type and frequency of Hot Work required.
 - .3 Sample Hot Work Permit to be used.
 - .3 Upon review and confirmation that effective fire safety measures will be implemented and followed during performance of hot work, Departmental Representative will give authorization to proceed as follows:
 - .1 Issue one written "Authorization to Proceed" covering the entire project for duration of work or;
 - .2 Subdivide the work into pre-determined, individual activities, each activity requiring a separately written authorization to proceed.
 - .4 Requirement for individual authorization will be based on:
 - .1 Nature or phasing of work;
 - .2 Risk to Facility operations;
 - .3 Quantity of various trades needing to perform hot work on project or;
 - .4 Other situation deemed necessary by Departmental Representative to ensure fire safety on premises.
 - .5 Do not perform any Hot Work until receipt of Departmental Representative's written "Authorization to Proceed" for that portion of work.

- .6 In occupied facility, coordinate performance of Hot Work with Facility Manager through the Departmental Representative. When directed, perform Hot Work only during non-operative hours of the Facility. Follow Departmental Representative's directives in this regard.
- 1.8 HOT WORK PROCEDURES
- .1 Develop and implement safety procedures and work practices to be followed during the performance of Hot Work.
 - .2 Hot Work Procedures to include:
 - .1 Requirement to perform hazard assessment of site and immediate work area beforehand for each hot work event in accordance with Safety Plan specified in section 01 35 29 - Health and Safety Requirements.
 - .2 Use of a Hot Work Permit system with individually issued permit by Contractor's Superintendent to worker or subcontractor granting permission to proceed with Hot Work.
 - .3 Permit required for each Hot Work event.
 - .4 Designation of a person on site as a Fire Safety Watcher responsible to conduct a fire safety watch for a minimum duration of 60 minutes immediately following the completion of the Hot Work.
 - .5 Compliance with fire safety codes, standards and occupational health and safety regulations specified.
 - .6 Site specific rules and procedures in force at the site as provided by the Facility Manager.
 - .3 Generic procedures, if used, must be edited and supplemented with pertinent information tailored to reflect specific project conditions. Label document as being the Hot Work Procedures for this contract.
 - .4 Procedures shall clearly establish responsibilities of:
 - .1 Worker performing hot work,
 - .2 Person issuing the Hot Work Permit,
 - .3 Fire Safety Watcher,
 - .4 Subcontractor(s) and Contractor.

- .5 Brief all workers and subcontractors on Hot Work Procedures and of Permit system. Stringently enforce compliance.

- 1.9 HOT WORK PERMIT
 - .1 Hot Work Permit to include the following:
 - .1 Project name and project number;
 - .2 Building name and specific room or area where hot work will be performed;
 - .3 Date of issue;
 - .4 Description of hot work type needed;
 - .5 Special precautions to be followed, including type of fire extinguisher needed;
 - .6 Name and signature of permit issuer.
 - .7 Name of worker to which the permit is issued.
 - .8 Permit validity period not to exceed 8 hours. Indicate start time/date and termination time/date.
 - .9 Worker's signature with time/date of hot work completion.
 - .10 Stipulated time period of safety watch.
 - .11 Fire Safety Watcher's signature with time/date.

 - .2 Permit to be typewritten form. Industry Standard forms shall only be used if all data specified above is included on form.

 - .3 Each Hot Work Permit to be completed in full, signed and returned to Contractor's Superintendent for safe keeping on site.

- 1.10 FIRE PROTECTION AND ALARM SYSTEMS
 - .1 Fire protection and alarm systems shall not be:
 - .1 Obstructed.
 - .2 Shut-off, unless approved by Departmental Representative.
 - .3 Left inactive at the end of a working day or shift.

 - .2 Do not use fire hydrants, standpipes and hose systems for purposes other than firefighting.

 - .3 Costs incurred, from the fire department, Facility Manager and facility users, resulting from negligently setting off false alarms will

be charged to the Contractor in the form of financial progress payment reductions and holdback assessments against the Contract.

1.11 DOCUMENTS
ON SITE

- .1 Keep Hot Work Permits and Hazard assessment documentation on site for duration of Work.
- .2 Upon request, make available to Departmental Representative or to authorized safety Representative for inspection.

- 1.1 DESCRIPTION OF WORK .1 Procedures to isolate and lockout electrical facility and other equipment from energy sources.
- 1.2 RELATED SECTIONS .1 Section 01 35 29 - Health and Safety Requirements.
- 1.3 REFERENCES .1 CSA C22.1 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.
.2 CSA C22.3, No.1 - Overhead Systems.
.3 CSA C22.3, No.7 - Underground Systems.
.4 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- 1.4 DEFINITIONS .1 Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons.
.2 Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment has been isolated.
.3 De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD).
.4 Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, inaccessible by location, or otherwise protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.

- .5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.
- .6 Live/Alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.
- 1.5 COMPLIANCE REQUIREMENTS
 - .1 Comply with the following in regards to isolation and lockout of electrical facilities and equipment:
 - .1 Canadian Electrical Code
 - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations.
 - .3 Regulations and code of practise as applicable to mechanical equipment or other machinery being de-energized.
 - .4 Procedures specified herein.
 - .2 In event of conflict between any provisions of above authorities the most stringent provision will apply.
- 1.6 SUBMITTALS
 - .1 Submit copy of lockout procedures, sample of lockout permit and lockout tags proposed for use in accordance with Section 01 33 00. Submit within 14 calendar days of acceptance of bid.
- 1.7 ISOLATION OF EXISTING SERVICES
 - .1 Obtain Departmental Representative's written authorization prior to working on existing live or active electrical facilities and equipment and before proceeding with isolation of such item.
 - .2 To obtain authorization, submit to Departmental Representative the following documentation:
 - .1 Written request to isolate the particular service or facility and;
 - .2 Copy of Contractor's Lockout Procedures.

- .3 Make a Request for Isolation for each event, unless directed otherwise by Departmental Representative, as follows:
 - .1 Fill-out standard form in current use at the Facility as provided by Departmental Representative or;
 - .2 Where no form exists, make written request indicating:
 - .1 The equipment, system or service to be isolated and its location;
 - .2 Duration of isolation period (i.e.: start time & date and completion time & date).
 - .3 Voltage of service feed to system or equipment being isolated.
 - .4 Name of person making the request.
- .4 Do not proceed with isolation until receipt of written notification from Departmental Representative granting the Isolation Request and authorization to proceed with the work.
 - .1 Note that Departmental Representative may designate another person at the Facility being authorized to grant the Isolation Request.
- .5 Conduct safe, orderly shut down of equipment or facility. De-energize, isolate and lockout power and other sources of energy feeding the equipment or facility.
- .6 Determine in advance, as much as possible, in cooperation with the Departmental Representative, the type and frequency of situations which will require isolation of existing services.
- .7 Plan and schedule shut down of existing services in consultation with the Departmental Representative and the Facility Manager. Minimize impact and downtime of Facility operations. Follow Departmental Representative's directives in this regard.
- .8 Conduct hazard assessment as part of the process in accordance with health and safety requirements specified Section 01 35 29.

- 1.8 LOCKOUTS
- .1 De-energize, isolate and lockout electrical facility, mechanical equipment and machinery from all potential sources of energy prior to working on such items.
 - .2 Develop and implement clear and specific lockout procedures to be followed as part of the Work.
 - .3 Prepare typed written Lockout Procedures describing safe work practices, procedures, worker responsibilities and sequence of activities to be followed on site by workforce to safely isolate an active piece of equipment or electrical facility and effectively lockout and tag-out its sources of energy.
 - .4 Include as part of the Lockout Procedures a system of lockout permits managed by Contractor's Superintendent or other qualified person designated by him/her as being "in-charge" at the site.
 - .1 A lockout permit shall be issued to specific worker providing a Guarantee of Isolation before each event when work must be performed on a live equipment or electrical facility.
 - .2 Duties of person managing the permit system to include:
 - .1 Issuance of permits and lockout tags to workers.
 - .2 Determining permit duration.
 - .3 Maintaining record of permits and tags issued.
 - .4 Making a Request for Isolation to Departmental Representative when required as specified above.
 - .5 Designating a Safety Watcher, when one is required based on type of work.
 - .6 Ensuring equipment or facility has been properly isolated.
 - .7 Collecting and safekeeping lockout tags returned by workers as a record of the event.

