

1.1 DESCRIPTION OF WORK

- .1 The work covered by the Plans and Specifications prepared by the Departmental Representative includes, but is not limited to:
  - .1 Excavation and site preparation required for building foundations and slab-on-grade.
  - .2 Construct building structure including masonry walls and erection of roof trusses.
  - .3 Install exterior building finishes.
  - .4 Install exterior windows, doors, and associated hardware.
  - .5 Install complete electrical system including equipment, wiring, conduit, devices and lighting fixtures.
  - .6 Install domestic water and sanitary plumbing systems including water heater, piping and fixtures as well as bathroom exhaust fans.
  - .7 Install bathroom exhaust fans.
  - .8 Install interior building finishes including, doors, vanities, toilet partitions, and washroom accessories.
  - .9 Commissioning and functional testing of building systems.
  
- .2 The sequencing of work will be as follows:
  - .1 Construction begins as soon as possible after award.
  - .2 Site Preparation: fencing, erosion control & signage.
  - .3 Excavation.
  - .4 Rough in mechanical and electrical site services.
  - .5 Construct foundations.
  - .6 Erect masonry walls and wood trusses.
  - .7 Install exterior finishes, exterior windows and doors.
  - .8 Rough in mechanical and electrical system in building.
  - .9 Install interior finishes including doors
  - .10 Install plumbing fixtures, electrical wiring devices and equipment.
  - .11 Install vanities, toilet partitions, and washroom accessories.
  - .12 Complete commissioning.
  - .13 Project close out by December 31, 2018.

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 Obtain prior permission from the Departmental Representative before carrying out such site inspection.
  
- .3 Records of existing geotechnical reports are available upon request from CBCL Limited. This material is not necessarily up-to-date and is for information purposes only. It should be complemented with site visits and consultation with appropriate expertise.

1.3 CODES AND STANDARDS

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

1.4 INTERPRETATION OF DOCUMENTS

- .1 Supplementary to the Order of Precedence article of the General Conditions of the Contract, the Division 01 sections take precedence over the technical specification sections in other Divisions of the Specification Manual

1.5 SETTING OUT OF WORK

- .1 Departmental Representative will provide only those survey control points and set such stakes as necessary to define general location, alignment and elevations of work. Give Departmental Representative reasonable notice of requirements for such control points and stakes.
- .2 Set grades and lay out work in detail from control points and grades established by the Departmental Representative.
- .3 Provide devices needed to lay out and construct work.
- .4 Supply such devices as straight edges and templates required to facilitate the Departmental Representative's inspection of work.
- .5 Supply stakes and other survey markers required for laying out work.

1.6 COST BREAKDOWN

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

1.7 DOCUMENTS REQUIRED

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

1.8 PERMITS

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

1.9 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING SITE

- .1 Execute work with least possible interference or disturbance to 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.

1.10 CUTTING, FITTING AND PATCHING

- .1 Ensure that 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.
- .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.

1.11 LOCATION OF FIXTURES

- .1 Location of equipment, fixtures and outlets, shown or specified will be considered as approximate. Actual location to 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 connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian, vehicular traffic, and Park operations.
- .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 Departmental Representative for any shut-down or closure of active service or facility. This includes disconnection of electrical power and communication services to tenant's operational areas. Adhere to approved schedule and provide notice to affected parties.
- .4 Provide temporary services to maintain critical building and tenant systems.
- .5 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
- .6 Where unknown services are encountered, immediately advise the Departmental Representative and confirm findings in writing.

- .7 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 SMOKING RESTRICTIONS

- .1 Comply with park smoking restrictions.

1.14 ASBESTOS DISCOVERY

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

1.15 CONTRACTOR'S USE OF SITE

- .1 Co-operate with the public and anyone accessing the site as per direction of the Departmental Representative.
- .2 Should interferences occur, take directions from Departmental Representative.
- .3 Do not unreasonably encumber site with materials or equipment.
- .4 Move stored products or equipment which interfere with operations of Departmental Representative or other Contractors.
- .5 Obtain and pay for use of additional storage or work areas needed for operations.
- .6 Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water.
- .7 Allow for no damage to occur to the existing structures as a result of operations. Repair any damage at no additional expense to the Contract.
- .8 Provide temporary fencing, barriers and warning signs in location where work is adjacent to areas used by public.

1.16 CONTRACT DOCUMENTS

- .1 Contract Drawings:
  - .1 The drawings listed below and any additional drawings issued at a later date by the Departmental Representative.
    - .1 LIST OF DRAWINGS

CIVIL

C01 FUNDY HQ CAMPGROUND SERVICE BUILDING SITE PLAN

ARCHITECTURAL

A01 ARCHITECTURAL HQ SERVICE BUILDING FLOOR PLAN  
A02 ARCHITECTURAL HQ SERVICE BUILDING ROOF PLAN  
A03 ARCHITECTURAL HQ SERVICE BUILDING EXTERIOR ELEVATION  
A04 ARCHITECTURAL HQ SERVICE BUILDING SECTIONS & DETAILS  
A05 ARCHITECTURAL HQ SERVICE BUILDING SCHEDULES

STRUCTURAL

S01 STRUCTURAL HQ SERVICE BUILDING FOUNDATION PLAN  
CONCRETE DETAILS AND NOTES  
S02 STRUCTURAL HQ SERVICE BUILDING ROOF FRAMING AND TIMBER  
NOTES  
S03 STRUCTURAL HQ SERVICE BUILDING TYPICAL DETAILS AND  
SECTIONS

MECHANICAL

M01 MECHANICAL HQ SERVICE BUILDING SANITARY & WATER FLOOR  
PLANS  
M02 MECHANICAL HQ SERVICE BUILDING HVAC FLOOR PLAN & WATER  
SCHEMATIC  
M03 MECHANICAL HQ SERVICE BUILDING SCHEDULES  
M04 MECHANICAL HQ SERVICE BUILDING DETAILS

ELECTRICAL

E01 ELECTRICAL HQ SERVICE BUILDING SITE PLAN & FLOOR PLANS  
E02 ELECTRICAL HQ SERVICE BUILDING DETAILS & SCHEDULES

.2 Departmental Representative may furnish additional drawings to assist in proper execution of work. These drawings will be issued for clarification only. Such drawings will have same meaning and intent as if they were included with plans referred to in Contract Documents.

.3 The drawings indicate the extent and general dimensions of the work. Make all necessary measurements to ensure that the result of the work is in accordance with the intent.

.4 Verify all existing conditions in field prior to proceeding with work.

.2 Contract Specifications:

.1 The general requirements and technical specifications are written solely for the General Contractor. They are organized into the NMS format of separate divisions and sections.

.2 Specification language is the "Short Form Type", for example, where the word "provide" occurs, interpret it to mean "the Contractor shall furnish all labour, material and equipment necessary to complete the work".

.3 These Specifications and accompanying drawings are intended to describe and provide for a finished project. They are intended to be complementary, and what is called for by either will be as binding as if called for by both. The Contractor shall understand that the work

herein described will be complete in every detail, notwithstanding that every item necessarily involved is not particularly mentioned, and Contractor will be held to provide all labour, materials and equipment necessary for the entire completion of the work and will not avail himself of any errors or omissions.

1.17 RECORD OF CONSTRUCTION

- .1 As work progresses, maintain accurate records to show all deviations from the contract drawings, with particular reference to work which will be concealed. Prior to the inspection of the work for the issuance of the Final Certificate of Completion, provide the Departmental Representative with one set of white prints of the drawings with all deviations shown neatly thereon.
- .2 Provide "as built" cross sections of any excavation or fill work.

1.18 PAYMENT

- .1 No separate payment will be made for work specified under General Conditions, Supplementary Conditions or any sections of Specification under Division 01. The cost of this work is to be considered as overhead and to be included in the Contract.
- .2 Dimensional changes are directed by the Departmental Representative to suit existing conditions, but not resulting in additional work or materials, will not be considered as extra to the Contract.

