

1.1 DESCRIPTION OF WORK

- .1 In general, Work under this contract consists of the removal and replacement of existing roof assemblies with new roof assemblies, at the Canadian Coast Guard College, Sydney, N.S. The Work shall include, but is not limited to, the supply and installation of all products, services, labour, materials and equipment required to complete the project. The work is generally described as follows:
 - .1 Alert:
 - .1 Removal of existing wood shingle roofing assembly - approximately 924 s.m.
 - .2 Removal of existing roof sheathing and reinforcement of existing wood trusses and rafters (from exterior) where indicated. Access to interior of building not required.
 - .3 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.
 - .4 Removal of existing skylight and installation of new plastic skylight.
 - .2 St. Laurent:
 - .1 Removal of existing wood shingle roofing assembly - approximately 1,034 s.m.
 - .2 Removal of existing roof sheathing and reinforcement of existing wood trusses and rafters (from exterior) where indicated. Access to interior of building not required.
 - .3 Telecom / MacKenzie:
 - .1 Removal of existing wood shingle roofing assembly - approximately 1,141 s.m.
 - .2 Removal of existing roof sheathing and reinforcement of existing wood trusses and rafters (from exterior) where indicated. Access to interior of building not required.
 - .3 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.
 - .4 Saguenay / Miramichi:
 - .1 Removal of existing wood shingle roofing assembly - approximately 1,282 s.m.
 - .2 Removal of existing roof sheathing and reinforcement of existing wood trusses and rafters (from exterior) where indicated. Access to interior of building not required.
 - .3 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.
 - .5 Pacific /Great Lakes:
 - .1 Removal of existing wood shingle roofing assembly - approximately 1,520 s.m.
 - .2 Removal of existing roof sheathing and reinforcement of existing wood trusses and rafters (from exterior) where indicated. Access to interior of building not required.
 - .3 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.

- .6 Artic / Atlantic:
 - .1 Removal of existing wood shingle roofing assembly - approximately 1,390 s.m.
 - .2 Removal of existing roof sheathing and reinforcement of existing wood trusses and rafters (from exterior) where indicated. Access to interior of building not required.
 - .3 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.
- .7 Cabot Building:
 - .1 Removal of existing wood shingle roofing assembly - approximately 4,920 s.m.
 - .2 Removal of existing gypsum board (GB), lay-in acoustic tile (LAP) ceiling assemblies and GB bulkheads to access OWSJ and steel beams to be reinforced where indicated on drawings.
 - .3 Reinforcement of existing steel open web joists (OWSJ) and steel beams where indicated on drawings.
 - .4 Painting of reinforced OWSJ and beams, reinstatement of GB and LAP ceiling assemblies and bulkheads where removed to access OWSJ's and beams (to match existing).
 - .5 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.
- .8 D'Iberville Centre (Gymnasium):
 - .1 Removal of existing wood shingle roofing assembly - approximately 716 s.m.
 - .2 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.
 - .3 Note: Reinforcing of OWSJ's and steel beams not required.
- .9 Walter E. Foster Building:
 - .1 Removal of existing wood shingle roofing assembly - approximately 621 s.m.
 - .2 Removal of existing ballasted protected membrane roof system - approximately 189 s.m., precast concrete pavers and roof access hatch.
 - .3 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.
 - .4 Installation of new 2 ply modified bituminous roofing assembly, roof access hatch and precast concrete pavers.
 - .5 Note: Reinforcing of OWSJ's and steel beams not required.
- .10 George L. Hopkins Building:
 - .1 Removal of existing wood shingle roofing assembly - approximately 378 s.m.
 - .2 Installation of new sloped sheet metal roofing assembly, snow guards and snow fencing as indicated on drawings.
 - .3 Note: Reinforcing of OWSJ's and steel beams not required.
- .11 Including all other work indicated on the drawings and/or required in the specifications.

- .2 Site of Work is located at: Canadian Coast Guard College, 1190 Westmount Road, Sydney, Nova Scotia, B1R 2J6.

1.2 FAMILIARIZATION WITH SITE

- .1 Before submitting a bid, it is recommended that bidders visit the site to inspect and examine the site and its surroundings and satisfy themselves as to the form, nature and extent of the work and materials necessary for the completion of the Work, the means of access to the site, the temporary facilities required, and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. No allowance shall be made subsequently in this connection on account of error or negligence to properly observe and determine the conditions that will apply.
 - .1 Obtain prior permission from the Departmental Representative before carrying out such site inspection.
- .2 During the Tender Period, access to the project Share Point Site for viewing of relevant historical documents such as, but not limited to as-built drawings, will be made available through the Departmental Representative.

1.3 CODES AND STANDARDS

- .1 Perform work in accordance with the 2010 National Building Code of Canada and any other code of provincial or local application, including all amendments up to bid closing date, provided that in any case of conflict or discrepancy, the more stringent requirement(s) shall apply.
- .2 Materials and workmanship must meet or exceed requirements of specified standards, codes and referenced documents.

1.4 SETTING OUT WORK

- .1 Assume full responsibility for and execute complete layout of work to locations, lines and elevations indicated.
- .2 Provide devices needed to lay out and construct work.
- .3 Supply such devices as straight edges and templates required to facilitate Departmental Representative's inspection of work.

1.5 COST BREAKDOWN

- .1 Before submitting first progress claim submit breakdown of Contract price in detail as directed by Departmental Representative and aggregating contract price. Required forms will be provided for application of progress payment.
- .2 List items of work numerically following the same division/section number system of the specification manual and thereafter sub-divide into major work components and building systems as directed by Departmental Representative.
- .3 Upon approval by Departmental Representative, cost breakdown will be used as basis for progress payment.

1.6 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each of the following:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed Shop Drawings.
 - .5 List of outstanding Shop Drawings.
 - .6 Change Orders.
 - .7 Other modifications to Contract.
 - .8 Field Test Reports.
 - .9 Copy of Approved Work Schedule.
 - .10 Health and Safety Plan and other safety related documents.
 - .11 Other documents as stipulated elsewhere in the Contract Documents.

1.7 PERMITS

- .1 In accordance with the General Conditions, obtain and pay for building permit, certificates, licenses and other permits as required by municipal, provincial and federal authorities.
- .2 Provide appropriate notifications of project to municipal and provincial inspection authorities.
- .3 Obtain compliance certificates as prescribed by legislative and regulatory provisions of municipal, provincial and federal authorities as applicable to the performance of work.
- .4 Submit to Departmental Representative, copy of application forms and approval documents received for above referenced authorities.

