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**Part 1      General**

**1.1          DOCUMENTS REQUIRED**

- .1    Maintain at the job site, one copy each of the following:
  - .1    Contract drawings
  - .2    Specifications
  - .3    Addenda
  - .4    Reviewed shop drawings/submissions
  - .5    Change orders
  - .6    Other modifications to Contract
  - .7    Field test reports
  - .8    Copy of approved work schedule
  - .9    Manufacturer's installation and application instructions

**1.2          SITE CONDITIONS**

- .1    Geotechnical reports may be available for inspection at the offices of Public Works and Government Services Canada, 1713 Bedford Row, Halifax, N.S. This material is not necessarily up to date and is for information purposes only. It should be complemented by site visits and consultation with appropriate expertise.

**1.3          WORK SCHEDULE AND COMPLETION DATES**

- .1    Prepare and submit to the Departmental Representative within 5 days of notification of Contract award, one copy of the construction schedule in the form of a bar chart showing the dates for commencement and completion of each major activity of the work, including the work of subcontractors; dates for submissions, review and return of shop drawings, etc.; the dates of Substantial and Final Completion; and intended man hours of labour and equipment for each major item of work. If the schedule as submitted is unacceptable in any way, submit without delay a revised schedule satisfactory to the Departmental Representative.
- .2    The Departmental Representative is to notify the Contractor in writing of acceptance of the Construction Schedule. Comply with the Construction Schedule at all times. If, for any reason, the Construction Schedule is not followed, immediately notify the Departmental Representative of the change and submit a revised schedule for acceptance. Upon written acceptance by the Departmental Representative, this schedule will become the Construction Schedule.
- .3    Whenever required, give further written particulars concerning this schedule. The submission to and acceptance by the Departmental Representative of the Contractor's Construction Schedule or the furnishing of details and particulars thereto will not relieve the Contractor of any duties and responsibilities under the Contract.

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**1.4 MEASUREMENT RESPONSIBILITIES**

- .1 Notify the Departmental Representative sufficiently in advance of operations to permit required measurements for payment purposes.

**1.5 CONTRACTOR'S USE OF SITE**

- .1 Co-operate with users of existing facilities.
- .2 Should interferences occur, take directions from the Departmental Representative.
- .3 Do not unreasonably encumber site with materials or equipment.
- .4 Move stored products or equipment which interfere with operations of the 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 Ensure no damage occurs to existing structures as a result of operations. Any said damage will be repaired at Contractor's expense.
- .8 Provide temporary barriers and warning signs in location(s) where work is adjacent to areas used by the public.

**1.6 CODES AND STANDARDS**

- .1 Perform work in accordance with the National Building Code of Canada (NBC) 2015 and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements will apply.
- .2 Meet or exceed requirements of specified standards, codes and referenced documents. When a standard or code is outdated, the latest edition will supersede the referenced date.
- .3 Observe and enforce construction safety measures by Canadian Construction Safety Code and Construction Safety Code of Nova Scotia. In the event of conflict between any provisions of above authorities the most stringent provision will apply.

**1.7 PROJECT MEETINGS**

- .1 Arrange project meetings on a regular basis and as requested by the Departmental Representative per the requirements of Section 01 14 10.

**1.8 SETTING OUT OF WORK**

- .1 Do all detail surveys necessary for the work, including locating and maintaining working points, and establishing lines and elevations.

Perform all layout work, and carefully preserve benchmarks, reference points and stakes.

- .2 Provide such masts, scaffolds, batter boards, lines, straight edges, templates and other devices as may be necessary to facilitate layout, construction and inspection of the work. Whenever necessary, suspend work for such reasonable time as may be necessary to permit the Departmental Representative to check or inspect any portion of the Work. The Contractor will not be allowed any extra compensation or time for completion because of this suspension of work.
- .3 Elevations for the various grades and features of the specified works to be referenced and properly related to a benchmark, which will be approved by the Departmental Representative.
- .4 Verify all grades, lines, levels, and dimensions shown on the drawings and report any errors or inconsistencies to the Departmental Representative before commencing work. Provide and maintain well-built batter boards at all points to facilitate the progress of the work. Establish all other grades, lines, levels required to facilitate the work.

#### **1.9 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 and vehicular traffic.
- .2 Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.
- .3 Submit schedule to and obtain acceptance from Departmental Representative for any shut-down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
- .4 Where unknown services are encountered, immediately advise the Departmental Representative and confirm findings in writing.

#### **1.10 CONTRACT DOCUMENTS**

- .1 Contract Drawings:
  - .1 The drawings for the Work consist of all drawings listed in the Plans and Specifications, and any additional drawings issued at a later date by the Departmental Representative.
  - .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 the 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 the 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 of the 'Short Form Type'. For example, where the work "provide" occurs, interpret it to mean "the Contractor shall furnish all labour, material and equipment necessary to complete the work".
  - .3 This Specification 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.

**1.11 PERMITS AND REGULATIONS**

- .1 Apply for, obtain and pay for all necessary permits, approvals and other authorizations required for the work.
- .2 Comply with all by-laws, ordinances and regulations of all authorities having jurisdiction.
- .3 Pay for any Municipal permits required.

**1.12 CUTTING, FITTING AND PATCHING**

- .1 Execute cutting (including excavation), fitting and patching required to make work fit properly.
- .2 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.
- .3 Where new work connects with existing and where existing work is altered: cut, patch and make good to match existing work.
- .4 Obtain Departmental Representative's approval before cutting, boring or sleeving, or excavating adjacent to load-bearing members.

**1.13 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, dredging or fill work.

**1.14 PAYMENT**

- .1 Payment for all work under this contract to be in accordance with Section 01 29 00 - Project Particulars and Measurements.
- .2 Dimensional changes as 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.

**1.15 SITE EXAMINATION**

- .1 All parties tendering must visit the site of the work prior to submission of tenders and make themselves thoroughly acquainted with site conditions, conditions of existing objects to be removed, tides, degree of exposure and all information necessary for the proper carrying out of the work covered by the drawings and this Specification. Submission of Tender will be deemed that Contractor is conversant with site conditions.
- .2 The Departmental Representative will give no consideration whatsoever to any claim by the Contractor resulting from failure to have made all the necessary investigations prior to tendering.

**1.16 MAINTENANCE OF HARBOUR ACTIVITIES**

- .1 Liaise with the local Harbour Authority to coordinate activities such that any interference is minimized.

**1.17 COOPERATION & ASSISTANCE TO DEPARTMENTAL REPRESENTATIVE**

- .1 Cooperate with Departmental Representative on inspection of work.
- .2 Provide assistance when required.
- .3 Provide full access to all areas of the site as requested by Departmental Representative.

**1.18 DATUM**

- .1 The datum referred to in this Specification and in the drawings is Chart Datum. Chart Datum is, by international agreement a plane below which the tide will seldom fall. The Canadian Hydrographic Service has adopted the plane of the lowest normal tide (L.N.T.) as Chart Datum. As the rise, fall, and range of tides varies daily, the Canadian Tide and Current Tables, as issued by the Canadian Hydrographic Service, should be consulted for tidal predictions and other tidal information relating to the work.

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**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 WORKERS 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 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 LOCATION OF EQUIPMENT AND FIXTURES**

- .1 Location of equipment, fixtures or any appurtenances indicated are to be considered approximate.

**1.24 INSPECTION AND TESTING**

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

**1.25 DISPOSAL OF DEBRIS**

- .1 Debris, including construction materials not incorporated in the work, oil products and containers, and other materials of this nature will be disposed of in suitable locations off the site. Disposal is the responsibility of the Contractor.
- .2 Material from the work will not be permitted to go adrift or otherwise become a menace to navigation in Hall's Harbour or beyond.

**1.26 EXISTING SOILS CONDITIONS**

- .1 Any information pertaining to soils and all borehole 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.

**1.27 RELICS AND ANTIQUITIES**

- .1 Protect relics, antiquities, items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during course of work.
- .2 Give immediate notice to Departmental Representative and await written instructions before proceeding with work in this area.
- .3 Relics, antiquities and items of historical or scientific interest remain her Majesty's property.