1.19 CONTRACTOR'S REPRESENTATIVE

- .1 Continuously maintain on the site an authorized representative to whom communication may be addressed and who will be competent to speak for the Contractor in discussing work methods.

1.20 WORKER'S COMPENSATION

- .1 Contractor and all sub-contractors must be registered under the Workers Compensation Act and provide evidence of good standing.
- .2 At completion of Contract and before final payment is made, the Contractor will present to the Departmental Representative a Letter of Certification from the Workers Compensation Board, showing that all required assessments are paid in connection with all trades.

1.21 LAWS, STANDARDS, TAXES AND FEES

- .1 Comply with all laws and standards governing all or any part of the work, pay all applicable taxes and pay for all permits and certificates required in respect of the execution of the work. Where variances exist between the requirements of agencies governing all or any part of the work, the most restrictive will govern, but in no instance will the standards established by the drawings and this Specification, which exceed such requirements, be reduced.

1.22 PROTECTION AND REPAIR

- .1 Repair any damage resulting from operations under this contract.

1.23 INSPECTION AND TESTING

- .1 The Departmental Representative may employ an Inspector and/or Testing Company to ensure work conforms with contracts.

1.24 EXISTING SOILS CONDITIONS

- .1 Any information pertaining to soils and all boreholes logs are furnished by the Departmental Representative as a matter of general information only and borehole descriptions or logs are not to be interpreted as descriptive of conditions at locations other than those described by the boreholes themselves.

**END OF SECTION**

1.1 SUBMITTALS

- .1 Upon award of contract and prior to commencement of work, submit to Departmental Representative the following work management documents:
  - .1 Work Schedule as specified herein.
  - .2 Environmental Protection Plan
  - .3 Shop Drawing Submittal Schedule specified in section 01 33 00
  - .4 Health and Safety Plan specified in Section 01 35 29
  - .5 Waste Management and Disposal Plan specified in Section 01 74 21

1.2 WORK SCHEDULE

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

- .10 Schedule Updates:
  - .1 Submit on a monthly basis or when requested by Departmental Representative.
  - .2 Provide information and pertinent details explaining reasons for necessary changes to implementation plan.
  - .3 Identify problem areas, anticipated delays, impact on schedule and proposed corrective measures to be taken.
- .11 The Departmental Representative will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by the Departmental Representative. Address and take corrective measures on items of work as identified by reviews and as directed by the Departmental Representative. Update schedule accordingly.
- .12 In every instance, change or deviation from work scheduling, no matter how minimal the risk or impact on safety or inconvenience to the client or public might appear, will be subject to prior review and approval by the Departmental Representative.

1.3 PROJECT PHASING

- .1 Be aware that the park must be kept operational for the full duration of work of this contract. Building services and parking lots to areas under use by the public must also be maintained at all times.

1.4 OPERATIONAL RESTRICTION

- .1 The Contractor must recognize that the Park users will be affected by implementation of this contract. Perform the work with utmost regard to the safety and convenience of Park users. All work activities must be planned and scheduled with this in mind. Do not disturb any portion of the Park without providing temporary facilities as necessary to ensure safe and direct passage through disturbed or otherwise affected areas.
- .2 Off Hours: for the purposes of this contract, "off-hours" are defined as follows:
  - .1 Weeknight Hours: between the hours of 18:00 and 07:00 for each weekday Monday to Thursday inclusive.
  - .2 Weekend Hours: between the hours of 18:00 Friday evening to 07:00 Monday morning.
  - .3 Dependent on the nature and location of the construction activity, the day of the week and the time of the year, "off-hours" could be subject to redefinition to start or end at adjusted time periods. Scheduling of "off-hours" work will be subject to approval by the Departmental Representative.

- .3 Perform the following work during Off-Hours:
  - .1 Work which requires the temporary disconnection of power and communication services to occupied areas;
  - .2 Work which creates excessive noise or vibration creating interference with the public.
- .4 The Departmental Representative reserves the right to stop certain daytime work activities, if the nature of that activity generates excessive noise or dust and have Contractor re-schedule that particular work to be performed during the Off-Hour period.
- .5 Make all trades are aware of the "Off-Hour" requirements of this contract and ensure that any extra costs incurred as a result is included in the Contractor's bid price for the work. No extra cost will be paid by PWGSC due to failure by General Contractor or their sub-contractors to recognize the off-hour requirements and other restrictions specified herein and to include all necessary allowances within their prices.
- .6 Circulation maintained:
  - .1 Maintain entrances, roadways, exits and other circulation routes outside of the designated work area are free and clear providing safe and uninterrupted passage for the public at all times for duration of work.
- .7 Safety Signage:
  - .1 Provide on-site, and erect as required during progress of work, proper bilingual signage, mounted on self-supporting stands, warning the public of construction activities in progress and alerting need to exercise caution in proceeding through disturbed areas, and directing the public through any detours which may be required.
  - .2 Signage to be professionally printed and mounted on wooden backing, coloured and to express messages as directed by the Departmental Representative.
  - .3 Generally maximum size of sign should be in the order of 1.0 square meters. Number of signs required will be dependent on size of area affected.
  - .4 Include costs for the supply and installation of these signs in the tender price.
- .8 Dust and Dirt Control:
  - .1 Effectively plan and implement dust control measures and cleaning activities as an integral part of all construction activities.
  - .2 Do not allow demolition debris and construction waste to accumulate and contribute to the propagation of dust.
  - .3 As work progresses, maintain construction areas in a tidy condition at all times.
- .9 Make all sub-trades aware of and abide by the contents of this section and in particularly the work restrictions specified herein.

1.5 PROJECT MEETINGS

- .1 Schedule and administer project meetings, held on a minimum bi-weekly basis, for entire duration of work and more often when directed by Departmental Representative as deemed necessary due to progress of work or particular situation.
- .2 Prepare agenda for meetings.
- .3 Hold meetings at project site or where approved by Departmental Representative.
- .4 Preside at meetings and record minutes.
  - .1 Indicate significant proceedings and decisions. Identify action items by parties.
  - .2 Distribute to participants by mail within [3] calendar days after each meeting.
  - .3 Make revisions as directed by Departmental Representative.

1.6 WORK COORDINATION

- .1 Coordinate the work of the various trades and predetermining where the work of such trades interfaces with each other.
  - .1 Designate one person from own employ having overall responsibility to review contract documents and shop drawings, plan and manage such coordination.
- .2 Convene meetings between trades whose work interfaces and ensure that they are fully aware of the areas and the extent of where interfacing is required.
  - .1 Provide each trade with the plans and specs of the interfacing trade, as required, to assist them in planning and carrying out their respective work.
  - .2 Develop coordination drawings when deemed required illustrating potential interference between works of various trades and distribute to all affected parties.
    - .1 Pay particularly close attention to overhead electrical lines.
  - .3 Review coordination drawings at purposely called meetings. Have sub-contractors sign-off on drawings and publish minutes of each meeting.
  - .4 Plan and coordinate work in such a way to minimize quantity of service line offsets.
  - .5 Submit copy of coordination drawings and meeting minutes to Departmental Representative for information purposes.
- .3 Submission of shop drawings and ordering of prefabricated equipment or prebuilt components shall only occur once coordination meeting for such items has taken place between trades and all conditions affecting the work of the interfacing trades has been made known and accounted for.

- .4 Work Cooperation:
  - .1 Maintain cooperation between trades in order to facilitate the general progress of the work and avoid situations of spatial interference.
  - .2 Give each trade and all other trades reasonable opportunity for the completion of the work and in such a way as to prevent unnecessary delays, cutting, patching and the need to remove and replace completed work.
- .5 Public Works and Government Services Canada will not be responsible for or held accountable for any extra costs incurred as a result of the failure to carry out coordination work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work will be the sole responsibility of the General Contractor and must be resolved by him at no extra cost to the Contract.