1.8 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDINGS

- .1 Execute work with least possible interference or disturbance to adjacent existing buildings, operations occupants, and regular use of premises and adjacent areas. Arrange with Departmental Representative to facilitate execution of work.
- .2 Where security has been reduced by work of Contract, provide temporary means to maintain security.
- .3 Where elevators exist in building, only those assigned for Contractor's use may be used for moving workers and material within building. Protect walls of passenger elevators, to approval of Departmental Representative prior to use. Accept liability for damage, safety of equipment and overloading of existing equipment.
- .4 Provide temporary dust screens, barriers, warning signs in locations where renovation and alteration work is adjacent to areas which will be operative during such work.

1.9 ROUGHING-IN

- .1 Be responsible for obtaining manufacturer's literature and for correct roughing-in and hook-up of equipment, fixtures and appliances.

1.10 CUTTING, FITTING AND PATCHING

- .1 Ensure that cutting and patching required by all trades is included in total tender bid price submitted for the work.
- .2 Obtain Departmental Representative's approval before cutting, boring or sleeving any load-bearing members.
- .3 Execute cutting, including excavation, fitting and patching required to make work fit properly.
- .4 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work. This includes patching of openings in existing work resulting from removal of existing services.
- .5 Do not cut, bore, or sleeve load-bearing members, except where specifically approved by Departmental Representative.
- .6 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.
- .7 Fit work airtight to pipes, sleeves ducts and conduits.

1.11 CONCEALMENT

- .1 Conceal pipes, conduits, wiring etc. in wall and ceiling construction except where indicated otherwise.

1.12 LOCATION OF FIXTURES

- .1 Location of equipment, fixtures and outlets, shown or specified shall be considered as approximate. Actual location shall be as required to suit conditions at time of installation and is reasonable.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Departmental Representative when impending installation conflicts with other new or existing components. Follow directives for actual location.
- .4 Submit field drawings to indicate relative position of various services and equipment when required by Departmental Representative.

1.13 EXISTING SERVICES

- .1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian, vehicular traffic, building users and operations.
- .2 Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.

- .3 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility. This includes disconnection of electrical power and communication services to tenant's operational areas. Adhere to approved schedule and provide notice to affected parties.
- .4 Provide temporary services to maintain critical building and tenant systems.
- .5 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
- .6 Protect, relocate or maintain existing active services as required. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction over service.

1.14 BILINGUAL NOTATIONS

- .1 Any items supplied and installed under this contract which have operating instructions on them and which can be expected to be used by the building tenants, must have such operating instructions in bilingual format – English and French.
- .2 Factory embossed or recessed symbols illustrating equipment operation is an acceptable alternate to lettering.
- .3 Items supplied with factory - embossed or recessed lettering in one official language with an applied sticker or decal representing the second official language is not acceptable unless the Departmental Representative gives prior approval before any such items are ordered.
- .4 Internationally recognized colour coding such as red and blue center pieces for plumbing brass is acceptable.
- .5 No extra costs will be paid for re-stocking or re-ordering of materials and equipment due to Contractor's failure to fully meet bilingual signage requirements specified herein.
- .6 Ensure that all trades are made aware of above requirements.

1.15 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions. No smoking.

1.16 ASBESTOS DISCOVERY

- .1 Demolition of spray or trowel-applied asbestos can be hazardous to health. Should material resembling spray or trowel-applied asbestos be encountered during course of Work, stop Work and notify Departmental Representative immediately. Do not proceed with relevant work until written instructions have been received from Departmental Representative.

END OF SECTION

1.1 SUBMITTALS

- .1 Upon acceptance of bid and prior to commencement of work, submit to Departmental Representative the following work management documents:
 - .1 Work Schedule as specified herein.
 - .2 Shop Drawing Submittal Schedule specified in Section 01 33 00.
 - .3 Hot Work Procedures specified in Section 01 35 24.
 - .4 Lockout Procedures specified in Section - 01 35 25.
 - .5 Health and Safety Plan specified in Section 01 35 29.
 - .6 Environmental Plan specified in Section 01 35 43.
 - .7 Dust Control Plan specified in Section - 01 50 00.
 - .8 Waste Management Plan specified in Section 01 74 22.
 - .9 Common Product Requirements specified in Section 01 61 00.

1.2 WORK SCHEDULE

- .1 Upon acceptance of bid submit:
 - .1 Preliminary work schedule within 7 calendar days of contract award.
 - .2 Detailed work schedule within 14 calendar days of contract award.
- .2 Schedule to indicate all calendar dates from commencement to completion of all work within the time stated in the accepted bid.
- .3 Provide sufficient details to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
- .4 Work schedule content to include as a minimum the following:
 - .1 Bar (GANTT) Charts, indicating all work activities, tasks and other project elements, their anticipated durations, planned dates for achieving key activities and major project milestones supported with;
 - .2 Written narrative on key elements of work illustrated in bar chart, providing sufficient details to demonstrate a reasonable implementation plan for completion of project within designated time.
 - .3 Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .5 Work schedule must take into consideration and reflect the Work required, special conditions and operational restrictions as specified below and indicated on drawings.
- .6 Schedule Work in cooperation with the Departmental Representative. Incorporate within Work Schedule, items identified by Departmental Representative during review of preliminary schedule.
- .7 Completed schedule shall be approved by Departmental Representative. When approved, take necessary measures to complete work within scheduled time. Do not change schedule without Departmental Representative's approval.

- .8 Ensure that all subtrades and subcontractors are made aware of the work restraints and operational restrictions specified.
- .9 Schedule Updates:
 - .1 Submit when requested by Departmental Representative.
 - .2 Provide information and pertinent details explaining reasons for necessary changes to implementation plan.
 - .3 Identify problem areas, anticipated delays, impact on schedule and proposed corrective measures to be taken.
- .10 Departmental Representative will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by Departmental Representative. Address and take corrective measures on items identified by reviews and as directed by Departmental Representative. Update schedule accordingly.
- .11 In every instance, change or deviation from the Work Schedule, no matter how minimal the risk or impact on safety or inconvenience to tenant or public might appear, will be subject to prior review and approval by the Departmental Representative.

1.3 PROJECT PHASING

- .1 Contractor is to develop a construction schedule with Departmental Representative prior to performing work. Be aware that Facility and tenants must be kept operational for the full duration of work of this contract. Building services to areas under use by tenants must also be maintained at all times during the Facility's operational hours and as specifically defined in this Section.

1.4 OPERATIONAL RESTRICTIONS

- .1 The Contractor must recognize that building occupants will be affected by implementation of this contract. The Contractor must perform the work with utmost regard to the safety and convenience of building occupants and users. All work activities must be planned and schedule with this in mind. The Contractor will not be permitted to disturb any portion of the building without providing temporary facilities as necessary to ensure safe and direct passage through disturbed or otherwise affected areas.
- .2 Contractor to meet with the Departmental Representative on a weekly basis to identify intended work areas, activities and scheduling for the coming week.