**1.28 TEMPORARY NAVIGATIONAL BUOYS**

- .1 The Contractor is to maintain temporary buoys to mark the position of the outer end of the structure as construction proceeds if any portion of the work will be submerged and not visible during all stages of tidal fluctuation. All buoys are to meet the requirements of Canadian Coast Guard Standard TP968-1984 and be equipped with radar reflectors.
- .2 The Contractor shall coordinate the buoy installation with the local Harbour Authority.
- .3 The Contractor is responsible for all costs associated with the supply, installation and removal of all temporary navigational buoys.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

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**Part 1 General****1.1 SUBMITTALS**

- .1 Upon acceptance of bid and prior to commencement of work, submit to Departmental Representative the following work management documents:
  - .1 Work Schedule as specified herein.
  - .2 Waste Management Plan specified in Section 01 74 21.
  - .3 Environmental Plan specified in Section 01 35 43.
  - .4 Health and Safety Plan specified in Section 01 35 29.

**1.2 WORK SCHEDULE**

- .1 Upon acceptance of bid, submit:
  - .1 Work schedule within 7 calendar days of contract award.
- .2 Schedule to indicate all calendar dates from commencement to completion of all work within the time stated in the accepted bid.
- .3 Provide sufficient details 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 Work schedule content to include as a minimum the following:
  - .1 Bar (GANTT) Charts, indicating all work activities, tasks and other project elements, their anticipated durations, planned dates for achieving key activities and major project milestones supported with:
    - .1 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.
    - .2 Generally Bar Charts derived from commercially available computerized project management systems are preferred but not mandatory.
  - .2 Work schedule must take into consideration and reflect the work phasing, required sequence of work, special conditions and operational restrictions as specified below and indicated on drawings.
  - .3 Schedule work in cooperation with the Departmental Representative. Incorporate within Work Schedule items identified by Departmental Representative during review of schedule.
  - .4 Completed schedule shall be approved by Departmental Representative. When approved, take necessary measures to complete work within scheduled time. Do not change schedule without Departmental Representative's approval.
  - .5 Ensure that all subtrades and subcontractors are made aware of the work constraints and operational restrictions specified.



- .6 Schedule updates:
  - .1 Submit when requested by Departmental Representative.
  - .2 Provide information and pertinent details explaining reasons for necessary changes to Implementation Plan.
  - .3 Identify problem areas, anticipated delays, impacts to schedule and proposed corrective measures to be taken.
- .7 Departmental Representative will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by Departmental Representative. Address and take corrective measures on items identified by reviews and as directed by Departmental Representative. Update schedule accordingly.
- .8 In every instance, change or deviation from the Work Schedule, no matter how minimal the risk or impact on safety or inconvenience to tenant or public might appear, will be subject to prior review and approval by the Departmental Representative.

### **1.3 PROJECT PHASING**

- .1 Be aware that areas of the harbour located away from the project work must be kept operational for the full duration of work of this contract. Do not obstruct other harbour berths unless clearance is received from the Harbour Authority.

### **1.4 OPERATIONAL RESTRICTIONS**

- .1 The Contractor must recognize that harbour users will be affected by implementation of this contract. The Contractor must perform the work with utmost regard to the safety and convenience of building occupants and users. All work activities must be planned and scheduled with this in mind. The Contractor will not be permitted to disturb any portion of the surrounding structures without providing temporary facilities as necessary to ensure safe and direct passage through disturbed or otherwise affected areas. Refer also to Section 01 10 10 - General Instructions.
- .2 Contractor to meet with the Departmental Representative on a weekly basis to identify intended work areas, activities and scheduling for the coming week.
- .3 Safety Signage:
  - .1 Provide onsite, and erect as required during progress of work, proper signage, mounted on self-supporting stands, warning the public of construction activities progress and alerting need to exercise caution in the area.
  - .2 Signage to be professionally printed and mounted on wooden backing, coloured and to express messages as directed by the Departmental Representative.
  - .3 Include costs for the supply and installation of these signs in the bid price under "Mobilization/Demobilization".

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- .4 Stock pile materials on site in a location that does not affect the normal operation of the harbour and is agreed upon by the Departmental Representative and the local Harbour Authority.
  - .5 Dust and Dirt Control:
    - .1 See section 01 50 00 and 01 74 11 for dust control and cleaning requirements.
    - .2 Effectively plan and implement dust control measures and cleaning activities as an integral part of all construction activities. Review all measures with the Departmental Representative before undertaking work, especially for major dust generating activities.
    - .3 Do not allow demolition debris and construction waste to accumulate on site and contribute to the propagation of dust.
  - .6 As work progresses, maintain construction areas in a tidy condition at all times.

## **1.5 PROJECT MEETINGS**

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

## **1.6 WORK COORDINATION**

- .1 The General Contractor is responsible for coordinating the work of the various trades and predetermining where the work of such trades interfaces with each other.

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- .1 Designate one person from own employees having overall responsibility to review contract documents and shop drawings, plan and manage such coordination.
  - .2 No extra costs to the Contract will be considered by the Departmental Representative as a result of Contractor's failure to effectively coordinate all portions of the Work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work shall be the sole responsibility of the General Contractor to be resolved at own cost.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 CASH ALLOWANCES**

- .1 Include in Contract Price specified cash allowances.
- .2 Cash allowances, unless otherwise specified, cover net cost to Contractor of services, products, construction machinery and equipment, freight, handling, unloading, storage and other authorized expenses incurred in performing Work.
- .3 Contract Price, and not cash allowance, includes Contractor's overhead and profit in connection with such cash allowance.
- .4 Contract Price will be adjusted by written order to provide for excess or deficit to each cash allowance.
- .5 Where costs under a cash allowance exceed amount of allowance, Contractor will be compensated for excess incurred and substantiated plus allowance for overhead and profit as set out in Contract Documents.
- .6 Include progress payments on accounts of work authorized under cash allowances in Departmental Representative's monthly certificate for payment.
- .7 Prepare schedule jointly with Departmental Representative and Contractor to show when items called for under cash allowances must be authorized by Departmental Representative for ordering purposes so that progress of Work will not be delayed.
- .8 Amount of each allowance, for Work specified in respective specification Sections is as follows:
  - .1 Section 26 24 00 include allowance of \$ 3000.00 to pay for all charges by NS Power based on NS Power invoice amount.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

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**Part 1 General****1.1 DESCRIPTION OF WORK**

- .1 The work under this contract involves the supply of all labour, materials and equipment required to demolish the existing Hall's Harbour wharf structure in King's County, NS, and construct the new Hall's Harbour wharf structure and ancillary structures and connections as detailed on the drawing plans and in this specification.
- .2 The work includes but is not limited to:
  - .1 Site work including mobilization, demobilization, excavation, demolition and disposal as described on plans and in these Specifications.
  - .2 Installation of timber cribs, concrete wharf deck, precast concrete modular block retaining walls, walkway connections and segments, structural fill, geogrid, geotextile membrane, and all stone supply as detailed on the drawings and in these specifications.
  - .3 All rough carpentry components, steel rung ladders and mooring devices as detailed on the drawings and in these specifications.
- .3 Site of work is at: Hall's Harbour Southwest Wharf, Kings County, Nova Scotia.
- .4 West Hall's Harbour Road can be closed **starting on October 15, 2016, pending NSTIR approval**, and remain continuously closed until required road opening date.
  - .1 Contractor is required to submit a Request for Temporary Road Closure to NSTIR for approval.
- .5 The work is required to be complete as follows:
  - .1 West Hall's Harbour Road, is required to be fully paved with line painting and guard rails and open and usable by the general public **no later than May 15<sup>th</sup>, 2017, pending NSTIR approval**.
  - .2 Wharf structure including electrical components, and walkways is required to be fully complete and ready to occupy and usable by fishers and pedestrians **no later than September 30<sup>th</sup>, 2017**. Traffic control will be required after West Hall's Harbour Road is re-opened to traffic for ongoing work on the wharf structure and a traffic control plan is to be submitted to the Departmental Representative for review and approval.

