

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- .1 In general, the work of this contract consists of the replacement of existing rooftop air handling units, and the addition of several new split system air conditioning units. The work includes, but is not limited to, the supply and installation of all products, services, labour, materials and equipment required to complete the project for:
- .1 Replacement of two (2) rooftop units with new heat pumps at the Administration Building.
  - .2 Installation of a new split system heat pump for the training room at the Administration Building.
  - .3 Installation of new HRV serving the training room.
  - .4 Installation of new split system heat pumps for the Fender Buildings, replacement of vertical unit heaters (VUH) and installation of a new wall mounted 15 kVA tranformer to feed new VUH.
  - .5 Air balancing of existing supply air ductwork on the Administration Building.
  - .6 Commissioning, warranties, maintenance manuals and record drawings.
- .2 Site of Work is located at the Canso Canal Administration Building, Port Hastings, Nova Scotia, B9A 1M3.

1.2 FAMILIARIZATION WITH SITE

- .1 Before submitting a bid, it is recommended that bidders visit the site to review and verify the form, nature and extent of the work, materials needed, the means of access and the temporary facilities required to perform the Work.
- .2 There is no mandatory site visit, however, if the Contractor would like to view the site prior to submitting a tender they must make arrangements with the Officer In Charge (OIC) (OJ Boudreau, 902-625-1973). This will be a chance to observe the site. No questions would be answered by the OIC, all questions must be submitted in writing through the contracting officer per traditional contracting methods.
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1.3 CODES AND  
STANDARDS

- .1 Perform work in accordance with the 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 shall apply.
- .2 Materials and workmanship must meet or exceed requirements of specified standards, codes and referenced documents.

1.4 COST BREAKDOWN

- .1 Before submitting first progress claim submit a breakdown of the Contract price in detail as directed by the Departmental Representative. Required forms will be provided for application of progress.
- .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 the Departmental Representative.
- .3 Upon approval, cost breakdown will be used as basis for progress payment.

1.5 DOCUMENTS  
REQUIRED

- .1 Maintain a 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 modification 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.

1.6 PERMITS

- .1 Obtain and pay for building permit, certificates, licenses and other permits as required by municipal, provincial and federal authorities.

1.6 PERMITS  
(Cont'd)

- .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 the Departmental Representative, copy of application forms and approval documents received from above referenced authorities.

1.7 ALTERATIONS,  
ADDITIONS OR  
REPAIRS TO  
EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to building operations occupants, public and normal use of premises. Arrange with the 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, dumbwaiters, conveyors or escalators 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 the 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.

1.8 ROUGHING-IN

- .1 Obtain the manufacturer's literature for correct roughing-in and hook-up of equipment, fixtures and appliances.

1.9 CUTTING,  
FITTING AND  
PATCHING

- .1 Confirm cutting and patching required by all trades is included in total bid price submitted for the work.
  - .2 Execute cutting, including excavation, fitting and patching required to make work fit properly.
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1.9 CUTTING,  
FITTING AND  
PATCHING  
(Cont'd)

- .3 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.
- .4 Do not cut, bore, or sleeve load-bearing members, except where specifically approved by the Departmental Representative.
- .5 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.
- .6 Fit work airtight to pipes, sleeves ducts and conduits.

1.10 CONCEALMENT

- .1 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

1.11 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 as 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 the 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 the Departmental Representative.

1.12 EXISTING  
SERVICES

- .1 Where work involves breaking into or connection to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian, vehicular traffic, tenant operations.

1.12 EXISTING  
SERVICES  
(Cont'd)

- .2 Before commencing work, establish location and extent of service lines in area of work and notify the Departmental Representative of findings.
- .3 Submit schedule to and obtain approval from the 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 when directed by the Departmental Representative to maintain critical building and tenant systems.
- .5 Where unknown services are encountered, immediately advise the 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. Record locations of maintained, re-routed and abandoned service lines.

1.13 BILINGUAL  
NOTATIONS

- .1 Any items supplied and installed under this contract which have operating instructions on them such as door hardware, washroom accessories, push button activation controls powered hand dryers, mechanical equipment such as water coolers, etc., and which can be expected to be used by the public and 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.

