

PART 1 GENERAL

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| 1.1 Work Covered By Contract Documents | .1 | <p>Work of this Contract comprises the replacement of a diesel fuel storage tank system and a gasoline storage tank system at St. Anthony Airport. Generally the scope of work includes, but is not limited to, the following:</p> <ul style="list-style-type: none"> .1 Removal and disposal of existing diesel fuel storage tank system and gasoline storage tank system. Fuel remaining in these tanks is to be transferred to new tanks according to procedure outlined in this specification package. .2 Install new diesel fuel storage tank system and gasoline storage tank system, both complete with dispensers. .3 Existing underground conduit and wiring to the pump island is to be reused. .4 Install new emergency pump shutoff on exterior of building that shuts off both dispensers but does not affect pump island lighting. Electrical panel is located in electrical room approximately 15 meters from front exterior of building. .5 Install new bollards around skids for additional protection. .6 Install new signage at pumps and building. |
| 1.2 Contract Method | .1 | <p>Construct Work under stipulated price contract.</p> |
| 1.3 Work Sequence | .1

.2

.3 | <p>Construct Work in stages to accommodate Owner's continued use of premises during construction.</p> <p>Co-ordinate Progress Schedule and co-ordinate with Owner Occupancy during construction.</p> <p>Maintain fire access/control.</p> |

- 1.4 Contractor Use of Premises .1 Limit use of premises for Work, for storage, and for access, to allow:
- .1 Owner occupancy.
 - .2 Co-ordinate use of premises under direction of Owner.
 - .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
 - .4 Owner requires use of the diesel and gas systems daily, therefore contractor to ensure downtime of the diesel system to be kept as short as possible.

- 1.5 Owner Occupancy .1 Owner will occupy premises during entire construction period for execution of normal operations.
- .2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

PART 2 PRODUCTS

- 2.1 Not Used .1 Not used.

PART 3 Execution

- 3.1 Not Used .1 Not used.

END OF SECTION

PART 1 GENERAL

- 1.1 Use of Site and Facilities
- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
 - .2 Maintain existing services to building and provide for personnel and vehicle access.
 - .3 Where security is reduced by work provide temporary means to maintain security.
 - .4 Departmental Representative will assign sanitary facilities for use by Contractor's personnel. Keep facilities clean.
- 1.2 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 Departmental Representative to facilitate execution of work.
- 1.3 Existing Services
- .1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
 - .2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
 - .3 Provide for pedestrian and vehicular traffic.
- 1.4 Special Requirements
- .1 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
 - .2 Keep within limits of work and avenues of

ingress and egress.

1.5 Security .1 Personnel will be checked daily at the start of work shift and provided with pass which must be worn at all times. Pass must be returned at end of work shift and personnel checked out.

.2 Work will be done in the presence of a Commissionaire, at the cost of the contractor. Work may have to be scheduled around the schedule and availability of a Commissionaire.

1.6 Building Smoking Environment .1 Comply with smoking restrictions. Smoking is not permitted.

PART 2 PRODUCTS

2.1 Not Used .1 Not Used.

PART 3 EXECUTION

3.1 Not Used .1 Not Used.

END OF SECTION

- .10 Keep one reviewed copy of each submission on site.
- 1.2 Shop Drawings and Product Data
- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit drawings stamped and signed by professional engineer registered or licensed in Newfoundland and Labrador of Canada.
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow 5 days for Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, in duplicate, containing:
- .1 Date.

- .2 Project title and number.
- .3 Contractor's name and address.
- .4 Identification and quantity of each shop drawing, product data and sample.
- .5 Other pertinent data.
- .8 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .9 After Departmental Representative's review, distribute copies.
- .10 Submit 2 prints of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .11 Submit 2 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by

Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.

- .12 Submit 2 copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within 3 years of date of contract award for project.
- .13 Submit 2 copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
- .14 Submit 2 copies of manufacturer's instructions for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit 2 copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
- .16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm

compliance with manufacturer's standards or instructions.

- .17 Submit 2 copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .18 Delete information not applicable to project.
- .19 Supplement standard information to provide details applicable to project.
- .20 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .21 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.
 - .1 This review shall not mean that PWGSC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
 - .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

PART 1 GENERAL

- 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. Provide 3 copies.
 - .2 Departmental Representative will review Health and Safety Plan and provide comments.
 - .3 Revise the Plan as appropriate and resubmit within 5 work days after receipt of comments.