- .3 Canadian Coast Guard College operates 24 hours a day, 7 days a week and 365 days a year. The campus houses classrooms, faculty and administration offices, residences, laboratories, food services, recreation and marine facilities. In addition, the Canadian Coast Guard operates a Marine Communication and Traffic Service centre on the campus, providing essential vessel safety services for the Gulf of St. Lawrence. Classroom hours are generally 8am until 4pm, Monday to Friday, excluding Statutory holidays. Shutdowns on any systems that impact operations of the campus must be scheduled and approved by the Departmental Representative two weeks in advance so that notices to CCGC staff and students can be circulated. Shutdowns will generally be scheduled to occur after 5pm and before 7am on weekdays or anytime on weekends. Contractors' schedules will be circulated to CCGC security and DFO by PWGSC when approved as notice of work anticipated for the following two weeks. To assure that construction work may proceed productively without risk to safety of building occupants and the public, and due to the nature of the tenant's operation be aware that certain work of this contract must be carried out during "Off-Hours".
- .4 Off-Hours: means a period of time which is outside the daily operational hours of the tenants of the Facility. for the purposes of this contract, "Off-Hours" are defined as follows:
 - .1 Weeknight Off-Hours: between the hours of 17:00 and 07:00 for each weekday Monday to Thursday inclusive.
 - .2 Weekend Off-Hours: between the hours of 17:00 Friday evening to 07:00 Monday morning.
 - .3 Dependent on the nature and location of the construction activity and due to an unanticipated operational requirement of the Tenant, certain off-hour periods may be re-defined by adjusting the start and end time periods or cancellation of a specific off-hour workshift during the course of the Work.
- .5 The following work shall be performed during Off-Hours:
 - .1 Work which requires the use of products controlled by WHMIS and for which MSDS sheets indicate toxic or hazardous materials requiring special handling and application procedures;
 - .2 Use of materials having high solvent content or other content emitting strong noxious fumes or odors;
 - .3 Cleaning and preparing of occupied areas for daytime use by tenants immediately following an off-hour workshift;
 - .4 Work within a tenant occupied area including corridors, stairwells and other circulation routes under use;
 - .5 Work which requires the temporary disconnection of power and communication services to occupied areas;
 - .6 Testing of fire alarms and other emergency annunciating system;
 - .7 Work which creates excessive noise, fumes, odours, dust or vibration creating interference with tenant operations.
- .6 Departmental Representative reserves the right to stop certain daytime work activities, if the nature of that activity generates excessive noise or dust and have the Contractor reschedule that particular work to be performed during Off-Hour period.

- .7 Ensure that all trades are aware of the "Off-Hour" requirements of this contract and ensure that any extra costs incurred as a result is included in the Contractor's bid for price of the work. No extra costs will be paid due to failure by General Contractor or his sub-contractors to recognize the off-hour requirements and other restrictions specified herein and to include all necessary allowances within their bid.
- .8 See Section 01 35 54 in regards to:
 - .1 Special security requirements which must be observed in the course of work.
 - .2 Provision of security personnel by Contractor as part of the Work.
- .9 Facility and site circulation maintained:
 - .1 Ensure that entrances, corridors, stairwells, fire exits and other circulation routes are maintained free and clear providing safe and uninterrupted passage for Facility users and public at all times during the entire work.
 - .2 Maintain those areas clean and free of construction materials and equipment. Provide temporary dust barriers and other suitable enclosures to ensure users are not exposed to construction activities and are protected from exposure to dust, noise and hazardous conditions.
 - .3 Maintain fire escape routes accessible and fire fighting access open all times for the duration of the project.
 - .4 Do not under any circumstances block fire exit doors. Do not leave construction materials or debris blocking building entrances and exits.
- .10 Safety Signage:
 - .1 Provide on site, and erect as required during progress of work, proper bilingual signage, mounted on self-supporting stands, warning the public and building occupants of construction activities in progress and alerting need to exercise caution in proceeding through disturbed areas of the facility, and directing building occupants through any detours which may be required.
 - .2 Signage to be professionally printed and mounted on wooden backing, coloured and to express messages as directed by the Departmental Representative.
 - .3 Generally maximum size of sign should be in the order of 1.0 square meters. Number of signs required will be decided in conjunction with the Facility and as directed by Departmental Representative.
 - .4 Include costs for the supply, installation, and removal of these signs, in the bid price.

- .11 Dust and Dirt Control:
 - .1 See Section 01 50 00 and Section 01 74 11 for dust control and cleaning requirements.
 - .2 Effectively plan and implement dust control measures and cleaning activities as an integral part of all construction activities. Review all measures with the Departmental Representative before undertaking work, especially for major dust generating activities.
 - .3 Do not allow demolition debris and construction waste to accumulate and contribute to the propagation of dust.
 - .4 As work progresses, maintain construction areas in a tidy condition at all times. Remove gross dust accumulations by cleaning immediately following the completion of any major dust generating activity.
 - .5 Immediately remove all debris and dust from within occupied areas as generated by work therein during a given workshift.
 - .6 Disconnect and seal-off ductwork of HVAC servicing the construction area to stop spread of dust into other areas of Facility.
 - .7 Avoid situations and practices which results in dust and dirt being brought from the construction areas or from the exterior and tracked inside the building into occupied areas used by tenants or public.
 - .8 Stop workers with soiled footwear from entering building. This includes roofing, mechanics and heavy civil workers.
 - .9 Inform workers and make them aware of the need for dust and dirt control. Stringently enforce rules and regulations, immediately address non-compliance.
 - .10 Keep access doors to work areas closed at all times. Use only designated doors for entry or egress.
- .12 Work in Occupied Areas:
 - .1 Where work must be carried out in an occupied area beyond the boundaries of the enclosed construction site, perform such work during the non-operational off-hour periods of the Facility.
 - .2 Ensure that all dust, dirt, debris, construction waste, materials, tools and equipment are completely removed at the end of each "off-hour" workshift. Clean and reinstate area ready for daytime use by tenant.
 - .3 Provide temporary dust barriers around immediate work areas and place fabric drop sheets over workstations, equipment and other furnishings located immediately adjacent to such work.
 - .4 Conduct work in such a way as to minimize the creation of dust and to avoid contaminating areas beyond the immediate location.
 - .5 Discuss and obtain Departmental Representative's approval beforehand on the type and extent of dust barriers, protective devices and measures needed.
 - .6 Be responsible for temporarily moving office furnishings, workstations, loose furnishings, computer equipment and other objects as needed to gain access and conduct work. Reinstall all dislocated items at end of each workshift making the area operational again.
 - .7 Disconnect and reconnect any power and communications systems feeding workstations as required.
 - .8 Clean such areas as well as those corridors and routes used to gain entry and access.