1.13 BILINGUAL  
NOTATIONS  
(Cont'd)

- .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 Make all trades are made aware of above requirements.

1.14 BUILDING  
SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not applicable.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not applicable.

PART 1 - GENERAL

1.1 SUBMITTAL  
GENERAL REQUIREMENTS

- .1 Submit to the Departmental Representative for review submittals listed, including shop drawings, samples, certificates and other data, as specified in other sections of the Specifications.
- .2 Submit with reasonable promptness and in orderly sequence so as to allow for the 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 are reviewed and approved by the Departmental Representative.
- .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 to the Departmental Representative. During review confirm all necessary requirements have been determined and verified, required field measurements or data have been taken, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents.
  - .1 Submittals not stamped, signed, dated and identified as to specific project will be returned unexamined by the Departmental Representative and considered rejected.
- .7 Notify the Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .8 Verify field measurements and affected adjacent work are coordinated.
- .9 Contractor's responsibility for errors, deviation and omissions in submission is not relieved by the Departmental Representative's review of submittals.

1.1 SUBMITTAL  
GENERAL REQUIREMENTS  
(Cont'd)

- .10 Submittal format: clear and fully legible electronic scans of original documents. Facsimiles or hard copies are not acceptable, except in special circumstances pre-approved by the Departmental Representative. Poorly printed non-legible scans will not be accepted and will be returned for resubmission.
- .11 Make changes or revision to submissions which the Departmental Representative may require, consistent with Contract Documents and resubmit as directed by the Departmental Representative. When resubmitting, notify the Departmental Representative in writing of any revisions other than those requested.
- .12 Keep one (1) reviewed copy of each submittal document on site for duration of Work.

1.2 SHOP DRAWINGS  
AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, product data, brochures and other data which are provided by the Contractor to illustrate details of a portion of Work.
- .2 Shop Drawings format: submit one (1) electronic file per shop drawing. File to be in pdf file format. One (1) reviewed electronic file will be sent back to the Contractor and one (1) will be saved on file by the Departmental Representative.
- .3 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.
- .4 Allow ten (10) calendar days for the Departmental Representative's review of each submission.



1.2 SHOP DRAWINGS  
AND PRODUCT DATA  
(Cont'd)

- .5 Adjustments or corrections made on shop drawings by the Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, advise the Departmental Representative in writing prior to proceeding with Work.
- .6 If upon review by the 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.
- .7 Accompany each submission with transmittal letter, containing:
  - .1 Date.
  - .2 Project title and project number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .8 Submissions to 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.

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| 1.2 SHOP DRAWINGS<br>AND PRODUCT DATA<br>(Cont'd) | .8 (Cont'd)<br>.6 (Cont'd)<br>.10 Relationship to adjacent work. |
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- .9 After the Departmental Representative's review, distribute copies.
- .10 The review of shop drawings by the Departmental Representative or their delegated representative is for sole purpose of ascertaining conformance with general concept. This review does not mean the Departmental Representative approves the detail design inherent in the shop drawings, responsibility for which shall remain with Contractor submitting same, and such review does 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.
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| 1.3 SCHEDULES,<br>PERMITS AND<br>CERTIFICATES | .1 Upon award of contract, submit to the Departmental Representative copy of Work Schedule and various other schedules, permits, certification documents and project management plans as specified in other sections of the Specifications. |
|---|---|
- .2 Submit copy of permits, notices, compliance Certificates received by Regulatory Agencies having jurisdiction and as applicable to the Work.

PART 1 - GENERAL

<u>1.1 SECTION INCLUDES</u>	.1	Procedures to isolate and lockout electrical facility and other equipment from energy sources.
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<u>1.2 RELATED WORK</u>	.1	Section 01 35 29: Health and Safety
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<u>1.3 REFERENCES</u>	.1	CSA C22.1-2015 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.
	.2	CAN/CSA C22.3 No.1-2015 - Overhead Systems.
	.3	CSA C22.3 No.7-2015 - Underground Systems.
	.4	COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.