- .4 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
 - .5 Submit revisions and updates made to the Plan during the course of Work.
 - .3 Submit name of designated Health 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 Newfoundland and Labrador, and Occupational Health & 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/SO R-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§ion=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 2010, 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. Provide security guard where adequate protection cannot be achieved by other means.

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, 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.

- 1.10 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.
- 1.11 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, marshaling 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.
- 1.12 Safety Supervision
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- .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.

- 1.13 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.

- 1.14 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.

- 1.15 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.

- 1.16 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.
- 1.17 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.
- 1.18 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.
- 1.19 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 References .1 Definitions:
- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
 - .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.
- .2 Regulatory Requirements:
- .1 Comply with all applicable legislation, including but not limited to the most recent version of the following:
 - .1 Newfoundland and Labrador Environment Act and applicable regulations.
 - .2 Canadian Environmental Protection Act and applicable regulations.
 - .3 Fisheries Act and applicable regulations.
 - .2 Comply with federal, provincial and local anti-pollution laws, ordinances, codes and regulations when handling, removing or disposing of waste materials.
- 1.2 Action and Informational Submittals .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
- .1 Submit manufacturer's instructions, printed product literature and data sheets and include product characteristics, performance criteria, physical size, finish and limitations.

- .2 Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29 - Health and Safety Requirements.
- .3 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
- .4 Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.
- .5 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .6 Include in Environmental Protection Plan:
 - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
 - .3 Names and qualifications of persons responsible for training site personnel.
 - .4 Descriptions of environmental protection personnel training program.
 - .5 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
 - .1 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
 - .6 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
 - .7 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
 - .8 Air pollution control plan detailing

provisions to assure that dust, debris, materials, and trash, are contained on project site.

- .9 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .10 Waste Water Management Plan identifying methods and procedures for management and or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.

1.3 Fires .1 Fires and burning of rubbish on site is not permitted.

1.4 Drainage .1 Prevent sediment or alternate deleterious substances caused as a result of the Work from entering streams, water bodies, wetlands, catch basins, manholes, storm sewers, sanitary sewers etc. Control measures are to be in compliance with Federal, Provincial, and Municipal laws and regulations and to be approved by the Departmental Representative. Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.

.2 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.5 Pollution Control .1 Control emissions from equipment and plant in accordance with local authorities' emission requirements.

.2 Prevent sandblasting and other extraneous

materials from contaminating air and waterways beyond application area.

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

1.6 Notification

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

PART 2 NOT USED

PART 3 EXECUTION

3.1 Spill Response

- .1 To ensure quick and effective spill response, spill response equipment must be readily available on-site.
- .2 Response equipment, such as adsorbents and open-ended barrels (must be UN performance packaging certified) for collection of cleanup debris, shall be stored in an accessible location on-site. Personnel working on the project shall be trained in

spill response procedures. The Contractor must provide a Contingency/Spill response plan to the Departmental Representative for review and approval 5 days before commencement of work. The plan should demonstrate spill response protocols specific to the individual sites and work activities. In developing the plan the Canadian Standards Association publication Emergency Planning for Industry (CAN/CSA-Z731-95) should be consulted. The plan must be reviewed with all site workers to enable a quick and effective response to a spill event. Refer to attached document titled "Refueling of vehicles" for additional requirements regarding spill kits.

- .3 All spills or leaks, such as those from machinery or items encountered during the work must be promptly contained, cleaned up and reported immediately to the Departmental Representative. The spill must be addressed immediately to the satisfaction of the Departmental Representative.

3.2 Solid Waste

- .1 Solid waste shall be collected daily. Wastes generated as a result of the work shall be stored in a secure location on-site approved by the Departmental Representative, and disposed of in a licensed disposal facility at the end of the project.
- .2 Other solid wastes, such as personal protective clothing, and other materials and equipment used to conduct work under this contract will be containerized; this material will be placed in a sealed on-site refuse bin for subsequent off-site disposal by the Contractor.

3.3 Refueling of On-Site Equipment

- .1 Equipment shall be in good repair and shall have no fuel, fluid or lubricant leaks. Any faulty equipment/machinery must be repaired immediately or removed from the site.
- .2 Refueling of equipment on site to be

performed in locations as directed by Departmental Representative.