1.6 OTHER CONTRACTS

- .1 Further contracts may be let during the period that this contract is in progress.
- .2 Cooperate with other Contractors in carrying out their respective works and carry out all instructions from the Departmental Representative in this regard.
- .3 Connect properly and coordinate work with that of other Contractors. If any part of the work under this Contract depends for its proper execution or result upon the work of another Contractor, report promptly to the Departmental Representative, in writing, any defects in the work of such other Contractors as may interfere with the proper execution of this work.

**END OF SECTION**

1.1 GENERAL

- .1 Submit to Departmental Representative, for review, shop drawings, product data, samples and other information specified or required for the completion of the work.
- .2 Until submission is reviewed, work involving relevant product may not proceed.

1.2 SHOP DRAWINGS

- .1 Drawings to be originals prepared by contractor, subcontractor, supplier or distributor, which illustrate appropriate portion of work, showing fabrication, layout, setting or erection details as specified in appropriate sections.
- .2 Identify details by reference to sheet and detail numbers shown on Contract Drawings.
- .3 Maximum sheet size 860mm X 1120 mm.
- .4 The term "shop drawings" means fabrication drawings, erection drawings, diagrams, illustrations, schedules, performance charts, technical product data, brochures, specifications, test reports installation instructions and other data which are to be provided by Contractor to illustrate compliance with specified materials and details of a portion of work.
- .5 Adjustments or corrections made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, advise Departmental Representative in writing prior to proceeding with Work.
- .6 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections and comments are made, fabrication and installation may proceed upon receipt of shop drawings. If shop drawings are rejected and noted to be Resubmitted, do not proceed with that portion of work until resubmission and review of corrected shop drawings, through same submission procedures indicated above.
- .7 Be advised that costs and expenses incurred by Departmental Representative to conduct more than one review of incorrectly prepared shop drawing submittal for a particular material, equipment or component of work may be assessed against the Contractor in the form of a financial holdback to the Contract.

1.3 SAMPLES

- .1 Submit samples in sizes and quantities specified.
- .2 Construct field samples and mock-ups at locations acceptable to Departmental Representative.

- .3 Accepted samples will become standards of workmanship and material against which, installed work will be checked on project.

1.4 MISCELLANEOUS DATA

- .1 Provide certificates, methodologies, design and test results as required.

1.5 COORDINATION OF SUBMISSIONS

- .1 Review shop drawings, product data, samples and miscellaneous data prior to submissions.

- .2 Verify:

- .1 Field Measurements.
- .2 Field Construction Criteria.
- .3 Catalogue numbers and similar data.

- .3 Coordinate each submission with requirements of work and contract documents. Individual submissions will not be reviewed until all related information is available.

- .4 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submissions.

- .5 Contractor's responsibility for deviations in submission from requirements in Contract documents is not relieved by Departmental Representative's review of submission, unless Departmental Representative gives written acceptance of specified deviations.

- .6 Notify Departmental Representative, in writing at time of submission, of deviations from requirements of contract documents stating reasons for deviations.

- .7 After Departmental Representative's review, distribute copies.

1.6 SUBMISSION REQUIREMENTS

- .1 Schedule submissions at least ten (10) days before dates reviewed submissions will be needed.

- .2 Submit shop drawings, product data which Contractor requires for distribution, plus two (2) copies which will be retained by Departmental Representative.

- .3 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 submitted.
- .5 Other pertinent data.

- .4 Submissions to include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
    - .4 Separate details when pertinent.
  - .4 Identification of product or material.
  - .5 Relation to adjacent structure or materials.
  - .6 Field dimensions, clearly identified as such.
  - .7 Specification Section Number.
  - .8 Applicable standards such as CSA or CGSB numbers.
  - .9 Contractor's stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with contract documents.

1.7 SHOP DRAWINGS

- .1 The review of shop drawings by Public Works and Government Services Canada or its authorized consultant, is for the sole purpose of ascertaining conformance with the general concept. This review does not mean that Public Works and Government Services Canada approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the construction and contract documents. Without restricting the generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all sub-trades.

1.8 OTHER REVIEWS

- .1 As for shop drawings above, other reviews are for the sole purpose of ascertaining the general concept.

**END OF SECTION**

1.1 RELATED WORK

- .1 Section 01 35 43: Environmental Procedures.

1.2 DEFINITIONS

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

1.3 SUBMITTALS

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

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

#### 1.4 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of New Brunswick, and Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
  - .1 The Canada Labour Code can be viewed at the following web address: [www.http://laws-lois.justice.gc.ca/eng/acts/L-2fulltest.html](http://laws-lois.justice.gc.ca/eng/acts/L-2fulltest.html)
  - .2 Canadian Occupational Health and Safety Regulations can be viewed at: <http://laws-lois.juctice.gc.ca/eng/regulations/SOR-86-304/index.html>.
  - .3 A copy may be obtained by contacting: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F)
- .3 Observe and enforce construction safety measures of:
  - .1 Part 8 of National Building Code.
  - .2 Provincial Workers Compensation Board.
- .4 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.
- .5 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.
- .6 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.

#### 1.5 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to extent that they may be affected by conduct of Work.

- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to Work Site with safety requirements of Contract Documents, applicable federal, provincial, and local by-laws, regulations, and ordinances, and with site-specific Health and Safety Plan.

#### 1.6 SITE CONTROL AND ACCESS

- .1 Control the Work and entry points to Work Site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
  - .1 The Departmental Representative will provide names of those persons authorized by the 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 park by use of appropriate means.
  - .1 Erect fences, hoarding, barricades and temporary lighting as required to effectively delineate the Work Site, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment. See Section 01 51 00 for minimum acceptable requirements.
  - .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.
  - .3 Use professionally made signs with bilingual message in the 2 official languages or international known graphic symbols.
- .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
- .4 Persons granted site access must wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.
- .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm. Provide security guard where adequate protection cannot be achieved by other means.

#### 1.7 PROTECTION

- .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
- .2 Provide temporary facilities for protection and safe passage of public pedestrians and vehicular traffic adjacent to work site.
- .3 Provide safety barricades, lights and signage on work site as required to provide a safe working environment for workers.

- .4 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

1.8 FILING OF NOTICE

- .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
  - .1 Upon request, the Departmental Representative will assist in locating address if needed.

1.9 PERMITS

- .1 Post permits, licenses and compliance certificates, specified in section 01 10 10, at Work Site. Submit copies to Departmental Representative.
- .2 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and obtain approval to proceed before carrying out applicable portion of work.

1.10 HAZARD ASSESSMENTS

- .1 Perform site specific health and safety hazard assessment of the Work prior to commencement of work.
- .2 Carry out 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, the scope of work has been changed by Change Order or when a potential hazard or weakness in current health and safety practices are identified by Departmental Representative or by an authorized safety representative.
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation on site for entire duration of the Work.

1.11 PROJECT/SITE CONDITIONS

- .1 Following are potential health, environmental and safety hazards at the site for which Work may involve contact with:
  - .1 Existing hazardous substances or contaminated materials:
    - .1 Pressure treated timber.
  - .2 Known latent site and environmental conditions:
    - .1 Wildlife activity.
    - .2 Electrical work.
    - .3 Trench work.
    - .4 Live pressure pipe work.
  - .3 Facility on-going operations:
    - .1 Continued pedestrian adjacent to the work site.
    - .2 Continued vehicular use adjacent to the work site.

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

1.12 MEETINGS

- .1 Attend pre-construction health and safety meeting, convened and chaired by Departmental Representative, prior to commencement of Work, at time, date and location determined by Departmental Representative. Ensure attendance of:
  - .1 Superintendent of Work
  - .2 Designated Health & Safety Site Representative
  - .3 Subcontractors
- .2 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations.
- .3 Keep documents on site.