- .13 Cleaning of tenant occupied areas used by Contractor:
 - .1 Clean lobbies, corridors, stairs and other circulation routes used by workers to gain access to work by conducting cleaning, vacuuming and washing of floors, walls and other soiled surfaces.
 - .2 Meager attempts at controlling dust and ineffective unprofessional cleaning procedures will not be tolerated.
 - .3 Failure to provide effective dust control, allowing construction dust and dirt to escape beyond construction areas and contaminate occupied areas and building circulation areas will result in Contractor being ordered to immediately provide professional cleaning services without delay to remedy the situation and conduct all cleaning to the extent as determined by Departmental Representative. Alternatively, Departmental Representative may, at certain times and at own discretion, obtain the services of an independent building cleaning agency when cleaning being provided by Contractor is ineffective or tardy in response. Costs of such services will be charged against Contractor in the form of financial penalties or holdback assessments against the Contract.
- .14 Ensure that all sub-trades are made aware of and abide by the contents of this section and in particularly the work restrictions specified herein due to tenant operational requirements.

1.5 PROJECT MEETINGS

- .1 Schedule and administer project meetings, held on a minimum bi-weekly basis, for entire duration of work and more often when directed by Departmental Representative as deemed necessary due to progress of work or particular situation.
- .2 Prepare agenda for meetings.
- .3 Notify participants in writing 4 days in advance of meeting date.
 - .1 Ensure attendance of all subcontractors.
 - .2 Departmental Representative will provide list of other attendees to be notified.
- .4 Hold meetings at project site or where approved by Departmental Representative.
- .5 Preside at meetings and record minutes.
 - .1 Indicate significant proceedings and decisions. Identify action items by parties.
 - .2 Distribute to participants by email within 3 calendar days after each meeting.
 - .3 Make revisions as directed by Departmental Representative.
 - .4 Departmental Representative will advise whether submission of minutes by Email is acceptable. Decision will be based on compatibility of software among participants.

1.6 WORK COORDINATION

- .1 The General Contractor is responsible for coordinating the work of the various trades and predetermining where the work of such trades interfaces with each other.
 - .1 Designate one person from own employ having overall responsibility to review contract documents and shop drawings, plan and manage such coordination.
- .2 The General Contractor shall convene meetings between trades whose work interfaces and ensure that they are fully aware of the areas and the extent of where interfacing is required.
 - .1 Provide each trade with the plans and specs of the interfacing trade, as required, to assist them in planning and carrying out their respective work.
 - .2 Develop coordination drawings when deemed required illustrating potential interference between work of various trades and distribute to all affected parties including structural trade.
 - .1 Pay attention to overhead work above ceilings and within or near to building structural elements.
 - .2 Coordination drawings to identify all building elements, services lines, rough-in points and indicate from where various services are coming.
 - .3 Review coordination drawings at purposely called meetings. Have subcontractors sign-off on drawings and publish minutes of each meeting.
 - .4 Plan and coordinate work in such a way to minimize quantity of service line offsets.
- .3 Submission of shop drawings and ordering of prefabricated equipment or prebuilt components shall only occur once coordination meeting for such items has taken place between trades and all conditions affecting the work of the interfacing trades has been made known and accounted for.
- .4 Work Cooperation:
 - .1 Ensure cooperation between trades in order to facilitate the general progress of the work and avoid situations of spatial interference.
 - .2 Ensure that each trade provides all other trades reasonable opportunity for the completion of the work and in such a way as to prevent unnecessary delays, cutting, patching and the need to remove and replace completed work.
- .5 No extra costs to the Contract will be considered by the Departmental Representative as a result of Contractor's failure to effectively coordinate all portions of the Work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work shall be the sole responsibility of the General Contractor to be resolved at own cost.

END OF SECTION

1.1 RELATED SECTIONS

- .1 Section 01 14 10: Scheduling and Management of Work
- .2 Section 01 45 00: Testing and Quality Control.
- .3 Section 01 78 00: Closeout Submittals.

1.2 SUBMITTAL GENERAL REQUIREMENTS

- .1 Submit to Departmental Representative for review requested submittals specified in various sections of the specifications including shop drawings, samples, permits, compliance certificates, test reports, work management plans and other data required as part of the Work.
- .2 Submit with reasonable promptness and in orderly sequence so as to allow for Departmental Representative's review and not cause delay in Work. Failure to submit in ample time will not be considered sufficient reason for an extension of Contract time and no claim for extension by reason of such default will be allowed.
- .3 Do not proceed with work until relevant submissions have been reviewed.
- .4 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .5 Where items or information is not produced in SI Metric units, provide soft converted values.
- .6 Review submittals prior to submission.
 - .1 Ensure that necessary requirements have been determined and verified and that each submittal has been checked and coordinated with requirements of Work and Contract Documents.
 - .2 Submittals not stamped, signed, dated and identified as to specific project will be returned unexamined by Departmental Representative and considered rejected.
- .7 Verify field measurements and affected adjacent Work are coordinated.
- .8 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .9 Contractor's responsibility for errors, omissions or deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative's review.

- .10 Submittal format:
 - .1 A project Share Point site is developed by PWGSC for DFO. Shop Drawings, Submittals, schedules, record drawings, commissioning reports, etc. will be uploaded by the Contractor to the site for review and approvals by the designers, PWGSC resources and DFO personnel.
 - .2 All submittals are to be digital submissions to the project Share Point Site in Portable Document Format (PDF).
 - .3 Each submission is to be issued as a separate file.
 - .4 PDF submittals to be generated at a suitable scanned resolution so that it can be read easily and interpreted without ambiguity.
 - .1 Optimize the file size to allow for reasonable electronic transmission while maintaining clarity at the drawing.
 - .5 Non-legible submittals or facsimiles will not be accepted and will be returned for resubmission.
- .11 Make changes or revision to submissions which Departmental Representative may require, consistent with Contract Documents and resubmit as directed by Departmental Representative. When resubmitting, identify in writing of any revisions other than those requested.
- .12 Keep one reviewed copy of each submittal document on site for duration of Work.

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means fabrication drawings, erection drawings, diagrams, illustrations, schedules, performance charts, technical product data, brochures, specifications, test reports installation instructions and other data which are to be provided by Contractor to illustrate compliance with specified materials and details of a portion of work.
- .2 Shop Drawing Submittal Schedule:
 - .1 Submit within 10 working days of acceptance of bid a schedule listing all shop drawings to be submitted for project.
 - .2 Schedule shall be in format acceptable to Departmental Representative and indicate proposed submission date for each item, status of review and anticipated product delivery date to site. Track all submissions for entire project.
 - .3 Revise schedule as work progresses. Identify items which have been reviewed and finalized and indicating those outstanding.
 - .4 Update schedule at stipulated dates or project time intervals predetermined and agreed upon with Departmental Representative at commencement of Work.
- .3 Shop Drawing Quantities:
 - .1 Submit electronic documents to be included in each of the maintenance manuals specified in Section 01 78 00.
 - .2 Electronic submissions (PDF): upload electronic submission to project Share Point site for review by Departmental Representative and all required reviewers. General Contractor to be responsible for electronic submissions which will be retained by the Departmental Representative.