<u>1.4 DEFINITIONS</u>	.1	Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons.
	.2	Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment has been isolated.
	.3	De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD).
	.4	Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, inaccessible by location, or otherwise protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.

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1.4 DEFINITIONS  
(Cont'd)

- .5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.
- .6 Live/alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

1.5 COMPLIANCE  
REQUIREMENTS

- .1 Comply with the following in regards to isolation and lockout of electrical facilities and equipment:
  - .1 Canadian Electrical Code
  - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations.
  - .3 Regulations and code of practise as applicable to mechanical equipment or other machinery being de-energized.
  - .4 Procedures specified herein.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply.

1.6 SUBMITTALS

- .1 Submit copy of lockout procedures, sample of lockout permit and lockout tags proposed for use in accordance with Section 01 33 00. Submit within 14 calendar days of acceptance of bid.

1.7 ISOLATION OF  
EXISTING SERVICES

- .1 Obtain Departmental Representative's written authorization prior to working on existing live or active electrical facilities and equipment and before proceeding with isolation of such item.
  - .2 To obtain authorization, submit to Departmental Representative the following documentation:
    - .1 Written request to isolate the particular service or facility and;
    - .2 Copy of Contractor's Lockout Procedures.
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1.7 ISOLATION OF  
EXISTING SERVICES  
(Cont'd)

- .3 Make a Request for Isolation for each event, unless directed otherwise by Departmental Representative, as follows:
  - .1 Fill-out standard form in current use at the Facility as provided by Departmental Representative or;
  - .2 Where no form exist, make written request indicating:
    - .1 The equipment, system or service to be isolated and it's location;
    - .2 Duration of isolation period (ie: 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 authorizing to proceed with the work.
  - .1 Note that Departmental Representative may designate another person at the Facility being authorized to grant the Isolation Request.
- .5 Conduct safe, orderly shut down of equipment or facility. De-energize, isolate and lockout power and other sources of energy feeding the equipment or facility.
- .6 Determine in advance, as much as possible, in cooperation with the Departmental Representative, the type and frequency of situations which will require isolation of existing services.
- .7 Plan and schedule shut down of existing services in consultation with the Departmental Representative and the Facility Manager. Minimize impact and downtime of Facility operations. Follow Departmental Representative's directives in this regard.
- .8 Conduct hazard assessment as part of the process in accordance with health and safety requirements specified Section 01 35 29.

1.8 LOCKOUTS

- .1 De-energize, isolate and lockout electrical facility, mechanical equipment and machinery from all potential sources of energy prior to working on such items.
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- 1.8 LOCKOUTS  
(Cont'd)
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- .2 Develop and implement clear and specific lockout procedures to be followed as part of the Work.
  - .3 Prepare typed written Lockout Procedures describing safe work practices, procedures, worker responsibilities and sequence of activities to be followed on site by workforce to safely isolate an active piece of equipment or electrical facility and effectively lockout and tagout 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" at the site.
    - .1 A lockout permit will 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 Confirming equipment or facility has been properly isolated.
      - .7 Collecting and safekeeping lockout tags returned by workers as a record of the event.
  - .5 Clearly establish, describe and allocate responsibilities of:
    - .1 Workers.
    - .2 Person managing the lockout permit system.
    - .3 Safety Watcher.
    - .4 Subcontractor(s) and General Contractor.
  - .6 Generic procedures, if used, must be edited and supplemented with pertinent information to reflect specific project requirements.
    - .1 Incorporate site specific rules and procedures in force at site as provided by Facility Manager through the Departmental Representative.
    - .2 Clearly label the document as being the Lockout procedures applicable to work of this contract.
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| <u>1.8 LOCKOUTS</u><br>(Cont'd) | .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.   |
| <u>1.9 CONFORMANCE</u>          | .1 | Brief all workers and subcontractors on requirements of this section. Stringently enforce use and compliance.                  |
| <u>1.10 DOCUMENTS ON SITE</u>   | .1 | Post Lockout Procedures on site in common location for viewing by workers.   |
|                                 | .2 | Keep copies of Request for Isolation forms and lockout permits and tags issued to workers on site for full duration of Work.   |
|                                 | .3 | Upon request, make available to Departmental Representative or to authorized safety Representative for inspection.             |

PART 2 - PRODUCTS

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|---------------------|----|-----------------|
| <u>2.1 NOT USED</u> | .1 | Not applicable. |
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PART 3 - EXECUTION

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|---------------------|----|-----------------|
| <u>3.1 NOT USED</u> | .1 | Not applicable. |
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## 1.1 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.