1.13 HEALTH AND SAFETY PLAN

- .1 Prior to commencement of Work, develop written Health and Safety Plan specific to the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
- .2 Health and Safety Plan shall include the following components:
  - .1 List of health risks and safety hazards identified by hazard assessment.
  - .2 Control measures 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 plan layouts showing escape routes. 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 Parks Canada 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.
- .9 Submission of the Health and Safety Plan, and updates, to the Departmental Representative is for review and information only. Its submission must not be construed to imply approval by Departmental Representative, be interpreted as a warranty of being complete, accurate and legislative compliant and shall not relieve Contractor of their legal obligations for the provision of Health and Safety on the construction project.

1.14 SAFETY SUPERVISION

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

.5 Stop the Work as deemed necessary for reasons of health and safety.

.3 Health & Safety Site Representative must:

.1 Be qualified and competent person in occupational health and safety.

.2 Have site-related working experience specific to activities of the Work.

.3 Be on Work Site at all times during execution of the Work.

.4 All supervisory personnel assigned to the Work shall also be competent persons.

.5 Inspections:

.1 Conduct regularly scheduled safety inspections of the Work on a minimum bi-weekly basis. Record deficiencies and remedial action taken.

.2 Follow up and confirm corrective measure are taken.

.6 Cooperate with Parks Occupational Health and Safety representative should one be designated by Departmental Representative.

.7 Keep inspection reports and supervision related documentation on site.

#### 1.15 TRAINING

.1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.

.2 Ensure that workers, subcontractors and other authorized persons granted access to site are trained and have been fully instructed by a competent instructor, on:

.1 Safe operation of tools and equipment.

.2 Proper wearing and use of personal protective equipment (PPE) as applicable to the purpose and activities to be conducted on site.

.3 Safe work practices and procedures to be followed during the performance of their given work tasks or function on site.

.4 Site conditions and minimum site safety rules provided through site orientation sessions.

.3 Maintain employee records and evidence of training received. Make data available to the Departmental Representative upon request.

.4 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.16 MINIMUM SITE SAFETY RULES

- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:
  - .1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.
  - .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
  - .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
  - .4 Obey warning signs and safety tags.
- .2 Brief workers on site safety rules, and on the disciplinary measures to be taken for violation or non-compliance of such rules. Post such information on site.

1.17 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative will stop Work if non-compliance of health and safety regulations is not corrected in a timely manner.

1.18 INCIDENT REPORTING

- .1 Investigate and report the following incidents to the 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.

1.19 HAZARDOUS PRODUCTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).
- .2 Keep MSDS data sheets for all products delivered to site.
  - .1 Post on site.
  - .2 Submit copy to Departmental Representative.

1.20 BLASTING

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

1.21 POWDER ACTUATED DEVICES

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

1.22 CONFINED SPACES

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

1.23 SITE RECORDS

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

1.24 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on Work Site in accordance with Acts and Regulations of Province having jurisdiction.
- .2 Maintain on site copy of safety documentation as specified in this section and other safety related reports and documents issued to or received from authorities having jurisdiction, including:
  - .1 Site specific Health and Safety Plan.
  - .2 WHMIS data sheets.
- .3 Make available to the Departmental Representative, or authorized safety representative, for inspection upon request.

**END OF SECTION**

1.1 REFERENCES

- .1 Canadian Environmental Assessment Act, 2012, amended 2013-11-25
- .2 Canadian Environmental Protection Act, 1999, amended on 2014-03-28
- .3 Migratory Birds Convention Act, 1994, Environment Canada, amended 2010-12-10
- .4 New Brunswick - Environment Act
- .5 Species at Risk Act, 2002, amended 2013-03-08
- .6 The Federal Policy on Wetland Conservation, 1991, Environment Canada
- .7 Transportation of Dangerous Goods Act, 1992, Transport Canada, amended 2009-06-16
- .8 Workplace Hazardous Materials Information System, Health Canada.

1.2 DEFINITIONS

- .1 Archaeological resources: all tangible evidence of human activity that is of historical, cultural or scientific interest. Examples include features, structures, archaeological objects or remains at or from an archaeological site, or an object recorded as an isolated archaeological find.
- .2 Buffer zone: a vegetated land that protects watercourses from adjacent land uses. It refers to the land adjacent to watercourses, such as streams, rivers, lakes, ponds, oceans, and wetlands, including the floodplain and the transitional lands between the watercourse and the drier upland areas.
- .3 Deleterious substance: (a) any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water.
- .4 Fish habitat: spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.

- .5 Hazardous material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .6 Invasive or alien species: refers to a species or subspecies introduced outside its normal distribution whose establishment and spread threaten ecosystems, habitats or species with economic or environmental harm.
- .7 Navigable water: any body of water that is deep, wide, and slow enough for a vessel to pass.
- .8 Surface watercourse: refers to the bed and shore of a river, stream, lake, creek, pond, marsh, estuary or salt-water body that contains water for at least part of each year.
- .9 Wetlands: land where the water table is at, near or above the surface or which is saturated for a long enough period to promote such features as wet-altered soils and water tolerant vegetation. Wetlands include organic wetlands or "peatlands," and mineral wetlands or mineral soil areas that are influenced by excess water but produce little or no peat.

### 1.3 TRANSPORTATION

- .1 Transport hazardous materials and hazardous waste in compliance with the Transportation of Dangerous Goods Act.
- .2 Eliminate free board spillage when excavating, loading and hauling excavated material.
- .3 Trucks transporting excavated material will have watertight boxes.
- .4 Do not overload trucks when hauling excavated material.
- .5 Maintain trucks clean and free of mud, dirt and other foreign matter.
- .6 Secure contents against spillage. Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the work. Immediately clean any ground spills and soils to extent as directed by authority having jurisdiction.
- .7 Prior to commencement of work, advise and seek approval from the Departmental Representative of the existing roads and temporary routes/roads proposed to be used to access work areas and to haul material to and from the site, including roads to the excavated material disposal site.
- .8 Construction material and debris is not to become waterborne.

- .9 Any tools, equipment, vehicles, temporary structures or parts thereof used or maintained for the purpose of the work are not to remain in place after the completion of the project.

#### 1.4 OPERATION OF MACHINERY

- .1 Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- .2 Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.

#### 1.5 STOCKPILED REMOVALS

- .1 Store stockpiled excavated material on site. Stockpile location will be approved by Departmental Representative prior to stockpiling activities. Obtain approval from Departmental Representative prior to any the reuse and disposal of stockpiled material.
- .2 The Departmental Representative will be given access to the stockpiled material to conduct sampling once the removals have been completed. The cost of sampling will be incurred by the Departmental Representative.
- .3 The Contractor is responsible for:
  - .1 Constructing berms to contain the material.
  - .2 Implementing erosion and sediment controls.
- .4 Water that decants from the stockpiles shall not enter any freshwater waterways or wells.
- .5 Control runoff of water containing suspended materials or other harmful substances in accordance with requirements of all federal, provincial and municipal authorities having jurisdiction.
- .6 Excess stockpiled removals must be disposed of prior to the end of the Work.

#### 1.6 DISPOSAL OF EXCESS STOCKPILE REMOVALS

- .1 If soil sampling conducted by the Departmental Representative indicates that the excess removals remaining in the stockpile exceeds applicable guidelines the contractor will be required to coordinate with New Brunswick Department of Environment and Local Government to identify an appropriate disposal site.
- .2 The disposal activities of excess excavated material exceeding applicable guidelines will require approval from the Departmental Representative.