- .4 Shop Drawings Format:
 - .1 Opaque white prints or photocopies of original drawings or standard drawings modified to clearly illustrate work specific to project requirements. Maximum sheet size to be 1000 x 707 mm. Original document to be scanned at sufficient resolution so that electronic copy uploaded to project Share Point site will be easily read and interpreted.
 - .2 Product Data from manufacturer's standard catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products, to be electronic full colour brochures, clearly marked indicating applicable data and deleting information not applicable to project. Scans are acceptable.
 - .3 Non or poorly scanned documents, photocopies or facsimiles will not be accepted and will be returned not reviewed.
- .5 Shop Drawings Content:
 - 1. Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where items or equipment attach or connect to other items or equipment, confirm that all interrelated work have been coordinated, regardless of section or trade from which the adjacent work is being supplied and installed.
 - 2. Supplement manufacturer's standard drawings and literature with additional information to provide details applicable to project.
 - 3. Delete information not applicable to project on all submittals.
- .6 Allow 10 business days for Departmental Representative's review of each submission.
- .7 Adjustments or corrections made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, advise Departmental Representative in writing prior to proceeding with Work.
- .8 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections and comments are made, fabrication and installation may proceed upon receipt of shop drawings. If shop drawings are rejected and noted to be Resubmitted, do not proceed with that portion of work until resubmission and review of corrected shop drawings, through same submission procedures indicated above.
- .9 Be advised that costs and expenses incurred by Departmental Representative to conduct more than one review of incorrectly prepared shop drawing submittal for a particular material, equipment or component of work may be assessed against the Contractor in the form of a financial holdback to the Contract.

- .10 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and project number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized Representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Cross references to particular details of contract drawings and specifications section number for which shop drawing submission addresses.
 - .6 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .11 After Departmental Representative's review, distribute copies.
- .12 The review of shop drawings by the Departmental Representative or by an authorized Consultant or designate is for sole purpose of ascertaining conformance with general concept. This review shall not mean that Canada approves the detail design inherent in the shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting all requirements of the construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of all sub-trades.

1.4 SAMPLES

- .1 Submit for review samples as specified in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples to Departmental Representative's office or to other address as directed. Do not drop off samples at construction site except for pre-approved circumstances previously approved by Departmental Representative.
- .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.

- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments will result in a cost increase to the Contract notify Departmental Representative in writing prior to proceeding with Work.
- .6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

END OF SECTION

1.1 RELATED SECTIONS

- .1 Section 01 35 25: Special Procedures on Lockout Requirements.
- .2 Section 01 35 29: Health and Safety Requirements.

1.2 REFERENCES

- .1 Fire Protection Standards issued by Fire Protection Services of Human Resources Development Canada as follows:
 - .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.shtm>.
 - .2 Fire Protection Services – Atlantic Region Office, Halifax, N.S., Tel. (902) 426-6053.

1.3 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.

1.4 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 the Section 01 33 00 – Submittal Procedures.

1.5 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.

1.6 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 during performance of hot work, Departmental Representative will provide 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 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 tenant 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 Facility. Follow Departmental Representative's directives in this regard.

1.7 HOT WORK PROCEDURES

- .1 Develop and implement safety procedures and work practices to be followed during the performance of Hot Work.
- .2 Procedures to include:
 - .1 Requirement to perform hazard assessment of site and immediate hot work area for each hot work event in accordance with Safety Plan requirements of 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 and 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 applicable to this contract.
- .4 Procedures shall clearly establish worker instructions and allocate 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 Permit system established for project. Stringently enforce compliance.

1.8 HOT WORK PERMIT

- .1 Hot Work Permit to include, as a minimum, the following data:
 - .1 Project name and project number;
 - .2 Building name, address 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 user;
 - .7 Name of worker to which the permit is being issued;
 - .8 Permit validity period not to exceed 8 hours. Indicate start time /date and completion time / date;
 - .9 Worker signature with time /date upon Hot Work termination;
 - .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.

1.9 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 fire fighting.

- .3 Costs incurred, from the fire department, Facility Owner and tenants, 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.

1.10 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.

END OF SECTION

1.1 RELATED SECTIONS

- .1 Section 01 35 24: Special Procedures on Fire Safety Requirements.
- .2 Section 01 35 29: Health and Safety Requirements.

1.2 REFERENCES

- .1 CSA C22.1-06, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.
 - .1 CAN/CSA C22.3 No.1-06 - Overhead Systems.
 - .2 CSA C22.3 No.7-06 - Underground Systems.
- .2 COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.

1.3 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 is 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.

1.4 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.

1.5 SUBMITTALS

- .1 Submit copy of proposed Lockout Procedures and sample form of lockout permit and lockout tags proposed for use in accordance with Section 01 33 00 – Submittal Procedures. Submit with 14 calendar days of acceptance of bid.

1.6 ISOLATION OF EXISTING SERVICES

- .1 Obtain Departmental Representative's written authorization prior to conducting work on an existing live or active electrical facilities and equipment and before proceeding with isolation of such item.
- .2 To obtain authorization, submit to Departmental Representative following documentation:
 - .1 Written Request for Isolation of the 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, and as follows:
 - .1 Fill-out standard forms in current use at the Facility when so directed by Departmental Representative or;
 - .2 Where no forms exist at Facility, make written request indicating:
 - .1 The equipment, system or services 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 shutdown of equipment or facilities, de-energize, isolate and lock out 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 healthy and safety requirements specified Section 01 35 28 – Health and Safety Requirements.

1.7 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 type 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 it's 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" a 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, providing
 - .7 Collecting and safekeeping lockout tags, returned by workers, as a record of the event.
- .5 Clearly establish, describe and allocate, the responsibilities of:
 - .1 Workers.
 - .2 Persons managing the lockout permit system.
 - .3 Safety Watcher.
 - .4 Subcontractor(s) and General Contractor.

- .6 Generic procedures, if used, must be edited, 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 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.

1.8 CONFORMANCE

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

1.9 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 the work.
- .3 Upon request, make available to Departmental Representative or to authorized safety representative for inspection.

END OF SECTION

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 ten (10) working days of notification of Bid Acceptance. Provide 3 copies.
 - .2 Departmental Representative will review Health and Safety Plan and provide comments.
 - .3 Revise the Plan as appropriate and resubmit within five (5) working 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 WHMTS MSDS - Material Safety Data Sheets.