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**Part 2 MEASUREMENT FOR PAYMENT**

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**2.1 General**

- .1 This section details the measurement method to be used for payment purposes. Incidental items covered in the various sections of the Specification are to be allowed for in the pricing of each pay item.
- .2 Items designated for payment by the lump sum basis are to be submitted in the tender documents as an accumulated total for all lump sum work. The Contractor will be requested to provide a breakdown of lump sum items for payment purposes following award of the contract.
- .3 Notify Departmental Representative sufficiently in advance of operations to permit required measurements for payment.

**2.2 Items included under "Measurement for payment":****Division 01****ITEM 1: Mobilization and Demobilization:**

Mobilization and demobilization of the complete work shall constitute a lump sum for measurement purposes. Departmental Representative's Site Office per Section 01 51 00 shall be included in this lump sum.

**Division 02****ITEM 2: Demolition, Removals, and Site Work:**

Demolition, removals and site work to include but not be limited to selective demolition, structure demolition, all excavation required for the work, site staging work, disposal of materials, dressing of the vertical cliff face for the new crib installation, rock removals, and removals of miscellaneous items to enable the construction of the new wharf structure shall constitute a lump sum for measurement purposes.

**Division 03****ITEM 3: Cast-in-place Concrete Deck and South Walkway Landing**

This item will be measured for payment in units of Cubic Metre Place Measure of reinforced concrete actually placed. All rebar and concrete supply, placement, finishing and curing to be included in the unit price. Minor formwork as may be required to be considered incidental to the work. Concrete deck steel edging angles and all embedded hardware to be considered incidental to the work.

**ITEM 4: Supply and Installation of Concrete Drainage Baffles**

Supply and installation of concrete drainage baffles for swale discharge shall be measured as a lump sum.

**Division 06****ITEM 5: Supply and Installation of North and South Walkways**

Supply and installation of the north and south walkway structures including concrete footings and timber posts and walkways shall constitute a lump sum.

**ITEM 6: Supply and Installation of Timber Fender Piles**

Supply and installation of treated timber fender piles along the face of the wharf shall be measured per timber pile.

**Division 26**

**ITEM 7: Electrical**

Electrical reinstatement/installation including the supply and installation of all electrical components and items associated with the electrical work but not limited to new electrical service, fixtures, conduit, duct banks, light poles, support boards, steel bollards, and reinstatement of any existing items as shown on the drawings shall constitute a lump sum for measurement purposes.

**Division 31**

**ITEM 8: Reinstate Stockpiled Material**

This item will be measured for payment in units of Cubic Metres Place Measure.

**ITEM 9: Supply and Installation of Crushed Rock Mattress:**

Supply and installation of the crushed rock mattress shall be measured for payment by cubic metre place measure (CMPM).

**ITEM 10: Supply and Installation of Timber Crib:**

Supply and installation of timber cribs including but not limited to all rough carpentry, timber cribs, hardware, gravel fill deck form material and rock ballast, well graded rock fill over rear crib cells, and horizontal timber deck fenders shall constitute a price per cubic metre of finished crib for measurement purposes. Geotextiles and treated plywood shall be considered incidental to the work.

**ITEM 11: Supply and Installation of Type 1 Fill**

Supply and installation of Type 1 granular fill material shall be measured by cubic metre place measure (CMPM).

**ITEM 12: Supply and Installation of Type 2 Fill**

Supply and installation of Type 2 granular fill material shall be measured by cubic metre place measure (CMPM).

**ITEM 13: Supply and Installation of Type C1 Clear Stone**

Supply and installation of Type C1 clear stone shall be measured by cubic metre place measure (CMPM).

**ITEM 14: Supply and Installation of 50-75 kg Rip Rap**

Supply and installation of 50-75kg Rip Rap shall be measured by cubic metre place measure (CMPM).

**ITEM 15: Supply, and Installation of Precast Modular Block Wall:**

The supply and installation of the precast modular block walls shall include design, embedment, leveling pads, drainage, geogrids, geotextiles, and installation and shall constitute a price per square meter of face area prior to filling to finished grade in front of the wall for measurement purposes. shall constitute a lump sum for measurement purposes.

**Division 32****ITEM 16: Asphalt Paving**

Asphalt Paving shall include asphalt placed and compacted including drainage swale and shall constitute a price per tonne of asphalt in place for measurement purposes. All operations required for asphalt paving including but not limited to grading, tack coat, and swale forming shall be included in the unit price. Pavement marking shall be considered incidental to the asphalt paving.

**Division 34****ITEM 17: Guide Rail and Posts**

Supply and installation of guide rail and posts shall be measured for payment by the linear metre of guide rail in place.

**Division 35****ITEM 18: Ladders**

Supply and installation of ladders, including but not limited to timber, galvanized rungs and uprights and hardware shall constitute a price per each ladder.

**ITEM 19: Mooring Cleats**

Supply and installation of mooring cleats shall constitute a price per each mooring cleat.

**Part 3 Products****3.1 NOT USED**

.1 Not Used.

**Part 4 Execution****4.1 NOT USED**

.1 Not Used.

END OF SECTION



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**Part 1      General**

**1.1          ADMINISTRATIVE**

- .1      Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2      Do not proceed with Work affected by submittal until review is complete.
- .3      Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4      Where items or information is not produced in SI Metric units converted values are acceptable.
- .5      Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6      Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7      Verify field measurements and affected adjacent Work are co-ordinated.
- .8      Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9      Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10     Keep one reviewed copy of each submission on site.

**1.2          SHOP DRAWINGS AND PRODUCT DATA**

- .1      The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2      Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Nova Scotia.
- .3      Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other

information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

- .4 Allow 14 calendar days for Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .8 Submissions include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
  - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
  - .5 Details of appropriate portions of Work as applicable:
    - .1 Fabrication.
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .3 Setting or erection details.
    - .4 Capacities.
    - .5 Performance characteristics.
    - .6 Standards.
    - .7 Operating weight.
    - .8 Wiring diagrams.
    - .9 Single line and schematic diagrams.

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.10 Relationship to adjacent work.

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

### **1.3 SAMPLES**

- .1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's office or to other address as directed. Do not drop off samples at construction site except for pre-approved circumstances previously approved by Departmental Representative.
- .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

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**1.4 CERTIFICATES AND TRANSCRIPTS**

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

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**Part 1 General****1.1 REFERENCES**

- .1 Nova Scotia Ministry of Transportation and Infrastructure Renewal
  - .1 Nova Scotia Temporary Workplace Traffic Control Manual - 09 (or latest revision)

**1.2 PROTECTION OF PUBLIC TRAFFIC**

- .1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
- .2 When working on travelled way:
  - .1 Place equipment in position to minimize interference and hazard to travelling public.
  - .2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
  - .3 Do not leave equipment on travelled way overnight.
- .3 Close lanes of road only after receipt of written approval from Departmental Representative.
  - .1 Before re-routing traffic erect suitable signs and devices to Temporary Workplace Traffic Control Manual.
- .4 Keep travelled way graded, free from pot holes and of sufficient width for required number of lanes of traffic.
  - .1 Keep one lane open at all times.
- .5 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, except where other means of road access exist that meet approval of Departmental Representative.

**1.3 INFORMATIONAL AND WARNING DEVICES**

- .1 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.
- .2 Supply and erect signs, delineators, barricades and miscellaneous warning devices to Temporary Workplace Traffic Control Manual.
- .3 Place signs and other devices in locations recommended in Temporary Workplace Traffic Control Manual.
- .4 Meet with Departmental Representative prior to commencement of Work to prepare list of signs and other devices required for project. If

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situation on site changes, revise list to approval of Departmental Representative.

- .5 Continually maintain traffic control devices in use:
  - .1 Check signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
  - .2 Remove or cover signs which do not apply to conditions existing from day to day.