- .5 Clearly establish, describe and allocate responsibilities of:
 - .1 Workers.
 - .2 Person managing the lockout permit system.
 - .3 Safety Watcher.
 - .4 Subcontractor(s) and General Contractor.

- .6 Generic procedures, if used, must be edited and supplemented with pertinent information to reflect specific project requirements.
 - .1 Incorporate site specific rules and procedures in force at site as provided by Facility Manager through the Departmental Representative.
 - .2 Clearly label the document as being the Lockout procedures applicable to work of this contract.

- .7 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.

- .8 Use industry standard lockout tags.

- .9 Provide appropriate safety grounding and guards as required.

- 1.9 CONFORMANCE .1 Brief all workers and subcontractors on requirements of this section. Stringently enforce use and compliance.

- 1.10 DOCUMENTS ON SITE .1 Post Lockout Procedures on site in common location for viewing by workers.
 - .2 Keep copies of Request for Isolation forms and lockout permits and tags issued to workers on site for full duration of Work.
 - .3 Upon request, make available to Departmental Representative or to authorized safety Representative for inspection.

- 1.1 RELATED SECTIONS
 - .1 Section 01 35 24 - Special Procedures on Fire Safety Requirements.
 - .2 Section 01 35 25 - Special Procedures on Lockout Requirements.

- 1.2 DEFINITIONS
 - .1 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
 - .2 Competent Person: means a person who is:
 - .1 Qualified by virtue of personal knowledge, training and experience to perform assigned work in a manner that will ensure the health and safety of persons in the workplace, and;
 - .2 Knowledgeable about the provisions of occupational health and safety statutes and regulations that apply to the Work and;
 - .3 Knowledgeable about potential or actual danger to health or safety associated with the Work.
 - .3 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
 - .4 PPE: personal protective equipment
 - .5 Work Site: where used in this section shall mean areas, located at the premises where Work is undertaken, used by Contractor to perform all of the activities associated with the performance of the Work.

- 1.3 SUBMITTALS
 - .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Submit site-specific Health and Safety Plan prior to commencement of Work.
 - .1 Submit within 10 work days of notification of Bid Acceptance.
 - .2 Departmental Representative will review Health and Safety Plan and comment.

- .3 Revise the Plan as appropriate and resubmit within 5 work days after receipt of comments.
 - .4 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
 - .5 Submit revisions and updates made to the Plan during the course of Work.
-
- .3 Submit name of designated Health & Safety Site Representative and support documentation specified in the Safety Plan.
 - .4 Submit building permit, compliance certificates and other permits obtained.
 - .5 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other department of labour organization.
 - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.
 - .6 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
 - .7 Submit copies of incident reports.
 - .8 Submit WHMIS MSDS - Material Safety Data Sheets.
-
- 1.4 COMPLIANCE REQUIREMENTS
- .1 Comply with Occupational Health and Safety Act for Province of Nova Scotia, and Regulations made pursuant to the Act.
 - .2 Comply with Canada Labour Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
 - .1 The Canada Labour Code can be viewed at:
[www.http://laws.justice.gc.ca/en/L-2/](http://laws.justice.gc.ca/en/L-2/)

- .2 COSH can be viewed at:
[www.http://laws.justice.gc.ca/eng/SOR-86-304/ ne .html](http://www.laws.justice.gc.ca/eng/SOR-86-304/ ne .html)
 - .3 A copy may be obtained at: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F)
 - .3 Observe construction safety measures of:
 - .1 Part 8 of National Building Code.
 - .2 Municipal by-laws and ordinances.
 - .4 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
 - .5 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.
 - .6 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.
- 1.5 RESPONSIBILITY .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to Work Site with safety requirements of Contract Documents, applicable federal, provincial, and local by-laws, regulations, and ordinances, and with site-specific Health and Safety Plan.
- 1.6 SITE CONTROL AND ACCESS .1 Control the Work and entry points to Work Site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
- .1 Departmental Representative will provide names of those persons authorized by

Departmental Representative to enter onto Work Site and will ensure that such authorized persons have the required knowledge and training on Health and Safety pertinent to their reason for being at the site, however, Contractor remains responsible for the health and safety of authorized persons while at the Work Site.

- .2 Isolate Work Site from other areas of the premises by use of appropriate means.
 - .1 Erect fences, hoarding, barricades and temporary lighting as required to effectively delineate the Work Site, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment. See Section 01 50 00 - Temporary Facilities for minimum acceptable requirements.
 - .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.
 - .3 Use professionally made signs with message in english or internationally recognized graphic symbols.
- .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
- .4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.
- .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm.

1.7 PROTECTION

- .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
- .2 Should unforeseen or peculiar safety related hazard or condition become evident during

performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

- 1.8 FILING OF NOTICE .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
.1 Departmental Representative will assist in locating address if needed.
- 1.9 PERMITS .1 Post permits, licenses and compliance certificates, specified in section 01 10 10, at Work Site.
.2 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and obtain approval to proceed before carrying out applicable portion of work.
- 1.10 HAZARD ASSESSMENTS .1 Perform site specific health and safety hazard assessment of the Work and its site.
.2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site.
.3 Record results and address in Health and Safety Plan.
.4 Keep documentation on site for entire duration of the Work.
- 1.11 PROJECT/SITE CONDITIONS .1 Following are potential health, environmental and safety hazards at the site for which Work may involve contact with:
.1 Existing contaminated building materials:
.1 Possibility of encountering asbestos board during demolition.
.2 Known latent site and environmental conditions:
.1 Possible high water table.

- .3 Facility on-going operations:
 - .1 Use of hangar door entrance to bring helicopters in/out on a daily basis.
 - .2 Above items shall not be construed as being complete and inclusive of potential health and safety hazards encountered during Work.
 - .3 Include above items in the hazard assessment of the Work.
 - .4 MSDS Data sheets of pertinent hazardous and controlled products stored on site can be obtained from Departmental Representative.
- 1.12 MEETINGS
- .1 Attend pre-construction health and safety meeting, convened and chaired by Departmental Representative, prior to commencement of Work, at time, date and location determined by Departmental Representative. Ensure attendance of:
 - .1 Superintendent of Work.
 - .2 Designated Health & Safety Site Representative.
 - .3 Subcontractors.
 - .2 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations.
 - .3 Keep documents on site.
- 1.13 HEALTH AND SAFETY PLAN
- .1 Prior to commencement of Work, develop written Health and Safety Plan specific to the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
 - .2 Health and Safety Plan shall include the following components:
 - .1 List of health risks and safety hazards identified by hazard assessment.
 - .2 Control measures used to mitigate risks and hazards identified.
 - .3 On-site Contingency and Emergency Response Plan as specified below.
 - .4 On-site Communication Plan as specified.

- .5 Name of Contractor's designated Health & Safety Site Representative and information showing proof of his/her competence and reporting relationship in Contractor's company.
- .6 Names, competence and reporting relationship of other supervisory personnel used in the Work for occupational health and safety purposes.
- .3 On-site Contingency and Emergency Response Plan shall include:
 - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
 - .2 Evacuation Plan: site and floor plan layouts showing escape routes, marshalling areas. Details on alarm notification methods, fire drills, location of fire fighting equipment and other related data.
 - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
 - .4 Emergency Contacts: name and telephone number of officials from:
 - .1 General Contractor and subcontractors.
 - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
 - .3 Local emergency resource organizations.
 - .5 Harmonize Plan with Facility's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of Departmental Representative and Facility Management contacts.
- .4 On-site Communication Plan:
 - .1 Procedures for sharing of work related safety information to workers and subcontractors, including emergency and evacuation measures.