1.7 CONTAINMENT AND SPILL MANAGEMENT

- .1 Comply with Federal (CEPA Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations) and Provincial regulations, codes, standards and guidelines for the storage of fuel and allied petroleum products on site.
- .2 Do not dump petroleum products or any other deleterious substances on ground or in the water.
- .3 Be diligent and take all necessary precautions to avoid spills and contaminate the soil and water (both surface and subsurface) when handling petroleum products on site and during fueling and servicing of vehicles and equipment.
- .4 Maintain on site appropriate emergency spill response equipment consisting of at least one 250-litre (55 gallon) over pack spill kit for containment and cleanup of spills.
- .5 Maintain vehicles and equipment in good working order to prevent leaks on site.
- .6 In the event of a petroleum spill, immediately notify the Departmental Representative. Perform clean-up in accordance with all regulations and procedures stipulated by authority having jurisdiction.
- .7 Materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals are not to enter the watercourse.
- .8 Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance.

1.8 HAZARDOUS MATERIAL HANDLING

- .1 Store and handle hazardous materials in accordance with applicable federal and provincial laws, regulations, codes and guidelines. Store in location that will prevent spillage into the environment
- .2 Label containers to WHMIS requirements and keep MSDS data sheets on site for all hazardous materials.
- .3 Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when storage began.
- .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- .5 Transport hazardous materials in accordance with federal Transportation of Dangerous Goods Regulations and applicable Provincial regulations.

1.9 DISPOSAL OF WASTES

- .1 Do not bury rubbish, construction and demolition debris (i.e., concrete, creosote timbers, steel, impacted soil materials etc.) and waste materials on site.
- .2 Dispose and recycle construction and demolition debris and waste materials in accordance with Provincial Waste Management Regulations and the project waste management requirements specified in section 02 41 23 - Selective Site Demolition.
- .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints, thinners etc.) and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.
- .4 Dispose of hazardous waste in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.
- .5 Concrete waste:
  - .1 Do not discharge residual or rejected concrete on site.
  - .2 Immediately clean any accidental release of concrete on site prior to solidification.
  - .3 Do not wash and clean concrete vehicles on site.
  - .4 Perform dumping of residual material and truck cleaning operations only at the concrete plant. Follow environmental regulations and good practices as approved by the Provincial Department of the Environment and other authorities having jurisdiction.

1.10 BIRD AND BIRD HABITAT

- .1 Become knowledgeable with and abide by the Migratory Birds Convention Act (MBCA) in regards to the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity.
- .2 Minimize disturbance to all birds on site and adjacent areas during the entire course of the Work.
- .3 Do not approach concentrations of birds.
- .4 During night time work, shield and position flood lights downwards and in the opposite direction of nearby bird nesting habitat.
- .5 Should nests of migratory birds be encountered during work, immediately notify Departmental Representative for directives to be followed.
  - .1 Do not disturb nest site and neighbouring vegetation until nesting is completed.
  - .2 Minimize work immediately adjacent to such areas until nesting is completed.
  - .3 Protect these areas by following recommendations of Canadian Wildlife Service.

1.11 AIR QUALITY

- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
- .2 Dust suppression by the application of water must be employed, when required. Apply dust control measures to roads, parking lots and work areas. The Departmental Representative shall determine locations where water is to be applied, the amount of water to be applied, and the times at which it shall be applied. Waste oil must not to be used for dust control under any circumstances.
- .3 Spray surfaces with water or other environmentally approved product. Use purposely suited equipment or machinery and apply in sufficient quantity and frequency to provide effective result and continued dust control during the entire course of the work.
- .4 Do not use oil or any other petroleum products for dust control.

1.12 FIRES

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

1.13 ARCHAEOLOGICAL

- .1 All construction personnel are responsible for reporting any unusual materials unearthed during construction to the construction supervisor. If the find is believed to be an archaeological resource, the construction supervisor will immediately stop work in the vicinity of the find and notify his / her immediate supervisor.
- .2 If an archaeological and/or historically significant item is discovered during excavation, work in the area will be stopped immediately and the Departmental Representative will be contacted as well as the provincial Archaeological Services unit:
  - .1 New Brunswick - NB Department of Communities, Culture and Heritage, Special Places Program, telephone: (506) 453-2738
- .3 Work can only resume in the vicinity of the find when authorized by the PWGSC Project Manager and Construction Supervisor, after approval has been granted by the New Brunswick Department of Communities, Culture and Heritage.
- .4 In the event of the discovery of human remains or evidence of burials, the excavation work will immediately cease and nearest law enforcement agency will be contacted immediately by the PWGSC Project Manager and/or the Construction Supervisor.

1.14 DRAINAGE

- .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.

- .2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with governing regulations and requirements.
- .4 Provide control devices such as filter fabrics, sediment traps and settling ponds to control drainage and prevent erosion of adjacent lands. Maintain in good order for duration of work.

1.15 SITE AND PLANT SELECTION

- .1 Protect trees and plants on site and adjacent properties where indicated.
- .2 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .3 Minimize stripping of topsoil and vegetation.
- .4 Restrict tree removal to areas indicated or designated by Departmental Representative.

**END OF SECTION**

1.1 INSPECTION

- .1 Give timely notice requesting inspection of Work designated for special tests, inspections or approvals by Departmental Representative or by inspection authorities having jurisdiction.
- .2 In accordance with the General Conditions, Departmental Representative may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents.
- .3 If Contractor covers or permits to be covered Work designated for special tests, inspections or approvals before such is made, uncover Work until particular inspections or tests have been fully and satisfactorily completed and until such time as Departmental Representative gives permission to proceed.
- .4 Pay costs to uncover and make good work disturbed by inspections and tests.

1.2 TESTING

- .1 Tests on materials, equipment and building systems as specified in various sections of the Specifications is the responsibility of the Contractor except where stipulated otherwise.
  - .1 Provide all necessary instruments, equipment and qualified personnel to perform tests.
- .2 At completion of tests, turn over two (2) sets of fully documented tests reports to the Departmental Representative. Submit in accordance with Section 01 33 00.
  - .1 Obtain additional copies for inclusion of a complete set in each of the maintenance manuals specified in Section 01 78 00.
- .3 Unspecified tests may also be made by Departmental Representative, at the discretion of the Departmental Representative. The costs of these tests will be paid for by the Departmental Representative.
- .4 Where tests or inspections reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests and inspections incurred by Departmental Representative as required to verify acceptability of corrected work.

1.3 INDEPENDENT INSPECTION AGENCIES

- .1 Departmental Representative will engage and pay for service of Independent Inspection and Testing Agencies for purpose of inspecting and testing portions of Work except for the following which remain part of Contractor's responsibilities:
  - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
  - .2 Inspection and testing performed exclusively for Contractor's convenience.

.3 Water system disinfection testing.

.4 Tests as specified within various sections designated to be carried out by Contractor under the supervision of Departmental Representative.

.2 Provide sufficient advance notice to Departmental Representative of time when the Work will be ready for testing by designated Testing Agency in order for Departmental Representative to make attendance arrangements with such Agency. When directed by Departmental Representative notify the Agency directly.

.3 When specified or directed, submit Representative samples of materials, in required quantities, to Testing Agency for testing purposes. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.

.4 Provide labour and facilities to obtain, handle and deliver samples.

.5 Provide sufficient space on site for Testing Agency's exclusive use to store equipment and cure test samples.

.6 Employment of Independent Inspection and Testing Agencies by Departmental Representative does not relax responsibility to perform Work in accordance with Contract Documents.

#### 1.4 ACCESS TO WORK

.1 Facilitate Departmental Representative's access to Work. If part of Work is being fabricated at locations other than construction site, make preparations to allow access to such Work whenever it is in progress.

.2 Furnish labour and facility to provide access to the work being inspected and tested.

.3 Co-operate to facilitate such inspections and tests.

#### 1.5 REJECTED WORK

.1 Remove and replace defective Work, whether result of poor workmanship, use of defective or damaged products and whether incorporated in Work or not, which has been identified by Departmental Representative as failing to conform to Contract Documents.

.2 Make good damages to [new] [and] [existing] construction and finishes resulting from removal or replacement of defective work.