#### 1.4 CONTROL OF PUBLIC TRAFFIC

- .1 Provide competent flag personnel, trained in accordance with, and properly equipped to Temporary Workplace Traffic Control Manual for situations as follows:
  - .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
  - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
  - .3 When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
  - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
  - .5 For emergency protection when other traffic control devices are not readily available.
  - .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
  - .7 At each end of restricted sections where pilot cars are required.
  - .8 Delays to public traffic due to contractor's operators: 15 minutes maximum.
- .2 Where roadway, carrying two-way traffic, is restricted to one lane, for 24 hours each day, provide portable traffic signal system.
  - .1 Adjust, as necessary, and regularly maintain system during period of restriction.
  - .2 Ensure signal system meets requirements of Temporary Workplace Traffic Control Manual.

## Part 2 Products

### 2.1 NOT USED

- .1 Not Used.

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**Part 3      Execution**

**3.1            NOT USED**

.1      Not Used.

**END OF SECTION**

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**Part 1      General**

**1.1          SECTION INCLUDES**

- .1    Fire Safety Requirements.
- .2    Hot Work Permit.
- .3    Existing Fire Protection and Alarm Systems.

**1.2          RELATED SECTIONS**

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

**1.3          REFERENCES**

- .1    National Fire Code 2010.
- .2    National Building Code 2010.

**1.4          DEFINITIONS**

- .1    Hot Work defined as:
  - .1    Welding work.
  - .2    Cutting of materials by use of torch or other open flame devices.
  - .3    Grinding with equipment which produces sparks.
  - .4    Use of open flame torches such as for roofing work.

**1.5          SUBMITTALS**

- .1    Submit a copy of Hot Work Procedures, to Department Representative for review, within 14 calendar days after contract award.
- .2    Submit above documents in accordance with the submittal general requirements specified in Section 01 33 00.

**1.6          FIRE SAFETY REQUIREMENT**

- .1    Implement and follow fire safety measures during work. Comply with following:
  - .1    National Fire Code of Canada 2010.
  - .2    National Building Code of Canada 2010.
  - .3    Federal and Provincial Occupational Health and Safety Acts and Regulations.
- .2    In the event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.



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**1.7 HOT WORK AUTHORIZATION**

- .1 Obtain Departmental Representative's written "Authorization to Proceed" for the performance of Hot Work on site as may be required in the course of Work.
- .2 To obtain authorization, submit to Departmental Representative for review:
  - .1 Contractor's Hot Work Procedures to be followed on site in accordance with clause 1.8 below.
  - .2 Description of the type and frequency of Hot Work required.
  - .3 Sample of Hot Work Permit to be used.
- .3 Upon review and confirmation that effective fire safety measures will be implemented and followed during performance for hot work Departmental Representative will give Authorization to Proceed.
  - .1 Issue one written "Authorization to Proceed" covering the entire project for the duration of work or;
  - .2 Subdivide the work into pre-determined, individual activities, each activity requiring a separately written authorization to proceed.
- .4 Requirement for individual authorization will be based on:
  - .1 Nature or phasing of work;
  - .2 Risk to Facility operations;
  - .3 Quantity of various trades needing to perform hot work on project or;
  - .4 Other situation deemed necessary by Departmental Representative to ensure fire safety on premises.
- .5 Do not perform any Hot Work until receipt of Departmental Representative's written "Authorization to Proceed" for that portion of work.
- .6 In tenant occupied Facility, coordinate performance of Hot Work with Facility Manager through the Departmental Representative. When directed, perform Hot Work only during non-operative hours of the Facility. Follow Departmental Representative's directives in this regard.

**1.8 HOT WORK PROCEDURES**

- .1 Develop and implement safety procedures and work practices to be followed during the performance of Hot Work.
- .2 Hot Work Procedures include:
  - .1 Requirement to perform hazard assessment of site and immediate work area beforehand for each hot work event in accordance with Safety Plan specified in Section 01 35 29.
  - .2 Use of a Hot Work Permit system with individually issued permit by Contractor's Superintendent to worker or subcontractor granting permission to proceed with Hot Work.

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- .3 Permit required for each Hot Work event.
  - .4 Designation of a person on site as a Fire Safety Watcher responsible to conduct a fire safety watch for a minimum duration of 30 minutes immediately following the completion of the Hot Work.
  - .5 Compliance with fire safety codes, standards and occupational health and safety regulations specified.
  - .6 Site specific rules and procedures in force at the site as provided by the Facility Manager.
  - .3 Generic procedures, if used, must be edited and supplemented with pertinent information tailored to reflect specific project conditions. Label document as being the Hot Work Procedures for this contract.
  - .4 Procedures shall clearly establish responsibilities of:
    - .1 Worker performing hot work.
    - .2 Person issuing the Hot Work Permit.
    - .3 Fire Safety Watcher.
    - .4 Subcontractor(s) and Contractor.
  - .5 Brief all workers and subcontractors on Hot Work Procedures and of Permit system. Stringently enforce compliance.

## 1.9 HOT WORK PERMIT

- .1 Hot Work Permit to include the following:
  - .1 Project name and project number;
  - .2 Location and specific area where hot work will be performed;
  - .3 Date of issue;
  - .4 Description of hot work type needed;
  - .5 Special precautions to be followed, including type of fire extinguisher needed;
  - .6 Name and signature of permit issuer.
  - .7 Name of worker to which the permit is issued.
  - .8 Permit validity period not to exceed 8 hours. Indicate start time/date and termination time/date.
  - .9 Worker's signature with time/date of hot work completion.
  - .10 Stipulated time period of safety watch.
  - .11 Fire Safety Watcher's signature with time/date.
- .2 Permit to be typewritten form. Industry Standard forms shall only be used if all data specified above is included on form.
- .3 Each Hot Work Permit to be completed in full, signed and returned to Contractor's Superintendent for safe keeping on site.

## 1.10 FIRE PROTECTION AND ALARM SYSTEMS

- .1 Fire protection and alarm systems shall not be:
  - .1 Obstructed.

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- .2 Shut-off, unless approved by Department Representative.
  - .3 Left inactive at the end of a working day or shift.
  - .2 Do not use fire hydrants, standpipes and hose systems for purposes other than firefighting.
  - .3 Costs incurred, from the fire department, Facility owners and tenants, resulting from negligently setting off false alarms will be charged to the Contractor in the form of financial progress payment reductions and holdback assessments against the Contract.

**1.11 DOCUMENTS ON SITE**

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

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

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**Part 1 General****1.1 SECTION INCLUDES**

- .1 Procedures to isolate and lockout electrical facility or other equipment from energy source.

**1.2 RELATED SECTIONS**

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

**1.3 REFERENCES**

- .1 CSA C22.1-12, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.
- .2 CAN/CSA-C22.3 No.1-15, Overhead Systems.
- .3 CSA C22.3 No.7-15, Underground Systems.
- .4 COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.

**1.4 DEFINITIONS**

- .1 Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons.
- .2 Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment is isolated.
- .3 De-energize: in the electrical sense, that a piece of equipment is isolated and ground, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD).
- .4 Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, inaccessible by location, or otherwise protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such an item.
- .5 Isolate: means that an electrical facility, mechanical equipment or piece of machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.
- .6 Live/alive: means that an electrical facility produces, contains, stores, or is electrically connected to a source of alternating or

direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

### 1.5 COMPLIANCE REQUIREMENTS

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

### 1.6 SUBMITTALS

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

### 1.7 ISOLATION OF EXISTING SERVICES

- .1 Obtain Department Representative's written authorization prior to working on existing live or active electrical facilities and equipment and before proceeding with isolation of such item.
- .2 To obtain authorization, submit to Department Representative the following documentation:
  - .1 Written request for isolation of the service or facility and;
  - .2 Copy of Contractor's Lockout Procedures.
- .3 Make a Request for Isolation for each event, unless directed otherwise by Department Representative and as follows:
  - .1 Fill-out standard forms in current use at the Facility when so directed by Department Representative or;
  - .2 Where no form exists at Facility, make request in writing identifying:
    - .1 The equipment, system or service to be isolated and its location.
    - .2 Duration of isolation period (i.e.: start time & date and completion time & date).
    - .3 Voltage of service feed to system or equipment being isolated.
    - .4 Name of person making the request.