- .3 Do not refuel equipment within 30 meters of any watercourse, water body or storm water catch basin unless protection against spills is in place and location is approved by Departmental Representative.
- .4 Use petroleum containers approved for products with no spill fill spouts for dispensing fuels. The sure pour nozzle to have self-closing valve, prevent any flow of fuel until the nozzle is inserted into the receiving container. On removal from the receiving container the slide valve inserted into the receiving container. On removal from the receiving container the slide valve closes to eliminate any fuel spill.; Nozzle to be equipment with its own automatic vent eliminating the need for the user to open or close air inlets on the pouring container.
- .5 Nozzle to support the weight of the pouring container. Nozzles to automatically stop the flow when the receiving container becomes full. The nozzle to be such that it reduces evaporative losses of volatile organic compounds during the fuel transfer.
- .6 All spills of hydrocarbon based products such as gasoline, kerosene, naphtha, lubricating oils, engines oils, greases and de-icing fluids or antifreeze no matter how large or small to be reported to Departmental Representative.
- .7 Oil changes or equipment repairs are not permitted onsite.
- .8 Refueling to be performed on level surfaces, PCC Portland cement concrete or HMAC surfaces when approved by Departmental Representative unless otherwise directed.
- .9 Contractor to have drip pans sized for amounts of product to be recovered and customized to fit under pieces of equipment to perform routine maintenance

to equipment while maintaining equipment on property. Drip Pans to be used whenever leaving equipment on site or parking overnight when not in use.

- .10 Parking of equipment on site to be on level ground in locations away from watercourses and as approved by Departmental Representative. Equipment with leaks to be removed from site when so ordered by Departmental Representative.
- .11 Spill Controls Kits
 - .1 Contractor to have at the work site a spill control kit consisting of the following minimum types of equipment
 - .2 A spaded shovel;
 - .3 A stable broom;
 - .4 A broad nosed shovel
 - .5 A container(s) suitable, compatible to and of sufficient size to contain petroleum products being used with equipment;
 - .6 Absorbents;
 - .7 Rags;
 - .8 Metal container for soiled rags;
 - .9 Booms when working next to a watercourse that will traverse the width of the watercourse by two times; and
 - .10 Spill control kit may be inspected and approved by Departmental Representative. Spill control kits to be available to Contractor employees at all areas where Work of the Contract is being performed and at all times during the course of the Contract.
- .12 Contractor employees to be trained in the use of the spill control kit and the equipment they contain.

3.4 Cleaning

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.

- .2 Bury rubbish and waste materials on site where directed after receipt of written approval from Departmental Representative.
- .3 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.
- .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .5 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

PART 1 GENERAL

- 1.1 Precedence .1 Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.
- 1.2 Associations .1 AA - Aluminum Association, 900 19th Street N.W., Washington, D.C., U.S.A. 20006 URL <http://www.aluminum.org>
- .2 AASHTO - American Association of State Highway and Transportation Officials, 444 N Capitol Street N.W., Suite 249, Washington, D.C., U.S.A. 20001 URL <http://www.aashto.org>
- .3 ACEC Association of Consulting Engineers of Canada, 130 Albert Street, Suite 616, Ottawa, ON. K1P 5G4 URL <http://www.acec.ca>
- .4 AHA - American Hardboard Association, 1210W Northwest Hwy., Palatine, Illinois, U.S.A. 60067 URL: <http://www.hardboard.org>
- .5 AITC - American Institute of Timber Construction, 7012 S. Revere Parkway, Suite 140, Englewood, Colorado, U.S.A. 80112 URL <http://www.aitc-glulam.org>
- .6 AMCA - Air Movement and Control Association Inc., 30 West University Drive, Arlington Heights, Illinois, U.S.A. 60004-1893 URL <http://www.amca.org>
- .7 ANSI - American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, New York, U.S.A. 10036 URL <http://www.ansi.org>
- .8 APA - The Engineered Wood Association, P.O. Box 11700, Tacoma, Washington, U.S.A. 98411-0700 URL <http://www.apawood.org>
- .9 API - American Petroleum Institute, 1220 L St. Northwest, Washington, D.C.,