1.4 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of Nova Scotia, and General 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/ n e.html](http://laws.justice.gc.ca/eng/SOR-86-304/n e.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.
 - .3 DFS Site Specific Procedures.
- .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 bilingual message in the 2 official languages or international known 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. Provide security guard where adequate protection cannot be achieved by other means.

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 – General Instructions, 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.

1.12 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 below.
 - .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 firefighting 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 PWGSC 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.
 - .2 Conduct Formal Inspections on a minimum monthly basis. Use standardized safety inspection forms. Distribute to subcontractors.
 - .3 Follow-up and ensure corrective measures are 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.

1.20 CONFINED SPACES

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

1.21 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.

1.22 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 WFIMIS data sheets

END OF SECTION

1.1 RELATED SECTIONS

- .1 Section 01 74 22: Construction / Demolition Waste Management & 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 22 - Construction / Demolition Waste Management & Disposal.
- .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 SITE AND PLANT PROTECTION

- .1 Protect trees and shrubs adjacent to buildings and Work storage areas from damage by Work.
- .2 Wrap trees and shrubs adjacent to construction work area in burlap or encase with protective wood framework as directed by Departmental Representative.
- .2 Do not operate construction equipment on waterways.
- .3 Prevent construction debris, waste material, dust from entering or collecting on waterways.
- .4 Remove temporary protective measures at completion of Work.

1.7 POLLUTION CONTROL

- .1 Control emissions from equipment and plant to local authorities' emission requirements.
- .2 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
- .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.
- .4 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.
- .5 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.

END OF SECTION

1.1 GENERAL

- .1 Due to nature of this Facility, and client operations therein, security regulations pertaining to construction work inside buildings will be in place resulting in need for:
 - .1 Control and limit movement of construction workers inside building(s);
 - .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 as required and obtain security clearance for 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 ensure that they abide by all rules and directives.
- .3 The 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.
- .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 Demand immediate removal of offending party from the site.

1.2 SECURITY PERSONNEL

- .1 DFO will provide and pay for security escorts (Commissionaires) for all interior work.
- .2 One (1) Commissionaire to be on site at all times when interior work is carried out, having 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;
 - .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 Commissionaire will be present on site for entire workshift including workbreaks and time period after workshifts until all workers have left site.
- .4 Commissionaire will 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 also 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 workshifts are in the daytime or during Facility off hours.
- .7 Commissionaire shall report directly to the Departmental Representative and to the Facility security personnel and ensure that site security directives are obeyed by all workers.
 - .1 Empower Commissionaire with authority to remove any worker deemed non-compliant with security directives.

1.3 SECURITY PASSES

- .1 Visitor or worker ID Tags are required for all personnel requiring access inside the building.
- .2 ID Tags will be provided by the Facility Security, issued to Contractor for distribution to authorized workers which shall also be placed on the Security Control List specified below.
- .3 All persons while on site, must wear the ID Tag issued to him regardless of daytime or nighttime work.
- .4 Be responsible to obtain ID Tags before work commences, including those required by subcontractors, and continually control their distribution and use by workers. Submit request for tags as early as possible prior to commencement of work.
- .5 For the duration of this contract, anyone not in possession of the ID Tag will not be allowed access on site.

- .6 At end of project, return to Departmental Representative all tags issued to workers and to subcontractors.
 - .1 The Departmental Representative will levy a financial penalty in the form of a holdback assessment against the Contract for each pass not returned regardless of the reason the pass is not returned.
- .7 Immediately report any lost, stolen or destroyed ID Tags to the Departmental Representative.

1.4 SECURITY CONTROL LIST

- .1 Provide a list of employee names from workforce and from subcontractors who will be present at site during the course of work.
- .2 List to include each person's name, address and telephone number.
- .3 Submit copy of list to Departmental Representative and to Security Commissionaire for control of workers.
- .4 Update list as work progresses.
- .5 Ensure that each worker can provide proof of identity upon demand, when requested by Facility's Security Personnel, Departmental Representative or by Facility Management.

1.5 BUILDING ACCESS

- .1 Keys and security access cards given to the Commissionaire for his sole possession, as determined by Departmental Representative, shall not under any circumstances be given to any worker or subcontractor.

1.6 SITE SECURITY

- .1 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 48 hours beforehand to minimize impact on Facility's security and tenant operations.
- .2 Off Hours are defined in Section 01 14 10.

END OF SECTION

1.1 RELATED SECTIONS

- .1 Section 01 33 00: Submittal Procedures.
- .2 Section 01 78 00: Closeout Submittals.

1.2 INSPECTION

- .1 Facilitate Departmental Representative's access to Work.
- .2 Give timely notice requesting inspection of Work designated for special tests, inspections or approvals by Departmental Representative or by inspection authorities having jurisdiction.
- .3 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.
- .4 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.
- .5 Pay costs to uncover and make good work disturbed by inspections and tests.

1.3 TESTING BY CONTRACTOR

- .1 Provide all necessary materials, instruments, equipment and qualified personnel to perform tests designated as Contractor's responsibilities herein or elsewhere in the Contract Documents.
- .2 At completion of tests, turn over 2 sets of fully documented tests reports to the Departmental Representative. Submit in accordance with Section 01 33 00 – Submittal Procedures. Obtain additional copies in sufficient quantities to enable on complete set of test reports to be placed in each of the maintenance manuals specified in Section 01 78 00 – Closeout Submittals.
- .3 Submit mill test certificates and other certificates as specified in various sections.

1.4 INDEPENDENT AGENCIES INSPECTION

- .1 Departmental Representative may 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 and adjustment of conveying systems.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests as specified within various sections designated to be carried out by Contractor under the supervision of Departmental Representative.
 - .6 Additional tests specified in Clause 1.4.2 below.
- .2 Where tests or inspections by designated Testing authority reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests and inspections as Departmental Representative may require to verify acceptability of corrected work.
- .3 Employment of inspection and testing agencies by Departmental Representative does not relax responsibility to perform Work in accordance with Contract Documents.

1.5 ACCESS TO WORK

- .1 Facilitate Departmental Representative's access to Work.
- .2 Furnish equipment, labour and facility required to provide access to the work being inspected and tested by designated testing agency and Departmental Representative.
- .3 Co-operate to facilitate such inspections and tests.
- .4 Make good work disturbed by inspections and tests.

1.6 PROCEDURES

- .1 Notify Departmental Representative sufficiently well in advance of when the Work is ready for testing, in order for Departmental Representative to make attendance arrangements with Testing Agency. When directed by Departmental Representative notify the Testing Agency directly.
- .2 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.

1.7 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 Departmental Representative as failing to conform to Contract Documents.
- .2 Make good damages to existing or new work resulting from removal or replacement of defective work.