- .4 Do not proceed with isolation until receipt of written notification from Departmental Representative granting the Isolation Request and authorization to proceed with the work.
  - .1 Note that Department Representative may designate another person at the Facility being authorized to grant the Isolation Request.
- .5 Conduct safe, orderly shutdown or equipment of facility. De-energize, isolate and lockout power and other sources of energy feeding the equipment or facility.
- .6 Determine in advance, as much as possible, in cooperation with the Department Representative, the type and frequency of situations which will require isolation of existing services.
- .7 Plan and schedule shut down of existing services in consultation with the Department Representative and the Facility Manager. Minimize impact and downtime of Facility operations. Follow Department Representative's directives in this regard.
- .8 Conduct hazard assessments as part of the process in accordance with health and safety requirements specified in Section 01 35 29.

## 1.8 LOCKOUTS

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

- .7 Collecting and safekeeping lockout tags returned by workers as a record of the events.
- .5 Clearly establish, describe and allocate responsibilities of:
  - .1 Workers.
  - .2 Person managing the lockout permit system.
  - .3 Safety Watcher.
  - .4 Subcontractor(s) and General Contractor.
- .6 Generic procedures, if used, must be edited and supplemented with pertinent information to reflect project requirements.
  - .1 Incorporate site specific rules and procedures in force at site as provided by Facility Manager through the Department Representative.
  - .2 Clearly label the document as being the Lockout procedures applicable to work of this contract.
- .7 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.
- .8 Use industry standard lockout tags.
- .9 Provide appropriate safety grounding and guards as required.

**1.9 CONFORMANCE**

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

**1.10 DOCUMENTS ON SITE**

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

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1 General****1.1 RELATED WORK**

- .1 Submit to Departmental Representative copies of the following documents, including updates:
  - .1 Site Specific Health and Safety Plan.
  - .2 Building Permit, compliance certificates and other permits obtained.
  - .3 Reports or directions issued by Federal, Provincial or other authority having jurisdiction.
  - .4 Accident or Incident Reports.
  - .5 MSDS data sheets.
  - .6 Name of Contractor's Representative designated to perform full time health and safety supervision on site.
- .2 Upon request by Departmental Representative, submit reports and other documentation as stipulated to be produced and maintained by Federal and Provincial Occupational Health and Safety Regulations and as specified herein.
- .3 Submit above documents in accordance with Section 01 33 00 - Submittal Procedures.

**1.2 DEFINITIONS/COMPLIANCE REQUIREMENTS**

- .1 Comply with the Occupational Health and Safety Act for the Province of Nova Scotia, and the Occupational Health and Safety Act Regulations made pursuant to the Act.
- .2 COSH: Comply with Canada Labour Code Part II, and the Canada Occupational Safety and Health Regulations made under Part II of the Canada Labour Code.
- .3 Observe and enforce construction safety measures required by:
  - .1 National Building Code of Canada.
  - .2 Provincial Worker's Compensation Board.
  - .3 Municipal statutes and ordinances.
- .4 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.
- .5 A copy of the Canada Labour Code Part II may be obtained by contacting:

Canadian Government Publishing  
Public Works & Government Services Canada  
Ottawa, Ontario, K1A 0S9 Tel: 1-800-635-7943



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- .6 Maintain Workers Compensation Coverage for duration of Contract. Submit Letter of Good Standing to Departmental Representative upon request.
- .7 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.
  - .2 Knowledgeable about the provisions of the occupational health and safety statutes and regulations that apply to the work.
  - .3 Knowledgeable about potential or actual danger to health and safety associated with the work.
- .8 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by the Workers' Compensation Board of the province in which the injury was incurred.
- .9 PPE: Personal Protective Equipment.
- .10 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 associates with the performance of the work.

### 1.3 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit site-specific health and safety plan prior to commencement of work.
- .3 Review clause 1.12 (Health and Safety Plan) of this Section.

### 1.4 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, of property and for protection of persons and public circulating adjacent to work operations to extent that they may be affected by conduct of the Work.
- .2 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 statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

### 1.5 SITE CONTROL AND ACCESS

- .1 Control work site and entry points to construction areas.

- .1 Delineate and isolate construction areas from other areas of site by use of appropriate means.
- .2 Post notices and signage at entry points and at other strategic locations identifying entrance onto site to be restricted to authorized persons only.
- .3 Signage must be professionally made, bilingual in both official languages or display internationally understood graphic symbols.
- .4 Approve and grant access to site only to workers and authorized persons.
  - .1 Immediately stop non-authorized persons from circulating in construction areas and remove from site.
  - .2 Provide site safety orientation to all persons before granting access. Advise of site conditions, hazards and mandatory safety rules to be observed on site.
- .5 Secure site at night time to extent required to protect against unauthorized entry. Provide security guard where protection cannot be achieved by other means.
- .6 Ensure persons granted access to site wear appropriate personal protective equipment (PPE) suitable to work and site conditions.
  - .1 Provide such PPE to authorized persons who require access to perform inspections or other approved purposes.

**1.6 PROTECTION**

- .1 Carry out work placing emphasis on health and safety of the Public, Facility personnel, construction workers and protection of the environment.
- .2 Erect safety barricades, lights and signage on site to effectively delineate work areas, protect pedestrian and vehicular traffic around and adjacent to work and to create a safe working environment.
  - .1 Erect fences, hoarding protective barrier and temporary lighting as required. See Section 01 50 00 for minimum acceptable barricades.
- .3 Should unforeseen or peculiar safety related hazard or condition become evident during performance of work, immediately take measures to rectify the situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

**1.7 FILING OF NOTICE**

- .1 File Notice of Project and other Notices with Provincial authorities prior to commencement of Work.
  - .1 Departmental Representative will assist in locating address for Filing Notice of Project if needed.

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**1.8 PERMITS**

- .1 Post on site permits, licenses, compliance certificates specified in section 01 10 10.
- .2 Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify Departmental Representative in writing and obtain his/her approval to proceed before carrying out that portion of work.

**1.9 HAZARD ASSESSMENTS**

- .1 Conduct site specific health and safety hazard assessment before commencing project and during course of the work. Identify risks and hazards resulting from site conditions, weather conditions and work operations.
  - .1 Perform on-going assessments addressing new risks and hazards as work progresses including when new subtrade or subcontractor arrives on site.
  - .2 Also, conduct assessment when the scope of work has been changed by Change Order and when potential hazard or weakness in current health and safety practices are identified by Departmental Representative or by an authorized safety Representative.
- .2 The following are known or potential project-related safety hazards at site:
  - .1 Overhead wiring.
  - .2 Construction traffic.
  - .3 Uneven road conditions during construction.
  - .4 Working over or near water.
  - .5 Unstable ground conditions.
  - .6 Stability of existing wharf and walkway structures.
  - .7 Tide fluctuations.
- .3 Above list shall not be construed as being complete and inclusive of safety and health hazards encountered as a result of Contractor's operations during the course of work. Include above items into the hazard assessment program specified herein.
- .4 Record results in writing and address in Health and Safety Plan.
- .5 Keep copies of all assessments on site.

**1.10 PROJECT/SITE CONDITIONS**

- .1 Obtain from Departmental Representative, copies of all MSDS Data sheets for existing hazardous products stored on site or used by Facility personnel.

- .2 Obtain from supplier all MSDS Data sheets for construction products and provide a copy easily accessible to all people access the site.

#### 1.11 HEALTH AND SAFETY MEETINGS

- .1 Attend pre-construction health and safety meeting conducted by Departmental Representative. Review and sign the Project Management Safety Orientation Checklist provided by the Departmental Representative.
  - .1 Departmental Representative will advise on the date, time and location of the meeting.
  - .2 Have the following persons in attendance:
    - .1 Site Superintendent.
    - .2 Contractor's designated Health and Safety Site Supervisor.
- .2 Conduct health and safety meetings and tool box briefings on site. Hold on a regular and pre-scheduled basis during entire work in accordance with requirements and frequency as stipulated in provincial occupational health and safety regulations.
  - .1 Keep workers informed of potential hazards and provide safe work practices and procedures to be followed.
  - .2 Take written minutes and post on site.