- U.S.A. 20005-4070 URL <http://www.api.org>
- .10 ARI - Air Conditioning and Refrigeration Institute, 4100 N Fairfax Drive, Suite 200, Arlington, Virginia, U.S.A. 22203 URL <http://www.ari.org>
- .11 ASHRAE - American Society of Heating, Refrigeration and Air-Conditioning Engineers, 1791 Tullie Circle NE, Atlanta, Georgia, U.S.A. 30329 URL <http://www.ashrae.org>
- .12 ASME - American Society of Mechanical Engineers, ASME Headquarters, 3 Park Avenue, New York, New York, U.S.A. 10016-5990 URL <http://www.asme.org>
- .13 ISAP - International Society for Asphalt Paving, 400 Selby Avenue, Suite 1, St. Paul, MN 55102 U.S.A. URL <http://www.asphalt.org>
- .14 ASTM - American Society for Testing and Materials, 100 Barr Harbor Drive West, Conshohocken, Pennsylvania 19428-2959 URL <http://www.astm.org>
- .15 AWCI - Association of the Wall and Ceiling Industries International, 803 West Broad Street, Suite 600, Falls Church, VA, U.S.A. 22046 URL <http://www.awci.org>
- .16 AWMAC - Architectural Woodwork Manufacturers' Association of Canada, 516-4 Street West, High River, Alberta T1V 1B6 URL <http://www.awmac.com>
- .17 AWPA - American Wire Producer's Association, 801 N Fairfax Street, Suite 211, Alexandria, VA U.S.A. 22314-1757 URL <http://www.awpa.org>
- .18 AWPA - American Wood Preservers' Association, P.O. Box 5690, Granbury Texas, U.S.A. 76049-0690 URL <http://www.awpa.com>
- .19 AWS - American Welding Society, 550 N.W. LeJeune Road, Miami, Florida U.S.A.

33126 URL <http://www.amweld.org>

- .20 AWWA - American Water Works Association, 6666 W. Quincy Avenue, Denver, Colorado, U.S.A. 80235 URL <http://www.awwa.org>
- .21 CCA Canadian Construction Association, 75 Albert St., Suite 400 Ottawa, Ontario, K1P 5E7 URL <http://www.cca-acc.com>
- .22 CCDC Canadian Construction Documents Committee, Refer to ACEC, CCA, CSC or RAIC
- .23 CFFM - Canadian Forces Fire Marshal, 101 Colonel By Drive, 8NT MGen George R. Pearkes Bldg., Ottawa, Ontario K1A 0K2 URL <http://www.dnd.ca/admie/dgcps/CFFMe.htm>
- .24 CGA - Canadian Gas Association, 20 Eglinton Avenue West, Suite 1305, Toronto, Ontario M4R 1K8 URL <http://www.cga.ca>
- .25 CGSB - Canadian General Standards Board, Place du Portage, Phase III, 6B1, 11 Laurier Street, Hull, Quebec K1A 0S5 URL <http://w3.pwgsc.gc.ca/cgsb>
- .26 CISC - Canadian Institute of Steel Construction, 201 Consumers Road, Suite 300, Willowdale, Ontario M2J 4G8 URL <http://www.cisc-icca.ca>
- .27 CLA - Canadian Lumbermen's Association, 27 Goulburn Avenue, Ottawa, Ontario, K1N 8C7 URL <http://www.cla-ca.ca>
- .28 CNLA - Canadian Nursery Landscape Association, RR #4, Stn. Main, 7856 Fifth Street, Milton, Ontario. L9T 2X8 URL <http://www.canadanursery.com>
- .29 CRCA - Canadian Roofing Contractors Association, 155 Queen Street, Suite 1300, Ottawa, Ontario K1P 6L1 URL <http://www.roofingcanada.com>
- .30 CSA - Canadian Standards Association

International, 178 Rexdale Blvd.,
Toronto, Ontario M9W 1R3 URL
<http://www.csa-international.org>