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

END OF SECTION

1.1 SITE ACCESS AND PARKING

- .1 The Departmental Representative will designate Contractor's access to project site, workforce parking location(s), and location and extent of space for Contractor's equipment and materials storage.
- .2 The Contractor is advised that parking facilities for his workers and subcontractors will be on property. Follow all instructions from the Departmental Representative in regards to parking facilities.

1.2 BUILDING ACCESS

- .1 Use only access and circulation routes within site as designated by Departmental Representative to access construction work areas.
- .2 Use only access doors, circulation corridors and elevators within building as designated by Departmental Representative to access interior work locations.

1.3 CONSTRUCTION SITE OFFICE

- .1 Be responsible for and provide own site office including electricity, heat, lights and telephone and locate site office where directed by Departmental Representative.
- .2 All visitors to site must first come to and register at Construction Site Office.

1.4 MATERIAL STORAGE

- .1 Locate site storage trailers where directed by Departmental Representative.
- .2 Coordinate delivery of materials to minimize storage period on site before being needed for incorporation into work.
- .3 Be responsible for security of material stored on site. Provide secure enclosure around material storage area to a minimum standard as outlined in sentence 1.5 - Site Enclosures.

1.5 SITE ENCLOSURES

- .1 Provide temporary fence where designated by Departmental Representative and as agreed to by Departmental Representative to enclose various construction areas of work site.
- .2 Obtain Departmental Representative's approval beforehand of location and layout of all temporary fence enclosures.
- .3 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.
- .4 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 and security to facility users during the course of work.
- .2 Be responsible for and provide temporary 2.4 metre high plywood, "good one side", construction hoarding when work is adjacent to exterior sidewalks and circulation routes used by facility employees 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 Erect wooden pedestrian walkways complete with roof and side covers.
 - .2 Install walkways as soon as work is in the vicinity of entrance and exit doors and poses a potential danger to facility users.
 - .3 Construct to approximate size of 2.0 metre wide x 2.1 metre high x length as required to fully clear danger zone.
 - .4 Provide signage and lighting. Lighting to utilize energy efficient bulbs.
 - .5 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 protect occupants for duration of work.
- .2 Construct hoarding as follows:
 - .1 Height: to underside of floor or roof above.
 - .2 Framing type: 92 mm steel stud framing spaced at 400 mm o.c.
 - .3 Covering: 12 mm thick gypsum board sheathing applied to occupied side of partition.
 - .4 Where partition is exposed to public view, tape and finish drywall joints and paint surface to colour approved by the Departmental Representative to MPI system INT 9.2A, Latex over latex sealer, gloss level G2, custom grade.
 - .5 Seal to abutting surfaces and insulate with mineral wool batt insulation where separating heated spaces from unheated spaces.
 - .6 Access Doors: wood pedestrian doors, dust tight and lockable.
 - .7 Scribed to underside and profile of ceiling or floor/roof deck above.

1.8 SANITARY FACILITIES

- .1 Provide temporary 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.

1.9 ENCLOSURE OF STRUCTURE

- .1 Provide temporary weathertight enclosures and protection for exterior openings and /or modifications to roofing, flashing, etc. which may permit water entry until permanently enclosed.
- .2 Provide weathertight 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.

1.10 WATER SUPPLY

- .1 Water supply is available in existing buildings and will be provided for construction usage at no cost. Make arrangements for the use and transportation of such services to work area through the Departmental Representative.

1.11 TEMPORARY POWER AND LIGHT

- .1 Power supply is available in existing buildings and will be provided for construction usage at no cost. Make arrangements for the use and transportation of such services to work area through the Departmental Representative.
- .2 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 and to lockout requirements specified in Section 01 35 25.
- .3 Provide and maintain temporary lighting where required to conduct work. Ensure illumination level is not less than 162 lx in all locations.

1.12 SCAFFOLDING

- .1 Design, construct and maintain scaffolding in rigid, secure and safe manner in accordance with CAN/CSA-S269.2-M87(R2003) and CSA Z797-09 (R2014).
- .2 Submit scaffolding shop drawing prepared by a Structural Engineer licensed to practice in the Province of Nova Scotia in accordance with requirements of Section 01 33 00.

- .3 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms and temporary stairs.
- .4 Erect scaffolding independent of walls. Remove scaffolding when no longer required.

1.13 HOISTING

- .1 Provide, operate and maintain hoists required for moving of workers, materials and equipment. Hoists to be operated by qualified operators.

1.14 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Contractor's traffic on roads for deliveries or hauling of materials to and from site to interfere as little as possible with local area traffic.
- .2 Verify adequacy of existing roads and allowable load limit on these roads. Contractor to be responsible for repair of damage to roads caused by construction activities.
- .3 Provide snow removal during period of Work.

1.15 CONSTRUCTION SIGN AND NOTICES

- .1 Contractor or subcontractor advertisement signboards are not permitted on site.
- .2 Safety and Instruction Signs and Notices:
 - .1 Signs and notices for safety and instruction shall be in both official languages or commonly understood graphic symbols conforming to CAN3-Z321-96(R2006).
- .3 Maintenance and Disposal of Site Signs:
 - .1 Maintain approved signs and notices in good condition for duration of project and dispose of offsite on completion of project or earlier if directed by Departmental Representative.

1.16 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging materials from work site daily.
- .2 Clean mud or dirt tracked onto paved or surfaced roadways and sidewalks daily.
- .3 Provide snow removal during period of Work, and comply with directions from Departmental Representative as to location of snow piles.

1.17 REMOVAL OF TEMPORARY FACILITIES

- .1 Remove temporary facilities from site when directed by Departmental Representative.
- .2 Be responsible to repair and make good all damage, to match existing condition of, existing roads, sidewalks, grassed areas, etc. caused by new work and removal of temporary facilities.

END OF SECTION

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 ACCEPTABLE MATERIALS AND ALTERNATIVES

- .1 Acceptable Materials: When materials specified include trade names or trade marks or manufacturer's or supplier's name as part of the material description, select and only use one of the names listed for incorporation into the Work.
- .2 Alternative Materials: Submission of alternative materials to trade names or manufacturer's names specified must be done during the bidding period following procedures indicated in the Instructions to Bidders.
- .3 Substitutions: After contract award, substitution of a specified material will be dealt with as a change to the Work in accordance with the General Conditions of the Contract.

1.4 MANUFACTURERS 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 manufacturer's instructions, so that Departmental Representative will designate which document is to be followed.

1.5 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.

1.6 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 in accordance with Section 01 14 10 – Scheduling and Management of Work.
- .5 Coordinate placement of openings, sleeves and accessories.

1.7 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.

1.8 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.