**END OF SECTION**

1.1 SITE AND PARKING

- .1 The Departmental Representative will designate Contractor's access to project site as well as parking facilities for equipment and workers.
- .2 Be advised that while parking facilities for his workers and subcontractors will be on property, such parking facilities may be remote from the actual site of the work. In any case, follow all instructions from the Departmental Representative in regards to parking facilities.
- .3 Parking facilities at site is limited and cannot be used by Contractor. Make arrangements elsewhere for Contractor's vehicles including those of subcontractors and workers.
- .4 Build and maintain temporary access roads and provide snow removal and dust control during period of work.
- .5 Maintain new and existing roads and parking areas at site, where used by Contractor, for duration of contract.
  - .1 Keep clean and free of mud and dirt by washing on a regular basis.
  - .2 Provide snow removal in areas located within construction site or enclosed by work.
  - .3 Make good and repair damage resulting from Contractor's use of existing roads, asphalted areas and lawns on site.

1.2 STORAGE

- .1 Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather. Sea can or trailer are acceptable alternates for storage.
- .2 Make arrangements with the Departmental Representative for location of on-site storage areas.

1.3 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.4 POWER

- .1 Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.
- .2 Install temporary facilities for power such as pole lines and cables to approval of local power supply authority.

1.5 WATER SUPPLY

- .1 Permanent water supply system installed under this Contract can be used for construction requirements provided that guarantees are not affected thereby. Make good damage.

1.6 TEMPORARY FENCING

- .1 Provide and maintain temporary safety and security fencing, lighting and signage required to protect and route pedestrians through the Work site.
- .2 Site security is to remain at all times. Provide temporary security fencing to satisfaction of Departmental Representative. Adjust positioning of temporary security fencing as required to suit needs of construction.
- .3 Fencing to be constructed using the following types:
  - .1 1.0m metal fencing mounted on Jersey barriers.
  - .2 1.8m free-standing metal frame and metal mesh fencing.
  - .3 1.8m temporary chain link fencing.
  - .4 Temporary site perimeter fencing to match fabric height and barbed wire configuration of existing permanent perimeter security fencing less concrete footings.
- .4 Fence posts to be set in ground or mounded on plates.
- .5 Woven metal wire fence fabric is acceptable. Plastic fabric (i.e. "snowfence") is not acceptable.
- .6 Prior to the start of construction submit to Departmental Representative for approval a detailed, written plan outlining what measures will be taken to control the movement of pedestrians within the construction area.

1.7 SECURITY

- .1 Make arrangements with the Departmental Representative for security of his equipment, materials, damages resulting from fire and theft.

1.8 SITE SIGNS AND NOTICES

- .1 Only Project Identification and Consultant/Contractor signboards and notices for safety or instruction are permitted on site.
- .2 Format, location and quantity of site signs and notices to be accepted by Departmental Representative.
- .3 Signs and notices for safety or instruction to be in English and French languages, or commonly understood graphic symbols.
- .4 Install sign plumb and level in neat wood framework and securely anchor in ground by posts to withstand wind pressure of 160 km/h.

- .5 Contractor or subcontractor advertisement signboards are not permitted on site.
- .6 Maintenance and Disposal of Site Signs:
  - .1 Maintain approved signs and notices in good condition for duration of project and dispose of off-site on completion of project or earlier if directed by Departmental Representative.

1.9 REMOVAL OF TEMPORARY FACILITIES

- .1 Remove temporary facilities from site when directed by Departmental Representative.
- .2 When project is closed down for a period of time, keep temporary facilities operational until no longer required by the Departmental Representative.

**END OF SECTION**

1.1 GENERAL

- .1 Use new material and equipment unless otherwise specified.
- .2 Within seven (7) days of written request by the Departmental Representative, submit following information for any materials and products proposed for supply:
  - .1 Name and address of manufacturer.
  - .2 Trade name, model and catalogue number.
  - .3 Performance, descriptive and test data.
  - .4 Compliance to specified standards.
  - .5 Manufacturer's installation or application instructions.
  - .6 Evidence of arrangements to procure.
  - .7 Evidence of manufacturer delivery problems or unforeseen delays.
- .3 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available.
- .4 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified.
- .5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.2 PRODUCT QUALITY

- .1 Be solely responsible for submitting relevant technical data and independent test reports to confirm whether a product or system proposed for use meets contract requirements and specified standards.
- .2 Final decision as to whether a product or system meets contract requirements rest solely with the Departmental Representative in accordance with the General Conditions of the Contract.

1.3 ACCEPTABLE MATERIALS AND ALTERNATES

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

1.4 MANUFACTURERS INSTRUCTIONS

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods to be used. Do not rely on labels or enclosure provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing of any conflict between these specifications and manufacturer's instructions, so that Departmental Representative will designate which document is to be followed.

1.5 AVAILABILITY

- .1 Immediately notify Departmental Representative in writing of unforeseen or unanticipated material delivery problems by manufacturer. Provide support documentation as per clause 1.1.2 above.

1.6 WORKMANSHIP

- .1 Provide a quality of work of the highest standard, executed by workers experienced and skilled in respective duties for which they are employed.
- .2 Remove unsuitable or incompetent workers from site as stipulated in the General Conditions of the Contract.
- .3 Ensure cooperation of workers in laying out work. Maintain efficient and continuous supervision on site at all times.
- .4 Coordinate work between trades and subcontractors. See section 01 14 10 in this regard.
- .5 Coordinate placement of openings, sleeves and accessories.

1.7 FASTENINGS - GENERAL

- .1 Provide metal fastenings and accessories in same texture, colour and finish as base metal in which they occur. Prevent electrolytic action between dissimilar metals. Use non-corrosive fasteners, anchors and spacers for securing exterior work and in humid areas.
- .2 Space anchors within limits of load bearing or shear capacity and ensure that they provide positive permanent anchorage. Wood or organic material plugs not acceptable.
- .3 Keep exposed fastenings to minimum, space evenly and lay out neatly.
- .4 Fastenings which cause spalling or cracking of material to which anchorage is made, are not acceptable.

- .5 Do not use explosive actuated fastening devices unless approved by Departmental Representative. See section on Health and Safety Requirements in this regard.

1.8 FASTENINGS - EQUIPMENT

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur and, use resilient washers with stainless steel.

1.9 STORAGE, HANDLING AND PROTECTION

- .1 Deliver, handle and store materials in manner to prevent deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled materials in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work. Provide additional cover where manufacturer's packaging is insufficient to provide adequate protection.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Immediately remove damaged or rejected materials from site.
- .8 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.10 CONSTRUCTION EQUIPMENT AND PLANT

- .1 On request, prove to the satisfaction of the Departmental Representative that the construction equipment and plant are adequate

to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.

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

**END OF SECTION**

1.1 GENERAL

- .1 Use new material and equipment unless otherwise specified.
- .2 Submit following information for any or all materials and products proposed for supply within seven (7) days of request by the Departmental Representative:
  - .1 name and address of manufacturer
  - .2 trade name, model and catalogue number
  - .3 performance, descriptive and test data
  - .4 manufacturer's installation or application instructions.
  - .5 evidence of arrangements to procure.
- .3 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available.
- .4 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified.

1.2 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .2 Notify the Departmental Representative in writing of any conflict between these specifications and manufacturers' instructions. Departmental Representative will designate which document is to be followed.

1.3 FASTENINGS - GENERAL

- .1 All fastenings are to be the sizes indicated on the contract plans and are to be hot dipped galvanized to ASTM 123 unless otherwise noted.

1.4 DELIVERY AND STORAGE

- .1 Deliver, store and maintain packaged material and equipment with manufacturer's seal and labels intact.
- .2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
- .3 Store material and equipment in accordance and Storage with supplier's instructions.

1.5 CONFORMANCE

- .1 When material or equipment is specified by standard or performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.