- .31 CSC - Construction Specifications
Canada, 120 Carlton Street, Suite 312,
Toronto, Ontario M5A 4K2 URL
<http://www.csc-dcc.ca>
- .32 CSDMA - Canadian Steel Door
Manufacturers Association, One Yonge
Street, Suite 1801, Toronto, Ontario M5E
1W7
- .33 CSPI - Corrugated Steel Pipe Institute,
652 Bishop Street N, Unit 2A, Cambridge,
Ontario N3H 4V6 URL <http://www.cspi.ca>
- .34 CSSBI - Canadian Sheet Steel Building
Institute, 652 Bishop St. N., Unit 2A,
Cambridge, Ontario N3H 4V6 URL
<http://www.cssbi.ca>
- .35 CUFCA Canadian Urethane Foam
Contractor's Association, Box 3214,
Winnipeg, Manitoba, R3C 4E7 URL
<http://www.cufca.ca>
- .36 CWC - Canadian Wood Council, 1400 Blair
Place, Suite 210, Ottawa, Ontario K1J
9B8 URL <http://www.cwc.ca>
- .37 EC - Environment Canada, Conservation
and Protection, Inquiry Centre, 351 St.
Joseph Blvd, Hull, Québec KIA 0H3 URL
<http://www.ec.gc.ca>
- .38 EFC - Electro Federation of Canada, 5800
Explorer Drive, Suite 200, Mississauga,
Ontario L4W 5K9 URL
<http://www.electrofed.com>
- .39 EIMA EIFS Industry Manufacturers'
Association, 3000 Corporate Center
Drive, Suite 270, Morrow, Georgia U.S.A.
30260 URL <http://www.eima.com>
- .40 FCC - Fire Commissioner of Canada, Place
du Portage, Phase II, 165 rue Hotel de
Ville, Hull, Quebec K1A 0J2
<http://info.load-otea.hrdc->

drhc.gc.ca/fire-prevention/standards/commissioner.shtml

- .41 IEEE - Institute of Electrical and Electronics Engineers, IEE Corporate Office, 3 Park Avenue, 17th Floor, New York, New York U.S.A. 10016-5997 URL <http://www.ieee.org>
- .42 MPI - The Master Painters Institute, 4090 Graveley Street, Burnaby, BC V5C 3T6 URL <http://www.paintinfo.com>
- .43 MSS - Manufacturers Standardization Society of the Valve and Fittings Industry, 127 Park Street, N.E., Vienna, Virginia U.S.A. 22180-4602 URL <http://www.mss-hq.com>
- .44 NAAMM - National Association of Architectural Metal Manufacturers, 8 South Michigan Avenue, Suite 1000, Chicago, Illinois U.S.A. 60603 URL <http://www.naamm.org>
- .45 NABA - National Air Barrier Association, PO Box 2747, Winnipeg, Manitoba R3C 4E7 URL <http://www.naba.ca>
- .46 NEMA - National Electrical Manufacturers Association, 1300 N. 17th Street, Suite 1847, Rosslyn, Virginia 22209 URL <http://www.nema.org>
- .47 NFPA - National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101 Quincy, Massachusetts, U.S.A. 02269-9101 URL <http://www.nfpa.org>
- .48 NFSA - National Fire Sprinkler Association, P.O. Box 1000, Patterson, New York, U.S.A. 12563 URL <http://www.nfsa.org>
- .49 NHLA - National Hardwood Lumber Association, 6830 Raleigh-La Grange Road, Memphis, TN, U.S.A 38184-0518 URL <http://www.natlhardwood.org>
- .50 NLGA - National Lumber Grades Authority, 406-First Capital Place, 960 Quayside

Drive, New Westminster, B.C. V3M 6G2

- .51 NRC - National Research Council,
Building M-58, 1200 Montreal Road,
Ottawa, Ontario K1A 0R6 URL
<http://www.nrc.gc.ca>
- .52 NSPE National Society of Professional
Engineers, 1420 King Street, Alexandria,
VA U.S.A. 22314-2794 URL
<http://www.nspe.org>
- .53 PCI - Prestressed Concrete Institute,
209 W. Jackson Blvd., Suite 500,
Chicago, Illinois, U.S.A. 60606-6938 URL
<http://www.pci.org>
- .54 PEI - Porcelain Enamel Institute, PO Box
920220, Norcross, GA U.S.A. 30010 URL
<http://www.porecelainenamel.com>
- .55 QPL - Qualification Program List, c/o
Canadian General Standards Board, Place
du Portage, Phase III, 6B1, 11 Laurier
Street, Hull, Quebec K1A 1G6 URL
<http://www.pwgsc.gc.ca/cgsb>
- .56 RAIC Royal Architectural Institute of
Canada, 55 Murray Street, Suite 330,
Ottawa, Ontario, K1N 5M3 URL
<http://www.raic.org>
- .57 SCC - Standards Council of Canada, 270
Albert Street, Suite 2000, Ottawa,
Ontario K1P 6N7 URL <http://www.scc.ca>
- .58 SSPC -The Society for Protective
Coatings, 40 24th Street, 6th Floor,
Pittsburgh, Pennsylvania 15222-4656 URL
<http://www.sspc.org>
- .59 TPI - Truss Plate Institute, 583 D
Onofrio Drive, Suite 200, Madison, WI,
U.S.A. 53719 URL <http://www.tpinst.org>
- .60 TTMAC --Terrazzo, Tile and Marble
Association of Canada, 30 Capston Gate,
Unit 5 Concord, Ontario L4K 3E8 URL
<http://www.ttmac.com>
- .61 UL - Underwriters' Laboratories, 333