- .2 List of critical work activities to be communicated with Facility Manager which have a risk of endangering health and safety of Facility users.
 - .5 Address all activities of the Work including those of subcontractors.
 - .6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrive at Work Site.
 - .7 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.
 - .8 Post copy of the Plan, and updates, prominently on Work Site.
- 1.14 SAFETY
SUPERVISION
- .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.
 - .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
 - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work
 - .2 Monitor and enforce Contractor's site-specific Health and Safety Plan.
 - .3 Conduct site safety orientation session to persons granted access to Work Site.
 - .4 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the Work Site.
 - .5 Stop the Work as deemed necessary for reasons of health and safety.

- .3 Health & Safety Site Representative must:
 - .1 Be qualified and competent person in occupational health and safety.
 - .2 Have site-related working experience specific to activities of the Work.
 - .3 Be on Work Site at all times during execution of the Work.
- .4 All supervisory personnel assigned to the Work shall also be competent persons.
- .5 Inspections:
 - .1 Conduct regularly scheduled safety inspections of the Work on a minimum bi-weekly basis. Record deficiencies and remedial action taken.
- .6 Cooperate with Facility's Occupational Health and Safety representative should one be designated by Departmental Representative.
- .7 Keep inspection reports and supervision related documentation on site.

1.15 TRAINING

- .1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.
- .2 Maintain employee records and evidence of training received. Make data available to Departmental Representative upon request.
- .3 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.16 MINIMUM SITE SAFETY RULES

- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:
 - .1 Wear appropriate PPE pertinent to the Work

- or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.
- .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
 - .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
 - .4 Obey warning signs and safety tags.
- .2 Brief persons of disciplinary protocols to be taken for non compliance. Post rules on site.
- 1.17 CORRECTION OF NON-COMPLIANCE
- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
 - .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
 - .3 Departmental Representative will stop Work if non-compliance of health and safety regulations is not corrected in a timely manner.
- 1.18 INCIDENT REPORTING
- .1 Investigate and report the following incidents to Departmental Representative:
 - .1 Incidents requiring notification to Provincial Department of Occupational Safety and Health, Workers Compensation Board or to other regulatory Agency.
 - .2 Medical aid injuries.
 - .3 Property damage in excess of \$10,000.00,
 - .4 Interruptions to Facility operations resulting in an operational lost to a Federal department in excess of \$5000.00.
 - .2 Submit report in writing.
- 1.19 HAZARDOUS PRODUCTS
- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).

- .2 Keep MSDS data sheets for all products delivered to site.
 - .1 Post on site.
 - .2 Submit copy to Departmental Representative.
 - .3 For interior work in an occupied Facility, post additional copy in one or more publically accessible locations.

- 1.20 BLASTING .1 Blasting or other use of explosives is not permitted on site.

- 1.21 POWDER ACTUATED DEVICES .1 Use power actuated fastening devices only after receipt of written permission from Departmental Representative.

- 1.22 CONFINED SPACES .1 Abide by occupational health and safety regulations regarding work in confined spaces.

- 1.23 SITE RECORDS .1 Maintain on Work Site copy of safety related documentation and reports stipulated to be produced in compliance with Acts and Regulations of authorities having jurisdiction and of those documents specified herein.
 - .2 Upon request, make available to Departmental Representative or authorized Safety Officer for inspection.

- 1.24 POSTING OF DOCUMENTS .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on Work Site in accordance with Acts and Regulations of Province having jurisdiction.
 - .2 Post other documents as specified herein, including:
 - .1 Site specific Health and Safety Plan.
 - .2 WHMIS data sheets.

- 1.1 RELATED SECTIONS .1 Waste Management and Disposal: Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- 1.2 DEFINITIONS .1 Hazardous Material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
- 1.3 FIRES .1 Fires and burning of rubbish on site is not permitted.
- 1.4 HAZARDOUS MATERIAL HANDLING .1 Store and handle hazardous materials in accordance with applicable federal and provincial laws, regulations, codes and guidelines. Store in location that will prevent spillage into the environment
- .2 Label containers to WHMIS requirements and keep MSDS data sheets on site for all hazardous materials.
- .3 Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when storage began.
- .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- .5 Transport hazardous materials in accordance with federal Transportation of Dangerous Goods Regulations and applicable Provincial regulations.
- 1.5 DISPOSAL OF WASTES .1 Do not bury rubbish and waste materials on site. Dispose in accordance with project waste management requirements specified in section 01 74 21.

- .2 Do not dispose of hazardous waste or volatile materials, such as mineral spirits, paints, thinners, oil or fuel into waterways, storm or sanitary sewers or waste landfill sites.
 - .3 Dispose of hazardous waste in accordance with applicable federal and provincial laws, regulations, codes and guidelines.
- 1.6 DRAINAGE
 - .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
 - .2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
 - .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with governing regulations and requirements.
 - .4 Provide control devices such as filter fabrics, sediment traps and settling ponds to control drainage and prevent erosion of adjacent lands. Maintain in good order for duration of work.
- 1.7 SITE AND PLANT PROTECTION
 - .1 Protect trees and plants on site and adjacent properties where indicated.
 - .2 Tree removal does not form a part of this work.
- 1.8 WORK ADJACENT TO WATERWAYS
 - .1 Do not operate construction equipment in or near waterways.
 - .2 Do not dump excavated fill, waste material or debris in waterways.
 - .3 Do not refuel any type of equipment within 100 meters of a water body. Maintain equipment in good working condition with no fluid leaks, loose hoses or fittings.
- 1.9 POLLUTION CONTROL
 - .1 Maintain temporary erosion and pollution control features installed under this contract.

- .2 Control emissions from equipment and plant to local authorities' emission requirements.
 - .3 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
 - .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads and around entire construction site, when requested by the Departmental Representative as per Section 01 50 00 - Temporary Facilities.
 - .5 Have appropriate emergency spill response equipment and rapid clean-up kit on site located adjacent to hazardous materials storage area. Provide personal protective equipment required for clean-up.
 - .6 Report, spills of petroleum and other hazardous materials as well as accidents having potential of polluting the environment to Federal and Provincial Department of the Environment.
 - .1 Notify Departmental Representative and submit a written spill report to Departmental Representative within 24 hours of occurrence.
- 1.10 WILDLIFE PROTECTION
- .1 Should nests of migratory birds in wetlands be encountered during work, immediately notify Departmental Representative for directives to be followed.
 - .1 Do not disturb nest site and neighbouring vegetation until nesting is completed.
 - .2 Minimize work immediately adjacent to such areas until nesting is completed.
 - .3 Protect these areas by following recommendations of Canadian Wildlife Service.

- 1.1 GENERAL .1 Due to nature of this Facility, and client operations therein, security regulations pertaining to site will be in place during the work resulting in need for:
- .1 Control and limit movement of construction workers at the building site.
 - .2 Escort and continuous supervision of workers by security personnel.
 - .3 Specific rules and regulations as specified in this section and as directed by the Departmental Representative to be stringently followed.
- .2 It is the Contractor's responsibility to:
- .1 Submit necessary documentation required for all workers.
 - .2 Become familiar with and abide by security rules and regulations.
 - .3 Brief all workers and subcontractors in respect of the security regulations and requirements and ensure that they abide by all rules and directives.
- .3 Departmental Representative will coordinate a pre-construction meeting between Contractor, Facility Management and Security Personnel who will provide details and directives on control and movement on site.
- .1 Note that the building's custodial responsibilities are currently being managed by public Services and Procurement Canada.
- .4 Any infraction of site security regulations on the part of the Contractor, members of work force or any Subcontractor in his employ, could result in:
- .1 Financial penalties in the form of progress payment reduction or holdback assessments being levied against the Contractor; and,
 - .2 Immediate removal of offending party from the site.