## 1.2 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00.
- .2 Submit site-specific Health and Safety Plan prior to commencement of Work.
  - .1 Submit within [5] work days of notification of Bid Acceptance for Department review and recommendations prior to the commencement of work.
  - .2 Departmental Representative will review Health and Safety Plan and provide comments.
  - .3 Revise the Plan as appropriate and resubmit within five (5) work days after receipt of comments.
  - .4 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
  - .5 Submit revisions and updates made to the Plan during the course of Work.
- .3 Submit name of designated Health and Safety Site Representative and support documentation specified in the Safety Plan.
- .4 Submit building permit, compliance certificates and other permits obtained.



- .5 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other Department of Labour organization.
  - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.
- .6 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .7 Submit copies of incident reports.
- .8 Submit WHMIS MSDS – Material Safety Data Sheets.

### 1.3 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of Nova Scotia, and Occupational Health and Safety 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 as well as any other regulations made pursuant to the Act.
  - .1 The Canada Labour Code can be viewed at:  
[www.http://laws-lois.justice.gc.ca/eng/acts/L-2\\_fulltext.html](http://laws-lois.justice.gc.ca/eng/acts/L-2_fulltext.html).
  - .2 Canadian Occupational Health and Safety Regulations can be viewed at: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/index.html>.
  - .3 A copy may be obtained at: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: 819-956-4800 or 1-800-635-7943 Publication No. L31-85/2000 (E or F).
- .3 Treasury Board of Canada Secretariat (TBS):
  - .1 Treasury Board, Fire Protection Standard April 1, 2010  
[www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316&section=text](http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316&section=text).
- .4 Canadian Standards Association (CSA):
  - .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.
- .5 Observe construction safety measures of:
  - .1 NBC 2015, Division B, Part 8.
  - .2 Municipal by-laws and ordinances.
- .6 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
- .7 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.

- .8 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.

#### 1.4 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.

#### 1.5 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.
  - .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.

#### 1.6 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.

#### 1.7 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.

#### 1.8 PERMITS

- .1 Post permits, licenses and compliance certificates 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.

#### 1.9 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.
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation on site for entire duration of the Work.

#### 1.10 PROJECT/SITE CONDITIONS

- .4 Facility on-going operations:
  - .1 Operational Canal.

- .2 Above items shall not be construed as being complete and inclusive of potential health and safety hazards encountered during Work.
- .3 Include above items in the hazard assessment of the Work.
- .4 MSDS Data sheets of pertinent hazardous and controlled products stored on site can be obtained from Departmental Representative.

#### 1.11 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.

#### 1.12 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.

#### 1.13 SAFETY SUPERVISION

- .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.
- .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
  - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work
  - .2 Monitor and enforce Contractor's site-specific Health and Safety Plan.
  - .3 Conduct site safety orientation session to persons granted access to Work Site.
  - .4 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the Work Site.
  - .5 Stop the Work as deemed necessary for reasons of health and safety.
- .3 Health & Safety Site Representative must:

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

#### 1.14 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.

#### 1.15 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 noncompliance.  
Post rules on site.

#### 1.16 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.

#### 1.17 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 \$5,000.00.
- .2 Submit report in writing.

#### 1.18 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.

#### 1.19 BLASTING

- .1 Not used.

#### 1.20 POWDER ACTUATED DEVICES

- .1 Use powder actuated fastening devices only after receipt of written permission from Departmental Representative.