PART 1 GENERAL

- 1.1 References
- .1 Within text of each specifications section, reference may be made to reference standards. List of standards reference writing organizations is contained in Section 01 42 00 - References.
 - .2 Conform to these reference standards, in whole or in part as specifically requested in specifications.
 - .3 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
 - .4 Cost for such testing will be born by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.
 - .5 Conform to latest date of issue of referenced standards in effect on date of submission of Tenders, except where specific date or issue is specifically noted.
- 1.2 Quality
- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
 - .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
 - .3 Should disputes arise as to quality or fitness of products, decision rests

strictly with Departmental Representative based upon requirements of Contract Documents.

- .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .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.

1.3 Availability

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
- .2 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.4 Storage, Handling and Protection

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.

- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
 - .5 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
 - .6 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
 - .7 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.
- 1.5 Transportation .1 Pay costs of transportation of products required in performance of Work.
- 1.6 Manufacturer's Instructions .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.
 - .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.
- 1.7 Quality of Work .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required

Work is such as to make it impractical to produce required results.

- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

1.8 Co-Ordination

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

1.9 Concealment

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

1.10 Remedial Work

- .1 Refer to Section 01 73 00 - Execution Requirements.
- .2 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- .3 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.11 Location of Fixtures

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.

- .2 Inform Departmental Representative of conflicting installation. Install as directed.

1.12 Fastenings

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

1.13 Fastenings - Equipment

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.14 Protection of Work In Progress

- .1 Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing

structural member, unless specifically indicated without written approval of Departmental Representative.

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| <u>1.15 Existing Utilities</u> | .1 | When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or building occupants and pedestrian and vehicular traffic. |
| | .2 | Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service. |

PART 2 PRODUCTS

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|---------------------|----|-----------|
| <u>2.1 Not Used</u> | .1 | Not Used. |
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PART 3 EXECUTION

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|---------------------|----|-----------|
| <u>3.1 Not Used</u> | .1 | Not Used. |
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END OF SECTION

PART 1 GENERAL

- 1.1 Submittals .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit written request in advance of cutting or alteration which affects:
- .1 Structural integrity of elements of project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of operational elements.
 - .4 Visual qualities of sight-exposed elements.
 - .5 Work of Owner or separate contractor.
- .3 Include in request:
- .1 Identification of project.
 - .2 Location and description of affected Work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed Work, and products to be used.
 - .5 Alternatives to cutting and patching.
 - .6 Effect on Work of Owner or separate contractor.
 - .7 Written permission of affected separate contractor.
 - .8 Date and time work will be executed.
- 1.2 Materials .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.
- 1.3 Preparation .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means

acceptance of existing conditions.

- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
- .5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.

1.4 Execution

- .1 Execute cutting, fitting, and patching including excavation and fill, to complete Work.
- .2 Fit several parts together, to integrate with other Work.
- .3 Uncover Work to install ill-timed Work.
- .4 Remove and replace defective and non-conforming Work.
- .5 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- .6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .7 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .8 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- .9 Restore work with new products in accordance with requirements of Contract Documents.
- .10 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .11 Refinish surfaces to match adjacent

finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.

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

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

PART 2 PRODUCTS

2.1 NOT USED .1 Not Used.

PART 3 Execution

3.1 Not Used .1 Not used.

END OF SECTION

PART 1 GENERAL

- 1.1 Project Cleanliness
- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.
 - .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.
 - .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
 - .4 Provide on-site containers for collection of waste materials and debris.
 - .5 Provide and use marked separate bins for recycling. Refer to Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .6 Dispose of waste materials and debris off site.
 - .7 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
 - .8 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
 - .9 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
 - .10 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.
- 1.2 Final
- .1 When Work is Substantially Performed

Cleaning

- remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
 - .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
 - .4 Remove waste products and debris including that caused by Owner or other Contractors.
 - .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.
 - .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
 - .7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
 - .8 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, and floors.
 - .9 Clean lighting reflectors, lenses, and other lighting surfaces.
 - .10 Vacuum clean and dust building interiors, behind grilles, louvres and screens.
 - .11 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
 - .12 Remove dirt and other disfiguration from exterior surfaces.