#### 1.12 HEALTH AND SAFETY PLAN

- .1 Develop written, site-specific Project Health and Safety Plan based on hazard assessments prior to commencement of work.
  - .1 Submit copy to Departmental Representative within 7 calendar days of acceptance of bid.
  - .2 Submit updates as work progresses.
- .2 Health and Safety Plan shall contain three (3) parts with the following information:
  - .1 Part 1 - Hazards: List of individual health risks and safety hazards identified by hazard assessment process.
  - .2 Part 2 - Safety Measures: engineering controls, personal protective equipment and safe work practices used to mitigate hazards and risks listed in Part 1 of Plan.
  - .3 Part 3a: Emergency Response: standard operating procedures, evacuation measures and emergency response in the occurrence of an accident, incident or emergency.
    - .1 Include response to all hazards listed in Part 1 of Plan.
    - .2 Evacuation measures to complement the Facility's existing Emergency Response and Evacuation Plan. Obtain pertinent information from Departmental Representative.
    - .3 List names and telephone numbers of officials to contact including:
      - .1 General Contractor and all Subcontractors.

HEALTH AND SAFETY REQUIREMENTS

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- .2 Federal and Provincial Departments as stipulated by laws and regulations and local emergency resource organizations, as needed based on nature of emergency or accident.
- .3 Officials from PWGSC and site Facility management. Departmental Representative will provide list.
- .4 Part 3b - Site Communications:
  - .1 Procedures used on site to share work related safety issues between workers, subcontractors, and General Contractor.
  - .2 List of critical tasks and work activities, to be communicated with the Facility Manager, which has risk of affecting tenant operations, or endangering health and safety of Facility personnel and the general public. Develop list in consultation with the Departmental Representative.
- .3 Prepare Health and Safety Plan in a three column format, addressing the three parts specified above, as follows:

Column 1	Column 2	Column 3
Part 1	Part 2	Part 3a/3b
Identified Hazards	Safety Measures	Emergency Response
		Site Communications
- .4 Develop Plan in collaboration with subcontractors. Address work activities of all trades. Revise and update Plan as Sub-contractors arrive on site.
- .5 Implement and enforce compliance with requirements of Plan for full duration of work to final completion and demobilization from site.
- .6 As work progresses, review and update Plan. Address additional health risks and safety hazards identified by on-going hazard assessments.
- .7 Post copy of Plan, and updates, on site.
- .8 Submission of the Health and Safety Plan, and updates, to the Departmental Representative is for review and information purposes only. Departmental Representative's receipt, review and any comments made of the Plan shall not be construed to imply approval in part or in whole of such Plan by Departmental Representative and shall not be interpreted as a warranty of being complete and accurate or as a confirmation that all health and safety requirements of the Work have been addressed and that it is legislative compliant. Furthermore, Departmental Representative's review of the Plan shall not relieve the Contractor of any of his legal obligations for Occupational Health and Safety provisions specified as part of the Work and those required by provincial legislation.

**1.13 SAFETY SUPERVISION AND INSPECTIONS**

- .1 Designate one person to be present on site at all times, responsible for supervising health and safety of the Work.
  - .1 Person to be competent in Occupational Health and Construction Safety as defined in the Provincial Occupational Health and Safety Act.
- .2 Assign responsibility, obligation and authority to such designated person to stop work as deemed necessary for reasons of health and safety.
- .3 Conduct regularly scheduled informal safety inspections of work site on a minimum bi-weekly basis.
  - .1 Note deficiencies and remedial action taken in a log book or diary.
- .4 Keep inspection reports on site.

**1.14 TRAINING**

- .1 Ensure that all workers and other persons granted access to site are competently trained and knowledgeable on:
  - .1 Safe use of tools and equipment including Operator's Rigging Competency for lifting operations.
  - .2 How to wear and use personal protective equipment (PPE).
  - .3 Safe work practices and procedures to be followed in carrying out work.
  - .4 Site conditions and minimum safety rules to be observed on site, as given at site orientation session.

**1.15 MINIMUM SITE SAFETY RULES**

- .1 Notwithstanding the requirement to abide by federal and provincial health and safety regulations, the following safety rules shall be considered minimum requirements to be obeyed by all persons granted site access:
  - .1 Wear personnel protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat, safety footwear and eye protection. Hearing protection and respiratory protection shall be worn as required.
  - .2 Immediately report unsafe activity or condition at site, near-miss accident, injury and damage.
  - .3 Maintain site in tidy condition.
  - .4 Obey warning signs and safety tags.
- .2 Brief workers on site safety rules and on disciplinary measures to be taken by Departmental Representative for violation or non-compliance of such rules. Post rules on site.

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- .3 The following actions or conduct by Contractor, workers and subcontractors will be considered as non-conformance with the health and safety requirements of the contract for which a Non-Compliance Notification will be issued to the General Contractor by the Departmental Representative:
    - .1 Failure to follow the minimum site safety rules specified above.
    - .2 Negligence resulting in serious injury or major property damage.
    - .3 Deliberate non-compliance with Federal and Provincial Acts and Regulations.
    - .4 Falsification of information in Workers Compensation Reports, safety reports and other health and safety related documents submitted to Departmental Representative or to Authority having jurisdiction.
    - .5 Possession of firearms on site.
    - .6 Possession of non-prescriptive illegal drugs or alcohol.
    - .7 Action, or lack thereof, resulting in the issuance of Warnings, Fines or Stop Work Orders from a Provincial Authority having jurisdiction.
    - .8 Violation of other specified health and safety rules and requirements as determined by Departmental Representative.
  - .4 See elsewhere in this section for details on Non-Compliance Notifications and resulting disciplinary measures.

## 1.16 INCIDENT REPORTING

- .1 Investigate and report the following incidents:
  - .1 Those as required by Provincial Occupational Safety and Health Act and Regulations.
  - .2 Injury requiring medical aid as defined in the Canadian Dictionary of Safety Terms-1987, published by the Canadian Society of Safety Engineers (C.S.S.E) as follows:
    - .1 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.
    - .2 Property damage in excess of \$5000.00.
    - .3 Interruption to Facility operations.
    - .4 Those which require notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable law or regulations.
- .2 Send written report to Departmental Representative for all above cases.

**1.17 TOOLS AND EQUIPMENT SAFETY**

- .1 Routinely check and maintain tools, equipment and machinery for safe operation.
- .2 Conduct checks as part of site safety inspections. When requested, submit proof that checks and maintenance have been carried out.
- .3 Tag and immediately remove from site items found faulty or defective.

**1.18 HAZARDOUS PRODUCTS**

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

**1.19 POWDER ACTUATED DEVICES**

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

**1.20 CONFINED SPACES**

- .1 Carry out work in confined spaces in compliance with:
  - .1 Provincial Occupational Safety and Health Regulations and;
  - .2 Canada Occupational Safety and Health Regulations (COSH) made under the Canada Labour Code - Part II.
- .2 Conduct hazard assessment and address in Safety Plan before entering confined space.
- .3 Provide and maintain equipment and PPE as required for the safety and emergency evacuation of persons entering confined spaces.
- .4 Provide training to persons who will be entering and to those persons who will be assisting in the confined space entry process. Training to be specialized instructions beyond (basic confined space entry information) as required to suit type and conditions of confined space.
- .5 Safety for Inspectors:
  - .1 Upon request, provide PPE and training to Departmental Representative and to other authorized persons, for the purpose of entering confined space to conduct inspections.
  - .2 Be responsible for the efficacy of the equipment and safety of such persons during their entry and occupancy in the confined space.



**1.21 POSTING OF DOCUMENTS**

- .1 Post on site safety documentation as stipulated by Authorities having jurisdiction and as specified herein. Place in a common visible location.

**1.22 SITE RECORDS**

- .1 Maintain on site a copy of all health and safety documentation and reports specified to be produced as part of the work and received from authorities having jurisdiction.
- .2 Upon request, make available to Departmental Representative and to other authorized safety representative for review. Provide copy when directed by Departmental Representative.