1.6 SUBSTITUTION

- .1 Proposals for substitution may be submitted only after award of Contract. Such requests must include statements of respective costs of items originally specified and proposed substitutions.
- .2 Proposals will be considered by Departmental Representative if:
  - .1 Products selected by tenderer from those specified, are not available, or
  - .2 Delivery date of products from those specified would unduly delay completion of Contract, or
  - .3 Alternative products to those specified, which are brought to attention of, and considered by Departmental Representative as equivalent to those specified and will result in a credit to Contract amount.
- .3 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution.
- .4 Amounts of all credits arising from approval of substitutions will be determined by Departmental Representative and Contract price will be reduced accordingly. No substitutions will be permitted without prior written approval of Departmental Representative.
- .5 Owner reserves the right for acceptance or rejection of substitution of materials.

1.7 CONSTRUCTION EQUIPMENT AND PLANT

- .1 On request, prove to the satisfaction of Departmental Representative that the construction equipment and plant are adequate to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.
- .2 Maintain construction equipment and plant in good operating order.

1.8 DAMAGED AND REJECTED MATERIALS

- .1 Immediately replace, repair or otherwise make good any material damaged, broken or defaced during construction to the satisfaction of Departmental Representative.
- .2 Remove rejected materials from site.

**END OF SECTION**

1.1 GENERAL

- .1 Conduct cleaning and disposal operations to comply with local ordinances and antipollution laws.
- .2 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .3 Prevent accumulation of waste which creates hazardous conditions.

1.2 CLEANING DURING CONSTRUCTION

- .1 Maintain the work site tidy and free from accumulations of waste material and debris.
- .2 Provide on-site containers for collection of waste materials, and debris.
- .3 Remove waste materials, and debris from site weekly at a minimum.
- .4 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces.

1.3 FINAL CLEANING

- .1 In preparation for acceptance of the project on an interim or final certificate of completion perform final cleaning.
- .2 Remove grease, dust, dirt, stains, and other foreign materials, from exterior finished surfaces.

**END OF SECTION**

PART 1        GENERAL

1.1            DEFINITIONS

- .1    Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .2    Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .3    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.
- .4    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.
  - .2    Returning reusable items including pallets or unused products to vendors.
- .5    Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .6    Separate Condition: refers to waste sorted into individual types.
- .7    Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.
- .8    Waste Management Coordinator (WMC): Contractor representative responsible for supervising waste management activities.

1.2            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 Develop Workplan in collaboration with all subcontractors to ensure all waste management issues and opportunities are addressed.
  - .1 Implement and manage all aspects of Waste Management Workplan for duration of work.
  - .2 Revise Workplan as work progresses addressing new opportunities for diversion of waste from landfill.
  - .3 Workplan to identify a Waste Management Coordinator. This individual will be the Contractor's representative responsible for supervising all waste management activities as well as coordinating related required submittals and reporting.

### 1.3 SUBMITTALS

- .1 Provide submittals, including the Waste Management Work Plan, 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. Written authorization from the Departmental Representative is required to deviate from haulers, facilities and receiving organizations listed in Waste Management Workplan. Include copy of weigh bills, scale tickets and disposal receipts for all waste disposed.

### 1.4 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.
- .3 Handle, stockpile and protect material destined for removal off Site in accordance with Section 01 35 43, subsection 1.6.

### 1.5 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 construction and demolition waste approved facility.
- .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.

1.6 TIPPING FEES

- .1 All tipping fees are to be covered in the Stipulated Price provided. No additional payments will be made to cover waste disposal.

1.7 SCHEDULING

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

PART 2 PRODUCTS 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.
- .2 Mark containers or stockpile areas.
- .3 Provide instruction on disposal practices.

**END OF SECTION**

1.1 SECTION INCLUDES

- .1 Administrative procedures preceding inspection and acceptance of Work by the Departmental Representative.

1.2 RELATED SECTIONS

- .1 Section 01 78 00 - Closeout Submittals.

1.3 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: Coordinate and perform, in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
  - .1 Notify the Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for Departmental Representative's Inspection and Acceptance.
- .2 Departmental Representative's Inspection: Accompany the Departmental Representative during all interim and final inspections of Work. Address defects, faults and outstanding items of work identified by such inspections. Notify Departmental Representative when all deficiencies have been rectified.
- .3 At completion of project, in company with the Departmental Representative, check all work and correct all discrepancies and defects. Be aware that the Certificate of Substantial Performance will not be issued until such time that Contractor has fully completed and turned over all specified as-built project record documents, training, maintenance manuals, test results and any guarantee certificate as issued by particular manufacturer.
- .4 Correct all discrepancies before final inspection and acceptance of Work.

**END OF SECTION**

1.1 SECTION INCLUDES

- .1 Project Record Documents as follows:
  - .1 As-built drawings;
  - .2 As-built specifications;
  - .3 Reviewed shop drawings.
- .2 Operations and Maintenance data as follows:
  - .1 Operations and Maintenance Manual;
  - .2 Maintenance Materials;
  - .3 Spare Parts;
  - .4 Special Tools.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 79 00 - Demonstration and Training.

1.3 PROJECT RECORD DOCUMENTS

- .1 Departmental Representative will provide two white print sets of contract drawings and two copies of Specifications Manual specifically for "as-built" purposes.
- .2 Maintain at site one set of the contract drawings and specifications to record actual as-built site conditions.
- .3 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Departmental Representative at any time during construction.
- .4 As-Built Drawings:
  - .1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of project and prior to interim inspection, neatly transfer notations to second set (also by use of red ink). Submit both sets to Departmental Representative. All drawings of both sets shall be stamped "As-Built Drawings" and be signed and dated by Contractor.
  - .2 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
  - .3 Record following information:
    - .1 Horizontal and vertical location of exterior underground utilities and appurtenances referenced to permanent surface improvements.
    - .2 Horizontal and vertical location of various elements in relation to Geodetic Datum;
    - .3 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure;

- .4 Field changes of dimension and detail;
- .5 Location of all capped or terminated services and utilities.
- .6 Any details produced in the course of the contract by the Departmental Representative to supplement or to change existing design drawings must also be marked-up and dimensioned to reflect final as-built conditions and appended to the as-built drawing document;
- .7 All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.
- .4 As-built Specifications; legibly mark in red each item to record actual construction, including:
  - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly items substituted from that specified.
  - .2 Changes made by Addenda and Change Orders.
  - .3 Mark up both copies of specifications; stamp "as-built", sign and date similarly to drawings as per above clause.
- .5 Maintain As-built documents current as the contract progresses. Departmental Representative will conduct reviews and inspections of the documents on a regular basis. Frequency of reviews will be subject to Departmental Representative's discretion. Failure to maintain as-built documents current and complete to satisfaction of the Departmental Representative will be subject to financial penalties in the form of progress payment reductions and holdback assessments.

1.4 REVIEWED SHOP DRAWINGS

- .1 Compile full set of shop drawings and product data reviewed on project and incorporate into Operations and Maintenance Manual. Supply number of shop drawing sets equal to the required number of final Operations and Maintenance manuals.
- .2 Submit shop drawing sets at same time and as part of the contents of the Operation and Maintenance manuals specified in this section.

1.5 OPERATIONS & MAINTENANCE MANUAL

- .1 Definition: an organized compilation of operating and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified in individual sections of the specifications.
- .2 Number of copies required:
  - .1 Submit two interim copies of the manual for review and inspection by Departmental Representative. Make revisions and additions as directed and resubmit.
  - .2 Upon review and acceptance by Departmental Representative, submit three final copies. Initial copies are not to be considered as part of

the final copies unless they have been fully revised and are identical to the final approved version.