- .13 Sweep and wash clean paved areas.
- .14 Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.

- | | | |
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| <u>1.3 Waste Management and Disposal</u> | .1 | Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal. |
|--|----|---|

PART 2 PRODUCTS

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|---------------------|----|-----------|
| <u>2.1 Not Used</u> | .1 | Not Used. |
|---------------------|----|-----------|

PART 3 EXECUTION

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|---------------------|----|-----------|
| <u>3.1 Not Used</u> | .1 | Not Used. |
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END OF SECTION

PART 1 GENERAL

1.1 Waste Management Goals

- .1 Prior to start of Work conduct meeting with Departmental Representative to review and discuss PWGSC's Waste Management Plan and Goals.
- .2 PWGSC's Waste Management Goal 75 percent of total Project Waste to be diverted from landfill sites. Provide Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.
- .3 Accomplish maximum control of solid construction waste.
- .4 Preserve environment and prevent pollution and environment damage.

1.2 Definitions

- .1 Class III: non-hazardous waste - construction renovation and demolition waste.
- .2 Cost/Revenue Analysis Workplan (CRAW): based on information from WRW, and intended as financial tracking tool for determining economic status of waste management practices.
- .3 Demolition Waste Audit (DWA): relates to actual waste generated from project.
- .4 Inert Fill: inert waste - exclusively asphalt and concrete.
- .5 Materials Source Separation Program (MSSP): consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation.
- .6 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .7 Recycle: process by which waste and

recyclable materials are transformed or collected for purpose of being transferred into new products.

- .8 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .9 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .10 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .11 Separate Condition: refers to waste sorted into individual types.
- .12 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.
- .13 Waste Audit (WA): detailed inventory of materials in building. Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project. Indicates quantities of reuse, recycling and landfill. Refer to Schedule A.
- .14 Waste Management Co-ordinator (WMC): contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.
- .15 Waste Reduction Workplan (WRW): written

report which addresses opportunities for reduction, reuse, or recycling of materials. Refer to Schedule B. WRW is based on information acquired from WA (Schedule A).

- 1.3 Documents .1 Maintain at job site, one copy of following documents:
 - .1 Material Source Separation Plan.

- 1.4 Submittals .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Prepare and submit following prior to project start-up:
 - .1 Submit 2 copies of Materials Source Separation Program (MSSP) description.

- 1.5 Materials Source Separation Program (MSSP) .1 Prepare MSSP and have ready for use prior to project start-up.
 - .2 Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by Departmental Representative.
 - .3 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
 - .4 Provide containers to deposit reusable and recyclable materials.
 - .5 Locate containers in locations, to facilitate deposit of materials without hindering daily operations.
 - .6 Locate separated materials in areas which minimize material damage.
 - .7 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
 - .1 Transport to approved and authorized recycling facility.
 - .8 Collect, handle, store on-site, and

transport off-site, salvaged materials in combined condition.

- .1 Ship materials to site operating under Certificate of Approval.
- .2 Materials must be immediately separated into required categories for reuse or recycling.

1.6 Storage, Handling and Protection

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by Departmental Representative.
- .2 Protect, stockpile, store and catalogue salvaged items.
- .3 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .4 Protect structural components not removed for demolition from movement or damage.
- .5 Protect surface drainage, mechanical and electrical from damage and blockage.
- .6 Separate and store materials produced during dismantling of structures in designated areas.
- .7 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On-site source separation is recommended.
 - .2 Remove co-mingled materials to off-site processing facility for separation.
 - .3 Provide waybills for separated materials.

1.7 Disposal of Wastes

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil, paint thinner, into waterways, storm, or sanitary sewers.

- .3 Remove materials from deconstruction as deconstruction/disassembly Work progresses.

- 1.8 Use of Site and Facilities .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain security measures established by existing facility.

- 1.9 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 Used.