1.9 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 sheet materials and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .5 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .6 Immediately remove damaged or rejected materials from site.
- .7 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.10 CONSTRUCTION EQUIPMENT AND PLANT

- .1 Maintain construction equipment and plant in good operating order.

END OF SECTION

1.1 GENERAL

- .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 site in a tidy condition, free from accumulations of waste material and debris. Clean areas on a daily basis.
- .2 Keep building entrances, and occupied areas of building in a clean dust free condition at all times. Conduct thorough cleaning of these areas at end of each workshift when used by workers or affected by the Work.
- .3 Provide on-site lockable metal containers for collection of waste materials and debris. Locate where approved and directed by Departmental Representative.
- .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.
- .5 Remove waste materials, and debris from site on a daily basis.
- .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 existing areas of building. Should dust migrate into adjacent areas of building, employ such means as may be necessary to immediately clean all contaminated surfaces to the satisfaction of the Departmental Representative.
- .8 Immediately clean all dust, dirt, smears, scuffs and soiled surfaces in occupied areas resulting from the Work. Perform cleaning, dusting and washing operations, carpet vacuuming, including shampooing if deemed required by Departmental Representative, and floor washing as necessary to thoroughly clean all solid surfaces.
- .9 Remove snow and ice from access doors used by workforce.

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, mirrors, hardware, wall tile, stainless steel, chrome, baked enamel, plastic laminate mechanical and electrical fixtures.
- .3 Replace items with broken pieces, scratches or disfigured.
- .4 Clean lighting reflectors, lenses, and other lighting surfaces.
- .5 Vacuum clean and dust building interiors, and behind grilles, louvres and screens.
- .6 Wax, seal, shampoo or prepare floor finishes as recommended by manufacturer.
- .7 Inspect finishes, fitments and equipment. Ensure specified workmanship and operation.
- .8 Broom clean and wash exterior paved surfaces and walks; rake clean other surfaces of grounds.
- .9 Remove debris and surplus materials from crawl areas, roof areas and other accessible concealed spaces.
- .10 Clean equipment, fixtures and food service equipment to a sanitary condition.

END OF SECTION

1.1 RELATED SECTIONS

- .1 Section 01 35 43: Environment Procedures.

1.2 GENERAL

- .1 Carry out work placing maximum emphasis on the areas of:
 - .1 Waste reduction;
 - .2 Diversion of waste from landfill and;
 - .3 Material Recycling.

1.3 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.

1.4 WASTE MANAGEMENT

- .1 Incorporate environmental and sustainable practices in managing waste resulting from Work.
- .2 Divert as much waste as possible from landfill.
- .3 Coordinate work of subtrades and subcontractors to ensure all possible waste reduction and recycling opportunities are taken. Follow waste management requirements specified in trade sections of the Specifications.
- .4 Reduce waste during installation of new materials. Undertake practices which will optimize full use of materials and minimize waste.
- .5 Develop innovative procedures to reduce quantity of waste generated by construction such as by delivering materials to site with minimal packaging etc.
- .6 Provide on-site facilities to collect, handle and store anticipated quantities of reusable, salvageable and recyclable materials.
- .7 During demolition and removal work 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.
 - .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.
- .8 Isolate product packaging and delivery containers from general waste stream. Send to recycling facility or return to supplier/manufacturer.

- .9 Send leftover material resulting from installation work for recycling whenever possible.
- .10 Establish methods whereby hazardous and toxic materials, and their containers used on site are properly handled, stored and disposed in accordance with applicable federal, provincial and municipal laws and regulations.

1.5 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.

END OF SECTION

1.1 RELATED SECTIONS

- .1 Section 01 78 00: Closeout Submittals.

1.2 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 Compliance certificates from applicable authorities;
 - .5 Reports resulting from designated tests complete with submission of test reports;
 - .6 Manufacturer's guarantee certificates;
- .4 Correct all discrepancies before Departmental Representative will issue the Certificate of Completion.

END OF SECTION

1.1 RELATED SECTIONS

- .1 Section 01 33 00: Submittal Procedures.
- .2 Section 01 77 00: Closeout Procedures.

1.2 PROJECT RECORD DOCUMENTS

- .1 Departmental Representative will provide two (2) white print sets of contract drawings and two (2) copies of Specifications Manual specifically for "as-built" purposes.
- .2 Maintain at site one set of the contract drawings and specifications to record actual as-built site conditions.
- .3 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.
- .4 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 at completion of Work.
 - .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 Field changes of dimension and detail;
 - .2 Location of all capped or terminated services and utilities;
 - .3 All structural steel installations to be fully dimensioned;
 - .4 All design details dimensioned and marked-up to consistently report finished installation conditions;
 - .5 Any details produced in the course of the contract by the Departmental Representative to supplement or to change existing design drawings;
 - .6 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.
- .6 '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 both copies of specifications; stamp "as-built", sign and date similarly to Drawings as per above clause.

- .7 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 Departmental Representative shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.

1.3 REVIEWED SHOP DRAWINGS

- .1 Provide a complete set of all digital shop drawings (PDF) reviewed for electronic submission as part of the Operations and Maintenance manuals.
- .2 See Paragraph 1.5 Operations and Maintenance Manual for information on electronic uploading of reviewed digital shop drawings to project SharePoint site.

1.4 OPERATIONS AND MAINTENANCE MANUAL

- .1 Operations and Maintenance 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 Manual Language: final manuals to be in English language.
- .3 Electronic Submission:
 - .1 All Maintenance Manuals to be prepared as digital documents (PDF) and uploaded to the project Share Point site by Contractor.
 - .2 Upload Interim submission of the Manual for review and inspection by Departmental Representative. Make revisions and additions as directed and re-submit by uploading revised documents.
 - .3 Upon review and acceptance by Departmental Representative, upload Final Maintenance Manual electronic documents.
 - .4 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: upload complete Operation and Maintenance Manual to Departmental Representative 3 weeks prior to application for Certificate of Substantial Performance of the work.
- .5 Digital Documents:
 - .1 Assemble, coordinate, and include index for required data of Operation and Maintenance Manual.
 - .2 Upload O&M documents digitally to SharePoint site and organize documents following same numerical system as the section numbers of the Specification Manual.
 - .1 Provide separate sub-folders for each numerical section.
 - .2 Provide separate pdf documents for each individual product and system and give description of product or component.
 - .3 Drawings, shop drawings, diagrams and manufacturers' literature must be legible. Ensure scanning of all digital maintenance manual documents is of a sufficiently high resolution to allow legibility and clarity of reading the information.

- .6 Manual Contents:
 - .1 Title Page identifying:
 - .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 digital shop drawings into each copy of the operations and maintenance manual.
 - .2 Organize and include shop drawing material in a manner that corresponds with the specification section numbering system.
- .8 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 specifications sections.

1.5 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.

END OF SECTION