- .3 Submission Date: submit complete operation and maintenance manual to Departmental Representative two weeks prior to application for Certificate of Substantial Performance of work.
- .4 Binding:
  - .1 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual.
  - .2 Use vinyl, hard covered, 3 "D" ring binders, loose leaf, sized for 215 x 280 mm paper, with spine pocket.
  - .3 Where multiple binders are needed, correlate data into related consistent groupings.
  - .4 Identify contents of each binder on spine.
  - .5 Organize and divide data into sections same as 16 division numerical order of contract specifications and thereafter subdivided into various equipment or building systems.
  - .6 Material: separate each section by use of cardboard dividers and labels. Provide tabbed fly leaf for each separate product or system within each section and with typed description of product and major component parts of equipment.
  - .7 Type lists and notes. Do not hand write.
  - .8 Drawings, diagrams and manufacturers' literature must be legible. Provide with reinforced, punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .5 Manual Contents:
  - .1 Cover sheet containing:
    - .1 Date submitted.
    - .2 Project title, location and project number.
    - .3 Names and addresses of Contractor, and all Sub-contractors.
  - .2 Table of Contents: provide full table of contents in each binder(s), clearly indicate which contents are in each binder.
  - .3 List of maintenance materials.
  - .4 List of spare parts.
  - .5 List of special tools.
  - .6 Original or certified copy of Warranties and Guarantees.
  - .7 Copies of approvals, and certificates issued by Inspection Authorities.
  - .8 Copies of reports and results from tests designated as Contractor's responsibilities.
  - .9 Product Information Data on all materials, equipment and systems as specified in individual sections of the specifications to include:
    - .1 List of equipment including manufacturer's name, supplier, local source of supplies and service depot(s). Provide full addresses and telephone numbers.
    - .2 Nameplate information including equipment number, make, size, capacity, model number and serial number.
    - .3 Parts list.
    - .4 Installation details.
    - .5 Operating instructions.
    - .6 Maintenance instructions for equipment.

- .7 Maintenance instructions for finishes.
- .6 Shop drawings:
  - .1 Bind one complete set of reviewed shop drawings into each copy of operations and maintenance manual.
  - .2 Bind the shop drawings in a manner such that they correspond with the specification section they relate to.
  - .3 Where large quantity of data is supplied due to size of project, fold and bind professionally into separate correctly sized binder.
- .7 Equipment and Systems Data: the following list indicates the type of data and extent of information required to be included for each item of equipment and for each system:
  - .1 Description of unit or system, and component parts. Give function, normal operation characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
  - .2 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. Include regulation, control, stopping, shut-down, and emergency instructions. 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 Servicing and lubrication schedule, and list of lubricants required.
  - .7 Manufacturer's printed operation and maintenance instructions.
  - .8 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 coordination 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 Include test and balancing reports.
  - .15 Additional requirements as specified in individual specification sections.
- .8 Materials and Finishes Maintenance Data:
  - .1 Building Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
  - .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.

1.7 SPARE PARTS, TOOLS AND MAINTENANCE MATERIALS

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

**END OF SECTION**

1.1 RELATED SECTIONS

- .1 Closeout Submittals: Section 01 78 00.

1.2 DESCRIPTION

- .1 Demonstrate scheduled operation and maintenance of equipment and systems to Departmental Representative's personnel prior to date of final inspection.
- .2 Departmental Representative will provide a list of additional personnel to receive instructions.
- .3 Cooperate with Departmental Representative in coordinating time and attendance of Departmental Representative's personnel with manufacturer's training representative(s).

1.3 QUALITY CONTROL

- .1 Only use personnel from own forces, Subcontractors or Suppliers, competent and fully knowledgeable in the particular material component, equipment or system installation to provide training and demonstrations.
- .2 When specified in individual Sections, obtain the manufacturers authorized representative to demonstrate operation of equipment and systems, instruct Departmental Representative's personnel, and provide written report that demonstration and instructions have been completed.
- .3 Provide evidence to Departmental Representative when deemed required of individual Trainor's knowledge and qualifications.

1.4 SUBMITTALS

- .1 Submit schedule of time, date and complete list of equipment and systems for which demonstration and training sessions will be provided. Submit schedule a minimum of two (2) weeks prior to designated dates, for Departmental Representative's approval.
- .2 Submit reports within one (1) week after completion of demonstration, that demonstration and instructions have been satisfactorily completed. Provide time and date of when each demonstration was actually given, with list of persons present.

1.5 CONDITIONS FOR DEMONSTRATIONS

- .1 Prior to carrying out Demonstration and Training, confirm equipment has been inspected, fully operational and all testing, adjusting and balancing has been carried out.
- .2 Provide copies of completed operation and maintenance manuals for use in demonstrations and instructions.

1.6 PREPARATION

- .1 Verify conditions for demonstration and instructions comply with requirements.
- .2 Verify that designated personnel are present.

1.7 DEMONSTRATION AND INSTRUCTIONS

- .1 Include the following items within the demonstration and training:
  - .1 Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, and maintenance of each of equipment.
  - .2 Instruct personnel in all phases of operation and maintenance using operation and maintenance manuals as the basis of instruction.
  - .3 Review contents of manual in detail to explain all aspects of operation and maintenance.
  - .4 Prepare and insert additional data in operations and maintenance manuals when the need for additional data becomes apparent during instructions.
  - .5 Provide other specific training and instructions as specified in trade sections.

1.8 TIME ALLOCATED FOR INSTRUCTIONS

- .1 Observe the allocated time period specified in trade sections. Provide additional time when required to ensure all personnel fully understand all aspects of the information and instructions being provided. Allow for questions by participants.

**END OF SECTION**

PART 1      GENERAL

1.1      SECTION INCLUDES

- .1 Includes general requirements for commissioning facilities and facility systems.

1.2      PRECEDENCE

- .1 For Federal Government projects, Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

1.3      RELATED SECTIONS

- .1 Section 01 45 00 - Quality Control.
- .2 Section 26 50 00 - Lighting Equipment

1.4      QUALITY ASSURANCE

- .1 Testing organization services under provisions specified in Section 01 45 00 - Quality Control.
- .2 Comply with applicable procedures and standards of the certification sponsoring association.
- .3 Perform services under direction of supervisor qualified under certification requirements of sponsoring association.

1.5      SUBMITTALS

- .1 Prior to start of Work, submit name of organization or Contractor personnel proposed to perform services. Designate who has managerial responsibilities for coordination of entire testing.
- .2 Submit documentation to confirm organization and personnel compliance with quality assurance provision.
- .3 Fifteen days prior to Substantial Performance, submit final reports on applicable forms.

1.6      PROCEDURES - GENERAL

- .1 Comply with procedural standards of certifying association under whose standard services will be performed.
- .2 Notify the Departmental Representative three (3) days prior to beginning of operations.
- .3 Accurately record data for each step.

- .4 Report to Departmental Representative any deficiencies or defects noted during performance of services.

1.7 FINAL REPORTS

- .1 Organization having managerial responsibility shall make reports.
- .2 Ensure each form bears signature of recorder, and that of supervisor of reporting organization.
- .3 Identify each instrument used, and latest date of calibration of each.

1.8 CONTRACTOR RESPONSIBILITIES

- .1 Prepare each system for testing.
- .2 Cooperate with testing organization and provide access to equipment and systems.
- .3 Provide personnel and operate systems at designated times, and under conditions required for proper testing, adjusting, and balancing.
- .4 Notify testing organization seven (7) days prior to time project will be ready for testing, adjusting, and balancing.

1.9 PREPARATION

- .1 Provide instruments required for testing, operations.
- .2 Make instruments available to Departmental Representative to facilitate spot checks during testing.
- .3 Retain possession of instruments and remove at completion of services.
- .4 Verify systems installation is complete and in continuous operation.
- .5 Verify equipment such as computers, laboratory and electronic equipment are in full operation.

1.10 EXECUTION

- .1 Test equipment, and adjust devices.
- .2 Acceptance testing by manufacturer or approved service technician.

PART 2 PRODUCTS

2.1 NOT USED

- .1 Not applicable.

PART 3        EXECUTION

3.1            TEST RESULTS

- .1 Commission the following items in accordance with the manufacturer's written instructions:
  - .1 Lighting fixtures and load break disconnect connectors.

**END OF SECTION**