**1.23 NON COMPLIANCE AND DISCIPLINARY MEASURES**

- .1 Immediately address and correct 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 are not corrected in a timely manner.

**Part 2 Materials****2.1 NOT USED.**

- .1 Not used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

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**Part 1 General****1.1 RELATED WORK**

- .1 Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

**1.2 REFERENCES**

- .1 Canada Shipping Act, Transport Canada, 2001, amended 2013-12-01.
- .2 Canadian Coast Guard Regulations, Fisheries and Oceans Canada.
- .3 Canadian Environmental Assessment Act, 2012, amended 2013-11-25.
- .4 Canadian Environmental Protection Act, 1999, amended on 2014-03-28.
- .5 Fisheries Act, 1985, Fisheries and Oceans Canada, amended 2013-11-25.
- .6 Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters, 1998.
- .7 Migratory Birds Convention Act, 1994, Environment Canada, amended 2010-12-10.
- .8 Navigation Protection Act, 1985. Transport Canada, amended 2014-04-01.
- .9 Nova Scotia Environment Act.
- .10 Species at Risk Act, 2002, amended 2013-03-08.
- .11 The Federal Policy on Wetland Conservation, 1991, Environment Canada.
- .12 Transportation of Dangerous Goods Act, 1992, Transport Canada, amended 2009-06-16.
- .13 WHMIS: Workplace Hazardous Materials Information System, Health Canada.
- .14 American Wood Preservers' Association (AWPA)
  - .1 AWPA M2-15, Standard for Inspection of Treated Wood Products.
  - .2 AWPA M4-15, Standard for the Care of Preservative-Treated Wood Products.

**1.3 DEFINITIONS**

- .1 Archaeological resource: 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.

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- .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: a canal and any other body of water created or altered as a result of the construction of any work.
  - .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.
  - .10 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.

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**1.4 TRANSPORTATION**

- .1 Transport hazardous materials and hazardous waste in compliance with Federal Transportation of Dangerous Goods Act.
- .2 Eliminate free board spillage when excavating, loading and hauling dredged material and marine sediments.
- .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. Take extra care when hauling materials. Immediately clean any ground spills and soils to extent as directed by authority having jurisdiction.
- .7 Before commencement of work, advise and seek approval from the Departmental Representative of the existing roads and temporary routes/roads (including the construction of any temporary causeways or access roads for the purposes of dredging) proposed to be used to access work areas and to haul material to and from the site, including roads to the stockpiled removals final disposal site.
- .8 Construction material and debris is not to become waterborne.
- .9 Vessels are to be permitted safe access through the worksite at all times, and assisted as necessary.
- .10 All materials and equipment used in construction must be marked in accordance with the Collision Regulations of the *Canada Shipping Act, 2001* when located on the waterway.
- .11 Advise the Canadian Coast Guard, Marine Communication and Traffic Services (MCTS) at (902) 564-7751 or toll free at 1-800-686-8676 sufficiently in advance of commencement of work or when deploying or removing site markings in order to allow for appropriate Notices to Shipping/Mariners action.

**1.5 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 Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the water body.
- .3 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.

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**1.6 STORAGE OF STOCKPILED REMOVALS**

- .1 Excavated materials Type A and Type B are to be stockpiled separately.
- .2 Store stockpiled excavated materials Type A and Type B on site. Stockpile location will be approved by the Departmental Representative prior to stockpiling activities. Obtain approval from the Departmental Representative prior to any reuse and disposal of stockpiled material.
- .3 Excavated materials Type C and Type D are to be removed from site and disposed of as soon as possible.
- .4 The contractor is responsible for:
  - .1 Constructing berms to contain the material; and
  - .2 Implementing erosion and sediment controls.
- .5 Water that decants from the stockpiles shall not enter any freshwater waterways or wells.
- .6 Control runoff of water containing suspended materials or other harmful substances in accordance with requirements of all federal, provincial and municipal authorities having jurisdiction.
- .7 Excess stockpiled Type B material removals must be disposed of prior to September 30, 2017.

**1.7 DISPOSAL OF EXCESS STOCKPILE REMOVALS**

- .1 If soil sampling conducted by Departmental Representative indicates that the excess removals remaining in stockpiles of excavated materials Type A or Type B exceeds applicable guidelines the contractor will be required to coordinate with the Nova Scotia Department of Environment to identify an appropriate disposal site.
- .2 The disposal activities of excess excavated material exceeding applicable guidelines will require approval from the Departmental Representative.

**1.8 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 the ground or in the water.
- .3 Be diligent and take all necessary precautions to avoid spills and contamination of the soil and water (both surface and subsurface) when handling petroleum products on site and during fueling and servicing of vehicles and equipment.

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- .4 Maintain on site appropriate emergency spill response equipment consisting of at least one 250 litre (55 gallon) overpack 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 and the Canadian Coast Guard (CGC) at 1-800-565-1633 (24 hour report line). Perform cleanup 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.

**1.9 HAZARDOUS MATERIAL HANDLING**

- .1 Handle and store hazardous materials on site in accordance with WHMIS procedures and requirements and all other applicable federal and provincial regulations, codes, standards and guidelines. Store materials 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 stored.
- .4 Store and handle flammable and combustible materials in accordance with the National Fire Code of Canada.
- .5 Store all hazardous liquids in location and manner to prevent their spillage into the environment.

**1.10 DISPOSAL OF WASTES**

- .1 Do not bury rubbish, construction and demolition debris (i.e., concrete, creosote timbers, steel, impacted soil materials etc.) or 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 Division 02 specifications.
- .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.

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- .4 Dispose of hazardous waste in accordance with applicable federal and provincial regulations, codes, standards, and guidelines.
- .5 Dispose of hazardous waste in accordance with applicable federal and provincial regulations, codes, standards, and guidelines.
- .6 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 Environment and other authorities having jurisdiction.

**1.11 WATER QUALITY**

- .1 Conduct excavation of a watercourse in such a manner to limit turbidity and reduce sediment suspension in the water to an absolute minimum at all times.
  - .1 Maintain appropriate production speed and momentum of the excavation equipment. Make adjustments as required and as approved by the Departmental Representative.
  - .2 Strategically position excavator equipment and haul vehicles to avoid over the water swings of dredged material whenever possible.
  - .3 Restrict the amount of material dredged to the area and depth required per the project plans to accommodate the new timber crib and rock mattress contract limits.
  - .4 No bottom stockpiling, dragging or side casting material during excavation allowed.
- .2 Where work may affect the water quality adjacent to water intake lines used by lobster holding facilities, fish processing facilities and any other harbour users, schedule work in cooperation with the Harbour Authority as directed by the Departmental Representative to minimize interference and impact to harbour users.
- .3 Do not wash down equipment within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
- .4 Where required, install effective sediment control measures before starting work to prevent the entry or re-suspension of sediment in the water body. Inspect sediment control measures regularly to ensure they are functioning properly, and make all necessary repairs if damage occurs. Upon completion of use, remove these control measures in a way that prevents the escape of settled sediment.

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- .5 Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the water body during all phases of the work. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the water body or settling basin and runoff water is clear. The plan should, where applicable, include:
    - .1 Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering the water body.
    - .2 Measures for managing water flowing onto the site, as well as water being pumped/diverted from the site such that sediment is filtered out prior to the water entering a water body. For example, pumping/diversion of water to a vegetated area, construction of a settling basin or other filtration system.
    - .3 Site isolation measures (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., dredging).
    - .4 Measures for containing and stabilizing waste material (e.g. dredging spoils/harbour bottom sediments, construction waste and materials, uprooted or cut aquatic plants, accumulated debris) above the high-water mark of nearby water bodies to prevent re-entry.
    - .5 Regular inspection and maintenance of erosion and sediment control measures and structures during the course of the work.
    - .6 Repairs to erosion and sediment control measures and structures if damage occurs.
    - .7 Removal of non-biodegradable erosion and sediment control materials once the site is stabilized against further release.