1.2 SECURITY
PERSONNEL

- .1 A Commissionaire will be provided by the Departmental Representative to provide escort and security supervision of all workers during the work of this contract.
- .2 Ensure Commissionaire is on site at all times when work is carried out. Commissionaire will have the following responsibilities:
 - .1 Limit movement of workers to within the boundaries established by the Departmental Representative for each work phase.
 - .2 Maintain security control list of workers authorized to be on site as determined by Contractor and the Departmental Representative.
 - .3 Manage the distribution and control of worker ID tags, if deemed necessary.
 - .4 Escort workers who need to circulate on site beyond the established boundaries of work, including the corridors, stairwells and elevators used for access to and from work areas.
 - .5 Escort and supervise short term visitors who need access to the work site such as for material deliveries or to conduct inspections.
- .3 Ensure Commissionaire is present on site for entire work shift including work breaks and time period after work shifts until all workers have left site.
- .4 Commissionaire must stay within the actual construction area and provide surveillance of all workers ensuring that security rules and requirements are obeyed and to limit movement to approved work areas of site.
- .5 Commissionaire must escort workers from approved entrance doors and work area(s).
- .6 Escort and supervision of workers by Commissionaire is required at all times regardless as to whether work shifts are in the daytime or during "Off-Hours".

- .7 Commissionaire will report directly to the Departmental Representative.
- .8 Commissionaire shall have the authority to remove any worker or workers deemed non-compliant with security directives and requirements.
- .9 Commissionaire shall wear approved safety hard hat, safety footwear and other personnel protective equipment appropriate to work in accordance with applicable Occupational Health and Safety requirements specified.

1.3 SECURITY REQUIREMENTS

- .1 All workers shall adhere to requirements of this section, the Departmental Representative Facility Management, and Commissionaire at all times while on site.
- .2 All workers shall stay within the designated areas where access is needed for work as determined by the Departmental Representative, Facility Management and Commissionaire.
- .3 Contractor shall be prepared to work around availability/schedule of Commissionaire and shall work in cooperation with Commissionaire at all times.

1.4 SITE SECURITY

- .1 Where work of this contract requires use of a permanently locked door, it is Contractor's responsibility to ensure that the door is locked after each use in presence of Commissionaire and to advise Commissionaire when door must remain open for an elongated period of time during a particular work shift.
 - .1 Notify Departmental Representative, Facility Management and Commissionaire when security doors will be used and stringently follow all directives and requirements to ensure building security is effectively maintained.
- .2 Where work of this contract results in removal of doors or walls (providing security to the exterior or between spaces and suites), erect temporary security hoarding over openings

constructed in such a way as to provide the same degree of security as doors/walls removed to the approval of the Departmental Representative, Facility Management and Commissionaire.

- .3 When work must be carried out during "Off-Hours" or beyond the work hours previously agreed upon at start of work, provide notice to Departmental Representative, Facility Management and Commissionaire within 48 hours beforehand to ensure Commissionaire can be present during work and to minimize impact on Facility operations.
- .4 "Off-Hours" are defined in section 01 14 10 - Scheduling and Management of Work.

- 1.1 RELATED SECTIONS .1 Section 01 33 00 - Submittal Procedures.
- 1.2 INSPECTION .1 Give timely notice requesting inspection of Work designated for special tests, inspections or approvals by Departmental Representative or by inspection authorities having jurisdiction.
- .2 In accordance with the General Conditions, Departmental Representative may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents.
- .3 If Contractor covers or permits to be covered Work designated for special tests, inspections or approvals before such is made, uncover Work until particular inspections or tests have been fully and satisfactorily completed and until such time as Departmental Representative gives permission to proceed.
- .4 Pay costs to uncover and make good work disturbed by inspections and tests.
- 1.3 TESTING .1 Tests on materials, equipment and building systems as specified in various sections of the Specifications is the responsibility of the Contractor except where stipulated otherwise.
- .1 Provide all necessary instruments, equipment and qualified personnel to perform tests.
- .2 At completion of tests, turn over fully documented test reports to the Departmental Representative. Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .1 Obtain additional copies for inclusion of a complete set in each of the operation and maintenance manuals specified in Section 01 78 00 - Closeout Submittals.

- .3 Unspecified tests may also be made by the Departmental Representative, at the discretion of the Departmental Representative. The costs of these tests will be paid for by the Departmental Representative.
 - .4 Where tests or inspections reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests and inspections as required to verify acceptability of corrected work.
- 1.4 INDEPENDENT INSPECTION AGENCIES
- .1 Departmental Representative will engage and pay for service of Independent Inspection and Testing Agencies for purpose of inspecting and testing portions of Work except for the following which remain part of Contractor's responsibilities:
 - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - .2 Inspection and testing performed exclusively for Contractor's convenience.
 - .3 Testing, adjustment and balancing of mechanical and electrical equipment and other building systems.
 - .4 Performance verification tests before building commissioning procedures commences.
 - .5 Mill tests and certificates of compliance.
 - .6 Tests as specified within various sections designated to be carried out by Contractor under the supervision of the Departmental Representative.
 - .7 Additional tests as specified in this section.
 - .2 Provide sufficient advance notice to Departmental Representative of time when the Work will be ready for testing by designated Testing Agency in order for Departmental Representative to make attendance arrangements with such Agency. When directed by Departmental Representative, notify the Agency directly.

- .3 When specified or directed, submit Representative samples of materials, in required quantities, to Testing Agency for testing purposes. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.
 - .4 Provide labour and facilities to obtain, handle and deliver samples.
 - .5 Provide sufficient space on site for Testing Agency's exclusive use to store equipment and cure test samples.
 - .6 Employment of Independent Inspection and Testing Agencies by the Departmental Representative does not relieve Contractor's responsibility to perform Work in accordance with the Contract Documents.
- 1.5 ACCESS TO WORK
- .1 Facilitate Departmental Representative's access to Work. If part of Work is being fabricated at locations other than construction site, make preparations to allow access to such Work whenever it is in progress.
 - .2 Furnish labour and facility to provide access to the work being inspected and tested.
 - .3 Co-operate to facilitate such inspections and tests.
- 1.6 REJECTED WORK
- .1 Remove and replace defective Work, whether result of poor workmanship, use of defective or damaged products and whether incorporated in Work or not, which has been identified by the Departmental Representative as failing to conform to the Contract Documents.
 - .2 Make good damages to new and existing construction and finishes resulting from removal or replacement of defective work.
- 1.7 MOCK-UPS
- .1 Prepare mock-ups of certain work as specified in various sections of the Specifications. Include in each mock-up all related work components representative of final assembly.

- .2 Construct in locations acceptable to the Departmental Representative.
- .3 Prepare mock-ups for the Departmental Representative's review with reasonable promptness and in an orderly sequence, so as not to cause any delay of Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time/Schedule and no claim for extension by reason of such default will be allowed.
- .5 If requested, Departmental Representative may assist in preparing a schedule fixing dates for preparation.
- .6 Dismantle and remove mock-up when directed by the Departmental Representative, unless approval is given in writing for mock-up to remain as part of the Work.

- 1.1 SITE ACCESS AND PARKING .1 The Departmental Representative will designate Contractor's access to project site as well as parking facilities for equipment and workers.
- .2 The Contractor is advised that while parking facilities for his workers and subcontractors will be on property, such parking facilities may be remote from the actual site of the work. In any case, follow all instructions from the Departmental Representative in regards to parking facilities.
- .3 Maintain existing roads and parking areas at site, where used by Contractor, for duration of contract.
- .1 Keep clean and free of mud and dirt by washing on a regular basis.
- .2 Provide snow removal in areas located within construction site or enclosed by work.
- .3 Make good and repair damage resulting from Contractor's use of existing roads, asphalted areas and lawns on site.
- 1.2 BUILDING ACCESS .1 Use only access doors, and circulation routes within building as designated by Departmental Representative to access interior work.
- 1.3 CONTRACTOR'S SITE OFFICE .1 Be responsible for and provide own site office including electricity, heat, lights and telephone. Locate site office as directed by Departmental Representative.
- 1.4 MATERIAL STORAGE .1 Locate site storage trailers where directed by Departmental Representative. Place in location of least interference with existing Facility operations.
- 1.5 SITE ENCLOSURES .1 Provide temporary fence of construction approved by the Departmental Representative to enclose various construction areas of work site, when and as requested by the Departmental Representative.