PART 3 EXECUTION

- 3.1 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 Source separate materials to be reused/recycled into specified sort areas.

END OF SECTION

- .6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
 - .7 Text: manufacturer's printed data, or typewritten data.
 - .8 Drawings: provide with reinforced punched binder tab.
 - .1 Bind in with text; fold larger drawings to size of text pages.
- 1.4 Contents - Project Record Documents
- .1 Table of Contents for Each Volume: provide title of project;
 - .1 Date of submission; names.
 - .2 Addresses, and telephone numbers of Consultant and Departmental Representative with name of responsible parties.
 - .3 Schedule of products and systems, indexed to content of volume.
 - .2 For each product or system:
 - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
 - .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
 - .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
 - .5 Typewritten Text: as required to supplement product data.
 - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- 1.5 As -Built Documents and
- .1 Maintain, in addition to requirements in General Conditions, at site for

Samples

Departmental Representative one record copy of:

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

1.6 Recording Information on Project Record Documents

- .1 Record information on set of black line opaque drawings, provided by Departmental Representative.
- .2 Use felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress.
 - .1 Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical

locations of underground utilities and appurtenances, referenced to permanent surface improvements.

- .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
- .4 Field changes of dimension and detail.
- .5 Changes made by change orders.
- .6 Details not on original Contract Drawings.
- .7 References to related shop drawings and modifications.

.5 Specifications: mark each item to record actual construction, including:

- .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
- .2 Changes made by Addenda and change orders.

.6 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.

.7 Provide digital photos, if requested, for site records.

.8 Provide Departmental Representative with red-line drawings for approval and make corrections as directed.

1.7 Equipment and Systems

.1 For each item of equipment and each system include description of unit or system, and component parts.

- .1 Give function, normal operation characteristics and limiting conditions.
- .2 Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.

.2 Panel board circuit directories: provide electrical service characteristics,

- controls, and communications.
- .3 Include installed colour coded wiring diagrams.
 - .4 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences.
 - .1 Include regulation, control, stopping, shut-down, and emergency instructions.
 - .2 Include summer, winter, and any special operating instructions.
 - .5 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
 - .6 Provide servicing and lubrication schedule, and list of lubricants required.
 - .7 Include manufacturer's printed operation and maintenance instructions.
 - .8 Include sequence of operation by controls manufacturer.
 - .9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - .10 Provide installed control diagrams by controls manufacturer.
 - .11 Provide Contractor's co-ordination drawings, with installed colour coded piping diagrams.
 - .12 Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
 - .13 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
 - .14 Aboveground storage tank inspection documentation, registration, forms, decommissioning and removal in accordance

with CEPA SOR/2008-197.

- .15 Additional requirements: as specified in individual specification sections.

1.8 Materials and Finishes

- .1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
- .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.

1.9 Maintenance Materials

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

- .3 Deliver to site location as directed; place and store.
 - .4 Receive and catalogue items.
 - .1 Submit inventory listing to Departmental Representative.
 - .2 Include approved listings in Maintenance Manual.
- 1.10 Delivery, Storage and Handling
- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
 - .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
 - .3 Store components subject to damage from weather in weatherproof enclosures.
 - .4 Store paints and freezable materials in a heated and ventilated room.
 - .5 Remove and replace damaged products at own expense and for review by Departmental Representative.
- 1.11 Warranties and Bonds
- .1 Submit warranty information made available during construction phase, to Departmental Representative for approval prior to each monthly pay estimate.
 - .2 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
 - .4 Verify that documents are in proper form, contain full information, and

are notarized.

- .5 Co-execute submittals when required.
- .6 Retain warranties and bonds until time specified for submittal.

1.12 Warranty Tags

- .1 Tag, at time of installation, each warranted item. Provide durable, oil and water resistant tag approved by Departmental Representative.
- .2 Attach tags with copper wire and spray with waterproof silicone coating.
- .3 Leave date of acceptance until project is accepted for occupancy.
- .4 Indicate following information on tag:
 - .1 Type of product/material.
 - .2 Model number.
 - .3 Serial number.
 - .4 Contract number.
 - .5 Warranty period.
 - .6 Inspector's signature.
 - .7 Construction Contractor.

PART 2 PRODUCTS

- 2.1 NOT USED .1 Not Used.

PART 3 EXECUTION

- 3.1 Not Used .1 Not Used.

END OF SECTION