#### 1.21 CONFINED SPACES

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

#### 1.22 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.

#### 1.23 POSTING OF DOCUMENTS

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

END OF SECTION



PART 1 - GENERAL

1.1 INSPECTION

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

1.2 PROCEDURES

- .1 Notify appropriate agency and the Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
  - .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
  - .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.
-

1.3 REJECTED WORK

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

1.4 REPORTS

- .1 Submit one (1) electronic file of all inspection and test reports to the Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested.

PART 1 - GENERAL

- |   |    |  |
|---|----|--|
| <u>1.1 GENERAL</u>                      | .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.   |
| <u>1.2 MATERIALS</u>                    | .1 | Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.  |
| <u>1.3 CLEANING DURING CONSTRUCTION</u> | .1 | Provide on-site containers for collection of construction debris, other waste materials and debris.  |
|   | .2 | Dispose of debris and other waste materials and debris off site as directed by the Departmental Representative.  |
|   | .3 | Maintain all paved surfaces (including public roads used during construction) free from accumulation of mud and dust by using water trucks, power brooms or street sweepers, as appropriate. |
| <u>1.4 FINAL CLEANING</u>               | .1 | Clean lighting reflectors, lenses, and other lighting surfaces.  |
|   | .2 | Broom clean paved surfaces; rake clean other surfaces of grounds.  |

PART 2 - PRODUCTS

- |                     |    |           |
|---------------------|----|-----------|
| <u>2.1 NOT USED</u> | .1 | Not used. |
|---------------------|----|-----------|
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PART 3 - EXECUTION

3.1 NOT USED .1 Not used.

PART 1 - GENERAL

1.1 WASTE  
MANAGEMENT WORKPLAN

- .1 Prior to commencement of work, prepare a Waste Management Workplan.
- .2 Workplan to include:
  - .1 Waste reduction practices.
  - .2 Material source separation process.
  - .3 Procedures for sending recyclables to recycling facilities.
  - .4 Procedures for sending non-salvageable items and waste to approved waste processing facility or landfill site.
  - .5 Training and supervising workforce on waste management at site.
  - .6 Descriptions of and anticipated quantities in percentages of materials to be salvaged reused, recycled and landfilled.
  - .7 Schedule of selective demolition.
  - .8 Number and location of dumpsters.
  - .9 Anticipated frequency of tippage.
  - .10 Name and address of haulers, waste facilities and waste receiving organizations.
- .3 Workplan to incorporate waste management requirements specified herein and in other sections of the Specifications.
- .4 Implement and manage all aspects of Waste Management Workplan for duration of work.
- .5 Revise Workplan as work progresses addressing new opportunities for diversion of waste from landfill.

1.2 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
  - .2 Submit copies of certified receipts from authorized disposal sites and reuse and recycling facilities for material removed from site on a weekly basis.
    - .1 Written authorization from the Departmental Representative is required to deviate from haulers, facilities and receiving organizations listed in Waste Management Workplan.
    - .2 Include copy of weigh bills, scale tickets and disposal receipts for all waste disposed.
-

1.3 STORAGE,  
HANDLING AND  
PROTECTION

- .1 Store materials to be reused, recycled and salvaged in locations as directed by the Departmental Representative.
- .2 Unless specified otherwise, materials for removal become Contractor's property.

1.4 DISPOSAL  
REQUIREMENTS

- .1 Burying or burning of waste materials on site is prohibited.
  - .2 Disposal of waste, volatile materials, mineral spirits, oil, paint, paint thinner or unused preservative material into waterways, storm, or sanitary sewers is prohibited.
  - .3 Do not dispose of preservative treated wood through incineration.
  - .4 Do not dispose of preservative treated wood with other materials destined for recycling or reuse.
  - .5 Dispose of treated wood, end pieces, wood scraps and sawdust at a sanitary landfill.
  - .6 Dispose of waste only at approved waste processing facility or landfill sites approved by authority having jurisdiction.
  - .7 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.
  - .8 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.
  - .9 Sale of salvaged items is not permitted on site.
  - .10 Remove materials from deconstruction as deconstruction/disassembly work progresses.
-

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

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not applicable.