- .2 Obtain Departmental Representative's approval beforehand of location and layout of all temporary fence enclosures.
 - .3 Provide battery powered lanterns around the perimeter of the site enclosure to clearly mark its location at night.
 - .4 Provide warning signs affixed to all fenced areas, identifying those enclosed areas as "Construction Zones" with access restricted to only those persons so authorized by General Contractor.
 - .5 Do not construe fencing as an acceptable replacement for pedestrian walkway and hoarding requirements specified below.
- 1.6 PEDESTRIAN WALKWAYS AND HOARDING
- .1 Ensure maximum safety to facility users during the course of work.
 - .2 Be responsible for and provide temporary 2.4-metre-high plywood construction hoarding when work is adjacent to exterior sidewalks and circulation routes used by facility employee and public.
 - .3 Maintain access and egress to building entrances and fire exits designated by Departmental Representative to remain in use. Provide enclosed walkways when work is adjacent to such doors as follows:
 - .1 Install walkways as soon as work is in the vicinity of entrance and exit doors and poses a potential danger to facility users, when requested by the Departmental Representative.
 - .2 Construct to approximate size of 2.0-metre-wide x 2.1-metre-high x length as required to fully clear danger zone.
 - .3 Provide signage and lighting.
 - .4 Submit details of walkway size, location, layout and construction to Departmental Representative beforehand and obtain approval.

- .4 Adequately frame and brace hoarding and walkways to resist wind, and other weather or site conditions.
 - .5 Erect such protective devices during Facility's non-operational off hour periods.
 - .6 Obtain Departmental Representative's concurrence prior to removal of hoarding and walkways.
- 1.7 INTERIOR HOARDING
- .1 Erect hoarding inside building to isolate construction areas and facility users for duration of work.
 - .2 Construct hoarding as follows:
 - .1 Framing type and height: Submitted by Contractor for approval of Departmental Representative.
 - .2 Covering: Submitted by Contractor for approval of Departmental Representative.
 - .3 Access Man Door: One standard 3-foot wide man door required that is sound sealed, dust tight, and lockable.
 - .4 Hoarding to be same barrier as required in below section on dust control, where appropriate.
- 1.8 INTERIOR DUST CONTROL AND DUST BARRIERS
- .1 Control creation and spread of dust and dirt to building interior and in particular to areas within premises still under use by facility users and operations.
 - .2 Develop and implement a dust control plan, addressing effective measures to carry out work with least amount of dust being created and propagated.
 - .1 Carefully evaluate the type of work to be undertaken and the physical layout of each work area on site.
 - .2 Provide specifically tailored strategy for each work area.
 - .3 Pre-determine location and placement of dust barriers to confine resulting dust to immediate work area.
 - .4 Inform Departmental Representative of the proposed dust control measures to be

followed at each work area and for each major dust generating activity. Obtain Departmental Representative's approval before proceeding with work.

- .3 Dust control plan shall incorporate as a minimum the following dust protection and cleaning requirements:
 - .1 Erect dustproof partitions completely around work area to fully isolate construction from other parts of the building.
 - .2 Construct dust partitions as follows:
 - .1 Framing type and height: Submitted by Contractor for approval of Departmental Representative.
 - .2 Covering: Submitted by Contractor for approval of Departmental Representative.
 - .3 Provide a standard 3-foot wide man door that is sound sealed, dust tight, and lockable within dust partition for worker entry into work area. This is of particular importance for situations where excessive dust will be generated.
 - .4 Make all dust barriers airtight, effectively blocking and stopping all dust migration.
 - .5 Inspect dust barriers at various intervals during each work shift. Immediately fix tears, unsealed edges and maintain barriers effectively sealed for the entire work duration.
 - .6 Shut down existing ventilation system feeding construction space, or disconnect and seal-off supply and return air ducts to stop dust from contaminating other areas.
 - .7 Immediately clean areas in use by facility users contaminated by work.
 - .1 Wash floors and walls. Remove accumulated dust from all surfaces. Clean and remove smears, scuffs and marks.
 - .8 Do not allow demolition debris and construction waste to accumulate on site and contribute to the propagation of dust.

- .9 As work progresses, maintain construction areas in a tidy condition at all times. Remove gross dust accumulations by cleaning and vacuuming immediately following the completion of any major dust generating activity.
- .10 Immediately remove all debris and dust from within occupied areas as generated by work therein during a given work shift.
- .11 Stop workers with soiled footwear from entering building outside of work areas.
- .12 Keep access doors to work areas closed at all times. Use only designated doors for entry or egress.

- .4 Meager attempts at controlling dust will not be tolerated. Failure to provide effective dust control during work and to perform satisfactory cleaning thereafter will result in the Departmental Representative proceeding to obtain a separate cleaning service agency to perform cleaning to Facility Managers' satisfaction. Cost for such services will be charged to the Contractor in the form of financial holdbacks.

- .5 Obtain Departmental Representative's approval before erecting any dust control partitions or barriers.

- .6 Inform workers and make them sensitive to the need for dust and dirt control. Stringently enforce rules and regulations and immediately address non-compliance.

- .7 "Off-Hours" are defined in section 01 14 10 - Scheduling and Management of Work.

- 1.9 SANITARY FACILITIES
 - .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

 - .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

- .3 Sanitary facilities are available at the site and may be used by Contractor's work force. Make arrangements for the use of such facilities through the Departmental Representative.

- 1.10 ENCLOSURE OF STRUCTURE
 - .1 Provide temporary weather tight enclosures and protection for exterior openings until permanently enclosed.

 - .2 Provide weather tight and heated enclosures to conduct exterior work during winter and other inclement weather conditions. Erect to allow accessibility for installation of materials and working inside of enclosure.

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

- 1.11 POWER
 - .1 Power supply is available and will be provided for construction usage at no cost to the Contractor.
 - .1 Make arrangements for the use of such services through the Departmental Representative.
 - .2 Departmental Representative will designate and approve each location of existing power source to which connections can be made to obtain temporary power service.
 - .3 Connect to existing power supply in accordance with Canadian Electrical Code.

 - .2 Provide and pay all costs to supply and install temporary cabling, panel boards, switching devices and other equipment as required to connect into power source, provide adequate ground fault protection and extend power supply from existing source to work areas. Perform work and make all connections in accordance with the Canadian Electrical Code, in compliance with the federal and provincial Occupational Health and Safety Regulations as specified in section 01 35 29 - Health and Safety Requirements and to the lockout requirements specified in section 01 35 25 - Special Procedures on Lockout Requirements.

- .3 Provide and maintain temporary lighting to conduct exterior work, when required. Ensure illumination level is not less than 162 lx in all locations.

- 1.12 WATER SUPPLY .1 Water supply is available in existing building and will be provided for construction usage at no cost to the Contractor. Contractor shall make arrangements for use and transportation of such water supply to work area through the Departmental Representative.

- 1.13 SCAFFOLDING .1 Design, construct and maintain scaffolding in rigid, secure and safe manner in accordance with CSA S269.2.
 - .2 Erect scaffolding independent of walls. Remove when no longer required.

- 1.14 HEATING AND VENTILATING .1 Supply, install and pay for costs of temporary heat and ventilation used during construction, including costs of installation, fuel, operation, maintenance and removal of equipment. Use of direct-fired heaters discharging waste products into work areas will not be permitted.
 - .2 Provide temporary heat and ventilation in enclosed areas as required to:
 - .1 Facilitate progress of work.
 - .2 Protect work and products against dampness and cold.
 - .3 Prevent surface moisture.
 - .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.
 - .5 Provide adequate ventilation to meet health regulations for safe working environment.
 - .3 Maintain minimum temperature of 10 degrees C, or higher where specified, as soon as finishing work is commenced and maintain until acceptance of structure by Departmental Representative.
 - .1 Maintain ambient temperature and humidity levels as required for comfort of office personnel.

- .4 Ventilating:
 - .1 Prevent accumulation of dust, fumes, mist, vapour or gases in areas occupied during construction.
 - .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
 - .3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
 - .4 Ventilate storage spaces containing hazardous or volatile materials.
 - .5 Ventilate temporary sanitary facilities.
 - .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .5 Maintain strict supervision of operation of temporary heating and ventilating equipment:
 - .1 Conform with applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.
- .6 Submit bid assuming existing equipment and systems will not be used for temporary heating and ventilating of work area.
- .7 Upon acceptance of bid, Departmental Representative may permit use of permanent system providing agreement can be reached on:
 - .1 Conditions of use, special equipment, protection and maintenance.
 - .2 Saving on Contract price.
 - .3 Provisions relating to warranties on equipment.
- 1.15 CONSTRUCTION SIGN AND NOTICES
 - .1 Upon request by Departmental Representative, erect a self supporting project sign in location indicated.

- .2 Departmental Representative may provide a vinyl sign facing for installation by Contractor on sign framework. Sign frame to be plywood face complete with required wood framing at 400 mm centres and support posts.
 - .3 Install sign plumb and level in neat wood framework and securely anchor in ground by posts to withstand wind pressure of 160 km/h.
 - .4 Contractor or subcontractor advertisement signboards are not permitted on site.
 - .5 Safety and Instruction Signs and Notices:
 - .1 Signs and notices for safety and instruction shall be in english or commonly understood graphic symbols conforming to CSA Z321.
 - .6 Maintenance and Disposal of Site Signs:
 - .1 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 Departmental Representative.
- 1.16 REMOVAL OF
TEMPORARY
FACILITIES
-
- .1 Remove temporary facilities from site when directed by Departmental Representative.

- 1.1 GENERAL .1 Use new material and equipment unless otherwise specified.
- .2 Within 7 days of written request by Departmental Representative, submit following information for any materials and products proposed for supply:
- .1 Name and address of manufacturer.
 - .2 Trade name, model and catalogue number.
 - .3 Performance, descriptive and test data.
 - .4 Compliance to specified standards.
 - .5 Manufacturer's installation or application instructions.
 - .6 Evidence of arrangements to procure.
 - .7 Evidence of manufacturer delivery problems or unforeseen delays.
- .3 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available.
- .4 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified.
- .5 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.
- 1.2 PRODUCT QUALITY .1 Contractor shall be solely responsible for submitting relevant technical data and independent test reports to confirm whether a product or system proposed for use meets contract requirements and specified standards.
- .2 Final decision as to whether a product or system meets contract requirements rest solely with the Departmental Representative in accordance with the General Conditions of the Contract.
- 1.3 MANUFACTURER'S INSTRUCTIONS .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods to be used. Do not rely on labels or enclosure provided

- with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing of any conflict between these specifications and manufacturers instructions, so that Departmental Representative will designate which document is to be followed.
- 1.4 AVAILABILITY .1 Immediately notify Departmental Representative in writing of unforeseen or unanticipated material delivery problems by manufacturer. Provide support documentation as per clause 1.1.2 above.
- 1.5 WORKMANSHIP .1 Ensure quality of work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed.
- .2 Remove unsuitable or incompetent workers from site as stipulated in the General Conditions of the Contract.
- .3 Ensure cooperation of workers in laying out work. Maintain efficient and continuous supervision on site at all times.
- .4 Coordinate work between trades and subcontractors. See section 01 14 10 in this regard.
- .5 Coordinate placement of openings, sleeves and accessories.
- 1.6 FASTENINGS - GENERAL .1 Provide metal fastenings and accessories in same texture, colour and finish as base metal in which they occur. Prevent electrolytic action between dissimilar metals. Use non-corrosive fasteners, anchors and spacers for securing exterior work and in humid areas.
- .2 Space anchors within limits of load bearing or shear capacity and ensure that they provide positive permanent anchorage. Wood or organic material plugs not acceptable.

- .3 Keep exposed fastenings to minimum, space evenly and lay out neatly.
 - .4 Fastenings which cause spalling or cracking of material to which anchorage is made, are not acceptable.
 - .5 Do not use explosive actuated fastening devices unless approved by Departmental Representative. See section on Health and Safety Requirements in this regard.
- 1.7 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.
 - .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 and, use resilient washers with stainless steel.
- 1.8 STORAGE, HANDLING AND PROTECTION
- .1 Deliver, handle and store materials in manner to prevent deterioration and soiling and in accordance with manufacturer's instructions when applicable.
 - .2 Store packaged or bundled materials in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work. Provide additional cover where manufacturer's packaging is insufficient to provide adequate protection.
 - .3 Store products subject to damage from weather in weatherproof enclosures.
 - .4 Store cementitious products clear of earth or concrete floors, and away from walls.

- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
 - .6 Store sheet materials and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
 - .7 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.
 - .8 Immediately remove damaged or rejected materials from site.
 - .9 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.
- 1.9 CONSTRUCTION EQUIPMENT AND PLANT
- .1 Maintain construction equipment and plant in good operating order.

- 1.1 GENERAL REQUIREMENTS
- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - .2 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
 - .3 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- 1.2 MATERIALS
- .1 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- 1.3 CLEANING DURING CONSTRUCTION
- .1 Maintain work areas in a tidy condition, free from accumulations of waste material and debris. Clean areas on a daily basis.
 - .2 Keep building entrances, corridors, stairwells and facility occupied areas of building in a clean, dust free condition at all times. Conduct thorough cleaning of these areas at end of each work shift when used by workers or affected by the Work.
 - .3 Provide on-site garbage containers for collection of waste materials and debris. Removal of waste/garbage by Contractor.
 - .4 Use separate collection bins, clearly marked as to purpose, for source separation and recycling of waste and debris in accordance with waste management requirements specified. Removal of recyclable material by Contractor.
 - .5 Remove waste materials, recyclable material and debris from site on a minimum weekly basis, or as directed by the Departmental Representative.
 - .6 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.
 - .7 Provide dust barriers, dividers, seals on doors

and employ other dust control measures as required to ensure that dust and dirt, generated by work, are not transmitted to other areas of building. Should dust migrate into facility user areas of building, employ such means as may be necessary to immediately clean all contaminated surfaces to the satisfaction of the Departmental Representative.

.1 See Section 01 50 00 - Temporary Facilities for duct control requirements and for erection of dust partitions and barriers.

.8 Immediately clean all dust, dirt, smears, scuffs and soiled surfaces in corridors and other facility user areas resulting from Work.

.1 Perform cleaning, dusting/washing, and floor washing as necessary to thoroughly clean all soiled surfaces.

1.4 FINAL CLEANING

.1 In preparation for acceptance of the completed work, perform final cleaning.

.2 Remove grease, dust, dirt, stains, labels, fingerprints, marks and other foreign materials, from interior and exterior finished surfaces. Clean and polish surfaces including glass, hardware, stainless steel, chrome, baked enamel, plastic laminate, mechanical and electrical fixtures, etc.

.3 Replace items with broken pieces, scratches or disfigurements.

.4 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
shampoo or prepare floor finishes as recommended by manufacturer.

.6 Inspect finishes, fitments and equipment. Ensure specified workmanship and operation.

.7 Broom clean and wash exterior concrete surfaces and walks; rake clean other surfaces of grounds.