PART 3 - EXECUTION

- 3.1 APPLICATION .1 Dispose of all materials as required by regulatory codes, regulations, acts and municipal by-laws.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes

- 3.2 CLEANING .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Separate materials to be reused/recycled into specified sort areas.

- 3.3 DIVERSION OF MATERIALS .1 Separate materials from general waste stream and stockpile in separate piles or containers, as approved by the Departmental Representative, and consistent with applicable fire regulations.
- .1 Mark containers or stockpile areas.
- .2 Provide instruction on disposal practices.

PART 1 - GENERAL

<u>1.1 SECTION INCLUDES</u>	.1	This section specifies the requirements for closeout submittals including: .1 Operation and Maintenance Manual. .2 Record Drawings. .3 Spares.
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<u>1.2 OPERATIONS AND MAINTENANCE MANUALS</u>	.1	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.
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<u>1.3 FORMAT OF O&amp;M</u>	.1	Assemble, coordinate, bind and index required data into Operation and Maintenance Manual.
	.2	Submit complete operation and maintenance manual to the Departmental Representative six (6) weeks prior to application for Certificate of Substantial Performance of project.
	.3	Submit three (3) hard copies and one (1) electronic (pdf), all in English.
	.4	Organize data into same numerical order as contract specifications.
	.5	Material: label each section with tabs protected with celluloid covers fastened to hard paper dividing sheets.
	.6	Type lists and notes.
	.7	Drawings, diagrams and manufacturers literature must be legible.

<u>1.4 BINDERS</u>	.1	Binders: vinyl, hard covered, 3 "D" ring, loose leaf, sized for 215 x 280 mm paper, with spine pocket.
	.2	Identify contents of each binder on spine.

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1.5 CONTENTS

- .1 Binder 1: TITLE
  - .1 Cover sheet containing:
    - .1 Date submitted.
    - .2 Project title, location and project number.
    - .3 Names and addresses of Contractor, and all Sub-contractors.
  - .2 Table of Contents of all binders.
  - .3 List of maintenance materials.
  - .4 List of spare parts.
  - .5 Warranties, guarantees.
  - .6 Copies of approvals, and certificates.
- .2 Remaining binders:
  - .1 Cover sheet containing:
    - .1 Date submitted.
    - .2 Project title, location and project number.
  - .2 Table of Contents of individual binder.
  - .3 Provide data as specified in individual sections.
    - .1 List of equipment including service depot.
    - .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.
- .3 Shop drawings:
  - .1 Bind separately one (1) complete set of reviewed final shop drawings and product data.
- .4 The Departmental Representative will assist the Contractor with coordination in preparing the operations manual.

1.6 RECORD DRAWINGS

- .1 Maintain project record drawings and record accurately deviations from Contract documents.

1.6 RECORD DRAWINGS  
(Cont'd)

- .2 Record changes in red. Mark on one (1) set of prints and at completion of project and prior to final inspection, neatly transfer notations to second set and submit both sets to the Departmental Representative. Project record drawings are to be submitted not later than four (4) weeks after the issuance of the Substantial Certificate of Completion.
- .3 Record following information:
  - .1 Field changes of dimension and detail.
  - .2 Changes made by Change Order or Field Order.
  - .3 Pipe and cables that are removed, grouted or plugged.
  - .4 Locations of other buried utilities that are uncovered during construction.
  - .5 All deviations from the originally issued construction set.
- .4 At completion of project and prior to final inspection, neatly transfer "as-built" records to second set of white prints using fine, red marker. Neatly print lettering and numbers in size to match original. Lines may be drawn free-hand but shall be neat and accurate. Add at each drawing title block note: "Record Drawing". Also, circle on List of Drawings each title and number of drawing marked with "Record Drawing". All field survey record data is to be recorded in digital format for submission to the Departmental Representative.
- .5 Submit this set of record drawings and digital format data to the Departmental Representative.
- .6 If project is completed without significant deviations from contract drawings, declare this in writing and submit to the Departmental Representative in lieu of record drawings.

1.7 SPARES

- .1 Project spare parts as specified in the technical sections herein.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not used.