Shearwater Hangar Door Replacement

Eastern Passage, NS
Job No. R.080795.001

CONSTRUCTION/DEMOLITION
WASTE MANAGEMENT & DISPOSAL

Section 01 74 21
Page 1

- 1.1 RELATED SECTIONS .1 Section 01 35 43 - Environmental Procedures.
- 1.2 GENERAL .1 Carry out work placing maximum emphasis on the areas of:
 - .1 Waste reduction.
 - .2 Diversion of waste from landfill.
 - .3 Material Recycling.
- 1.3 WASTE MANAGEMENT PLAN .1 Prior to commencement of work, prepare waste Management Work Plan.
 - .2 Work Plan to include:
 - .1 Waste audit.
 - .2 Waste reduction practices.
 - .3 Material source separation process.
 - .4 Procedures for sending recyclables to recycling facilities.
 - .5 Procedures for sending non-salvageable items and waste to approved waste processing facility or landfill site.
 - .6 Training and supervising workforce on waste management at site.
 - .3 Work Plan to incorporate waste management requirements specified herein and in other sections of the Specifications.
 - .4 Develop Work Plan in collaboration with all subcontractors to ensure all waste management issues and opportunities are addressed.
 - .5 Submit copy of Work Plan to Departmental Representative for review and approval.
 - .1 Make revisions to Plan as directed by Departmental Representative.
 - .6 Implement and manage all aspects of Waste Management Work Plan for duration of work.
 - .7 Revise Plan as work progresses addressing new opportunities for diversion of waste from landfill.

- 1.4 WASTE AUDIT .1 At project start-up, conduct waste audit of:
- .1 Site conditions identifying salvageable and non-salvageable items and waste resulting from demolition and removal work.
 - .2 Projected waste resulting from product packaging and from material leftover after installation work.
- .2 Develop written list. Record type, composition and quantity of various salvageable items and waste anticipated, reasons for waste generation and operational factors which contribute to waste.
- 1.5 WASTE REDUCTION .1 Based on waste audit, develop waste reduction program.
- .2 Structure program to prioritize actions, with waste reduction as first priority, followed by salvage and recycling effort, then disposal as solid waste.
- .3 Identify materials and equipment to be:
- .1 Protected and turned over to Departmental Representative when indicated.
 - .2 Salvaged for resale by Contractor.
 - .3 Sent to recycling facility.
 - .4 Sent to waste processing/landfill site for their recycling effort
 - .5 Disposed of in approved landfill site.
- .4 Reduce construction waste during installation work. Undertake practices which will minimize waste and optimize full use of new materials on site, such as:
- .1 Use of a central cutting area to allow for easy access to off-cuts;
 - .2 Use of off-cuts for blocking and bridging elsewhere.
 - .3 Use of effective and strategically placed facilities on site for storage and staging of left-over or partially cut materials (such as gypsum board, plywood, ceiling tiles, insulation, etc.) to allow for easy incorporation into work whenever possible avoiding unnecessary waste.

- .5 Develop other strategies and innovative procedures to reduce waste such as minimizing the extent of packaging used for delivery of materials to site, etc.

- 1.6 MATERIAL SOURCE SEPARATION PROCESS
 - .1 Develop and implement material source separation process at commencement of work as part of mobilization and waste management at site.

 - .2 Provide on-site facilities to collect, handle and store anticipated quantities of reusable, salvageable and recyclable materials.
 - .1 Use suitable containers for individual collection of items based on intended purpose.
 - .2 Locate to facilitate deposit but without hindering daily operations of existing building tenants.
 - .3 Clearly mark containers and stockpiles as to purpose and use.

 - .3 Perform demolition and removal of existing building components and equipment following a systematic deconstruction process.
 - .1 Separate materials and equipment at source, carefully dismantling, labelling and stockpiling alike items for the following purposes:
 - .1 Reinstallation into the work where indicated.
 - .2 Salvaging reusable items not needed in project which Contractor may sell to other parties. Sale of such items not permitted on site.
 - .3 Sending as many items as possible to locally available recycling facility.
 - .4 Segregating remaining waste and debris into various individual waste categories for disposal in a "non-mixed state" as recommended by waste processing/landfill sites.

- .4 Isolate product packaging and delivery containers from general waste stream. Send to recycling facility or return to supplier/manufacturer.
 - .5 Send leftover material resulting from installation work for recycling whenever possible.
 - .6 Establish methods whereby hazardous and toxic waste materials, and their containers, encountered or used in the course work are properly isolated, stored on site and disposed in accordance with applicable laws and regulations from authorities having jurisdiction.
 - .7 Isolate and store existing materials and equipment identified for re-incorporation into the Work. Protect against damage.
- 1.7 WORKER TRAINING AND SUPERVISION
- .1 Provide adequate training to workforce, through meetings and demonstrations, to emphasize purpose and worker responsibilities in carrying out the Waste Management Plan.
 - .2 Waste Management Coordinator: designate full-time person on site, experienced in waste management and having knowledge of the purpose and content of Waste Management Plan to:
 - .1 Oversee and supervise waste management during work.
 - .2 Provide instructions and directions to all workers and subcontractors on waste reduction, source separation and disposal practices.
 - .3 Post a copy of Plan in a prominent location on site for review by workers.
- 1.8 CERTIFICATION OF MATERIAL DIVERSION
- .1 Submit to Departmental Representative, copies of certified weigh bills from authorized waste processing sites and sale receipts from recycling/reuse facilities confirming receipt of building materials and quantity of waste diverted from landfill.

- .2 Submit data at pre-determined project milestones as determined by Departmental Representative.
 - .3 Compare actual quantities diverted from landfill with projections made during waste audit.
- 1.9 DISPOSAL REQUIREMENTS
- .1 Burying or burning of rubbish and waste materials is prohibited.
 - .2 Disposal of waste, volatile materials, mineral spirits, oil, or paint thinner into waterways, storm, or sanitary sewers is prohibited.
 - .3 Dispose of waste only at approved waste processing facility or landfill sites approved by authority having jurisdiction.
 - .4 Contact the authority having jurisdiction prior to commencement of work, to determine what, if any, demolition and construction waste materials have been banned from disposal in landfills and at transfer stations. Take appropriate action to isolate such banned materials at site of work and dispose in strict accordance with provincial and municipal regulations.
 - .5 Transport waste intended for landfill in separated condition, following rules and recommendations of Landfill Operator in support of their effort to divert, recycle and reduce amount of solid waste placed in landfill.
 - .6 Collect, bundle and transport salvaged materials to be recycled in separated categories and condition as directed by recycling facility. Ship materials only to approved recycling facilities.
 - .7 Sale of salvaged items by Contractor to other parties not permitted on site.

- 1.1 DESCRIPTION OF WORK .1 Administrative procedures preceding inspection and acceptance of Work by Departmental Representative.
- 1.2 RELATED SECTIONS .1 Section 01 33 00 - Submittal Procedures.
.2 Section 01 78 00 - Closeout Submittals.
- 1.3 INSPECTION AND DECLARATION .1 Contractor's Inspection: Coordinate and perform, in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
.1 Notify Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for Departmental Representative's inspection of the completed work.
.2 Departmental Representative's Inspection: Accompany Departmental Representative during all substantial and final inspections of the Work.
.1 Address defects, faults and outstanding items of work identified by such inspections.
.2 Advise Departmental Representative when all deficiencies identified have been rectified.
.3 Note that Departmental Representative will not issue a Certificate of Substantial Performance of the work until such time that Contractor performs following work and turns over the specified documents:
.1 Project record as-built documents;
.2 Final Operations and Maintenance manuals;
.3 Maintenance materials, parts and tools;
.4 Reports resulting from designated tests;
.5 Demonstration and training complete with user manuals;
.6 Manufacturer's Guarantee certificates.

- .7 Testing, adjusting and balancing of equipment and systems complete with submission of test reports.
 - .8 Commissioning of equipment and systems specified.
- .4 Correct all discrepancies and deficiencies before the Departmental Representative will issue the Certificate of Completion.

- 1.1 DESCRIPTION OF WORK .1 Project Record Documents.
.2 Operations and Maintenance data.
- 1.2 RELATED SECTIONS .1 Section 01 33 00 - Submittal Procedures.
.2 Section 01 77 00 - Closeout Procedures.
- 1.3 PROJECT RECORD DOCUMENTS .1 Maintain at site one set of the contract drawings and specifications to record actual "as-built" site conditions.
.2 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Departmental Representative upon request.
.3 As-Built Drawings:
.1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of work, neatly transfer notations to second set (also by use of red ink).
.2 Submit both sets to Departmental Representative prior to application for Certificate of Substantial Performance.
.3 Stamp all drawings with "As-Built Drawings". Label and place Contractor's signature and date.
.4 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
.5 Record following information:
.1 Depths of various elements of foundation in relation to first floor level.
.2 Horizontal and vertical location of exterior underground utilities and appurtenances referenced to permanent surface improvements, if applicable.
.3 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible structure features.
.4 Field changes of dimension and detail.

- .5 Location of all capped or terminated services and utilities.
 - .6 All structural steel installations to be fully dimensioned.
 - .7 All design elevations, sections, floor plans and details dimensioned and marked-up to consistently report finished installation conditions.
 - .8 Any details produced in the course of the contract by the Departmental Representative to supplement or to change existing design drawings.
 - .9 All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.
- .4 As-built Specifications: Legibly mark in red each item to record actual construction, including:
- .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly items substituted from that specified.
 - .2 Changes made by Addenda and Change Orders.
 - .3 Mark up copy of specifications; stamp "as-built", sign and date similarly to drawings as per above clause.
- .5 Maintain As-built documents current as the contract progresses. Departmental Representative will conduct reviews and inspections of the documents on a regular basis. Failure to maintain as-builts current and complete to satisfaction of the Departmental Representative shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.
- 1.4 REVIEWED SHOP DRAWINGS .1 Provide a complete set of all shop drawings reviewed for project to incorporate into each copy of the Operations & Maintenance manuals.

- .2 Submit full sets at same time and as part of the contents of the Operation and Maintenance manuals specified.

- 1.5 UPDATING OF DIGITAL DRAWINGS
 - .1 The Departmental Representative will use the Contractors Record Documents to prepare the updated digital record drawings.

- 1.6 OPERATIONS AND MAINTENANCE MANUAL
 - .1 O&M Manual - Definition: an organized compilation of operating and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified in individual sections of the specifications.

 - .2 Manuals to be in the English language.

 - .3 Number of copies required:
 - .1 Submit 2 draft copies of the manual for review and inspection by Departmental Representative. Make revisions and additions as directed and resubmit.
 - .2 Upon review and acceptance by Departmental Representative, submit 3 final copies of the manual. Interim copies are not to be considered as part of the final copies unless they have been fully revised and are identical to the final approved version.

 - .4 Submission Date: submit complete operation and maintenance manual to Departmental Representative 4 weeks prior to application for Certificate of Substantial Performance of the work.

 - .5 Binding:
 - .1 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual.
 - .2 Use vinyl, hard covered, 3 "D" ring binders, loose leaf, sized for 215 x 280 mm paper, with spine pocket.
 - .3 Where multiple binders are needed, correlate data into related consistent groupings.

- .4 Identify contents of each binder on spine.
- .5 Organize and divide data following same numerical system as the section numbers of the Specification Manual.
- .6 Dividers: separate each section by use of cardboard dividers and labels. Provide tabbed fly leaf for each individual product and system and give description of product or component.
- .7 Type lists and notes. Do not hand write.
- .8 Drawings, diagrams and manufacturers' literature must be legible. Provide with reinforced, punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .6 Manual Contents:
 - .1 Cover sheet containing:
 - .1 Date submitted.
 - .2 Project title, location and project number.
 - .3 Names and addresses of Contractor, and all Sub-contractors.
 - .2 Table of Contents: provide full table of contents in each binder(s), clearly indicate which contents are in each binder.
 - .3 List of maintenance materials.
 - .4 List of spare parts.
 - .5 List of special tools.
 - .6 Original or certified copy of warranties and product guarantees.
 - .7 Copy of approval documents and certificates issued by Inspection Authorities.
 - .8 Copy of reports and test results performed by Contractor as specified.
 - .9 Product Information (PI Data) on materials, equipment and systems as specified in various sections of the specifications. Data to include:
 - .1 List of equipment including manufacturer's name, supplier, local source of supplies and service depot(s). Provide full addresses and telephone numbers.

- .2 Nameplate information including equipment number, make, size, capacity, model number and serial number.
 - .3 Parts list.
 - .4 Installation details.
 - .5 Operating instructions.
 - .6 Maintenance instructions for equipment.
 - .7 Maintenance instructions for finishes.
- .7 Shop drawings:
- .1 Include complete set of reviewed shop drawings into each copy of the operations and maintenance manual.
 - .2 Fold and bind material professionally in a manner that corresponds with the specification section numbering system.
 - .3 When large quantity of data is submitted, place into separate binders of same size as O&M binders.
- .8 Equipment and Systems Data: the following list indicates the type of data and extent of information required to be included for each item of equipment and for each system:
- .1 Description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
 - .2 Include installed colour coded wiring diagrams.
 - .3 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
 - .4 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and

- alignment, adjusting, balancing, and checking instructions.
 - .5 Servicing and lubrication schedule, and list of lubricants required.
 - .6 Manufacturer's printed operation and maintenance instructions.
 - .7 Sequence of operation by controls manufacturer.
 - .8 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - .9 Provide installed control diagrams by controls manufacturer.
 - .10 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
 - .11 Include test and balancing reports.
 - .12 Additional requirements as specified in individual specification sections.
- .9 Materials and Finishes Maintenance Data:
- .1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. 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 specification sections.
- 1.7 SPARE PARTS, TOOLS AND MAINTENANCE MATERIALS .1 Provide spare parts, special tools and extra materials for maintenance purposes in quantities specified in individual specification sections.

- .2 Tag all items with associated function or equipment.
- .3 Provide items of same manufacture and quality as items in Work.
- .4 Deliver to site in well packaged condition. Store in location as directed by Departmental Representative.
- .5 Clearly mark as to contents indicating:
 - .1 Part number.
 - .2 Identification of equipment or system for which parts are applicable.
 - .3 Installation instructions or intended use as applicable.
 - .4 Name, address and telephone number of nearest supplier.
- .6 Prepare and submit complete inventory list of items supplied. Include list within Maintenance Manual.

PART 1 - GENERAL

- 1.1 REFERENCE STANDARDS .1 Canadian Standards Association (CSA International):
- .1 CSA C22.1-15, Canadian Electrical Code, Part 1.
 - .2 CSA C22.2 No.4-M89 (R2000), Enclosed Switches.
 - .3 CSA C22.2 No.39-M89 (R2003), Fuse holder Assemblies.
- 1.2 SHOP DRAWINGS .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.

PART 2 - PRODUCTS

- 2.1 DISCONNECT SWITCHES .1 Fusible, non-fusible, disconnect switch in CSA 3R Enclosure. Size, poles, fusing, as required.
- .2 Provision for padlocking in off switch position by multiple locks.
 - .3 Mechanically interlocked door to prevent opening when handle in ON position.
 - .4 Fuse holders: To CSA C22.2 No.39, suitable without adaptors, for type and size of fusing installed.
 - .5 Quick-make, quick-break action.
 - .6 ON-OFF switch position indication on switch enclosure cover.

PART 3 - EXECUTION

- 3.1 INSTALLATION .1 Install disconnect switches complete with fuses if applicable.
- .2 Provide equipment identification in accordance with Section 26 05 01 - Common Work Results - Electrical.
 - .3 Indicate name of load controlled on size 4 nameplate.