**1.12 WATER CONTAMINATION BY PRESERVATIVE TREATED WOOD**

- .1 Preservative treated lumber and timber, whether plant or site treated, shall be cured for a minimum of 30 days from date of treatment application before their installation in areas which will be in contact with the water.
- .2 Do not cut treated wood lumber over the surface of a watercourse or wetland.
- .3 Do not use liquid applied preservative products over the surface of a watercourse or wetland.
- .4 Wood treated with Chromate Copper Arsenate (CCA) or Ammoniac Copper Zinc Arsenate (ACZA) must be CSA or American Wood Preserver Association (AWPA) approved.
- .5 Do not use timber and lumber treated with creosote, petroleum, or pentachlorophenol for any part of the work.



ENVIRONMENTAL PROTECTION PROCEDURES  
FOR MARINE WORK**1.13 BLASTING**

- .1 Avoid using explosives in or near the water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.
- .2 If explosives are required as part of the project (e.g. removal of bedrock for structure installation), the potential impacts to fish and fish habitat should be minimized by implementing the following measures:
  - .1 Blast only at low tide when the harbour bottom is dry.
  - .2 Minimize blast charge weights used and subdivide each charge into a series of smaller charges in blast holes (i.e. decking) with a minimum 25 millisecond (1/1000 second) delay between charge detonations.
  - .3 Back-fill blast holes (stemmed) with sand or gravel to grade to confine the blast.
  - .4 Place blasting mats over top of holes to minimize scattering of blast debris around the area.
  - .5 Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
  - .6 Remove all blasting debris and other associated equipment/products from the blast area.

**1.14 SOCIOECONOMIC RESTRICTIONS**

- .1 Must abide by municipal and provincial regulations for any restrictions on work performed during the night time and on flood lighting of the site. Obtain applicable permits.
- .2 Place flood lights in opposite direction of adjacent residential and business areas.
- .3 Equip equipment and machinery with purposely designed mufflers to reduce noise on site to lowest possible level. Maintain mufflers in good operating condition at all times.

**1.15 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 Must minimize disturbance to all birds on site and adjacent areas during the entire course of the Work.
- .3 Do not approach concentrations of seabirds, waterfowl and shorebirds when anchoring equipment, accessing wharves or ferrying supplies.
- .4 During night time work, position flood lights in opposite direction of nearby bird nesting habitat.

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- .5 Do not use beaches, dunes and other natural previously undisturbed areas of the site to conduct work unless specifically approved by the Departmental Representative.
  - .6 Should nests of migratory birds in wetlands be encountered during work, immediately notify Departmental Representative for directives to be followed.
    - .1 Do not disturb nest sites 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.

**1.16 FISH PROTECTION**

- .1 Minimize disturbance of ground in or adjacent to waterways during wet, windy and rainy periods that may increase erosion and sedimentation.
- .2 Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.
- .3 Screen any water intakes or outlet pipes to prevent entrainment or impingement of fish. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when an entrapped fish is held in contact with the intake screen and is unable to free itself.
- .4 Be aware of the risk for contamination of the fish habitat at the site as a result of alien species being introduced into the water.
- .5 To minimize the possibility of fish habitat contamination and the spread of aquatic invasive (alien species), all construction equipment which will be immersed into the water of a watercourse, or has the possibility of coming into contact with such water during the course of the work, must be cleaned and washed to ensure that they are free of marine growth and alien species.
  - .1 Equipment shall include boats, barges, cranes, excavators, haul trucks, pumps, pipe lines and other plant and all miscellaneous tools and equipment previously used in a marine environment.
- .6 Cleaning and washing of equipment shall be performed immediately upon their arrival at the site and again before use in or over the body of water.
- .7 Conduct cleaning and washing operations as follows:
  - .1 Scrape and remove heavy accumulation of mud and dispose appropriately.
  - .2 Wash all surfaces of equipment by use of a pressurized fresh water supply.

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- .3 Immediately follow with application of a heavy sprayed coating of undiluted vinegar or other environmentally approved cleaning agent to thoroughly remove all plant matter, animal matter and sediments.
  - .4 Check and remove all plant, animal and sediment matter from all bilges and filters.
  - .5 Drain standing water from equipment and let fully dry before use.
  - .6 Upon removal from the water, drain standing water from equipment and let fully dry before removal off the site.
  - .8 Do not perform cleaning and wash down within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
  - .9 Record of Assurance Logbook:
    - .1 Maintain an on-going log of past and present usage and wash down of all equipment to illustrate mitigation measures undertaken against fish habitat contamination by alien species.
    - .2 Write data in a hard cover bound logbook and include the following:
      - .1 Date and location where equipment was previously used in a watercourse or wetland.
      - .2 Type of work performed.
      - .3 Dates of wash down for each piece of equipment.
      - .4 Cleaning method and cleaning agent(s) used.
    - .3 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to Departmental Representative for review.
  - .10 Abide by requirements and recommendations of the Federal Department of Environment and the Department of Fisheries and Oceans - Habitat Protection and Sustainable Development Branch in cleaning and wash down of equipment.

**1.17 AIR QUALITY**

- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
- .2 Apply dust control measures to roads, parking lots and work areas. Dust suppression by the application of water must be employed, when required. The Departmental Representative shall determine location where water is to be applied, the amount of water to be applied, and the times at which it shall be applied.
- .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.

**ENVIRONMENTAL PROTECTION PROCEDURES  
FOR MARINE WORK**

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- .4 Do not use oil or any other petroleum products for dust control under any circumstances.

**1.18 FIRES**

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

**1.19 ARCHAEOLOGICAL RESOURCES**

- .1 All construction personnel are responsible for reporting any unusual materials unearthed during construction to the contractor 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 dredging or 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 Nova Scotia Department of Communities, Culture and Heritage, Special Places Program, telephone: (902) 424-6475.
- .3 Work can only resume in the vicinity of the find when authorized by the PWGSC Project Manager and Departmental Representative, after approval has been granted by the Nova Scotia 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 the nearest law enforcement agency will be contacted immediately by the PWGSC Project Manager, the Departmental Representative and/or the contractor Construction Supervisor.

**1.20 DEMOBILIZATION**

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

**Part 2 Materials****2.1 NOT USED.**

- .1 Not used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1 General****1.1 INSPECTION**

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

**1.2 INDEPENDENT INSPECTION AGENCIES**

- .1 Independent Inspection/Testing Agencies will be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for re-testing and re-inspection.

**1.3 ACCESS TO WORK**

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

**1.4 PROCEDURES**

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

**1.5 REJECTED WORK**

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

**1.6 REPORTS**

- .1 Submit 2 copies of inspection and test reports to Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested.

**1.7 TESTS AND MIX DESIGNS**

- .1 Furnish test results and mix designs as requested.
- .2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by Departmental Representative and may be authorized as recoverable.

**1.8 MILL TESTS**

- .1 Submit mill test certificates as requested.

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**1.9 EQUIPMENT AND SYSTEMS**

- .1 Submit adjustment and balancing reports for mechanical, and electrical systems.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1 General**

**1.1 SECTION INCLUDES**

- .1 Requirements for temporary facilities, site access and enclosures.

**1.2 REFERENCES**

- .1 CAN3-Z321-96(R2006), Signs and Symbols for the Occupational Environment.

**1.3 SITE ACCESS AND PARKING**

- .1 Contractor's access to project site as well as parking facilities for equipment and workers will be by arrangement with the Harbour Authority via the Departmental Representative.
- .2 The Contractor is advised that while parking facilities for his workers and subcontractors will be arranged with the Harbour Authority, such parking facilities may be remote from the actual site of the work. Follow all instructions from the Harbour Authority and Departmental Representative in regards to parking facilities.
  - .1 Parking facilities at site are limited.
- .3 Build and maintain temporary access roads and provide snow removal and dust control during period of work.
- .4 Maintain existing roads and parking areas at site for duration of contract, where used by Contractor.
  - .1 Keep asphalt surfaces 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 landscaping on site.
- .5 The contractor is to maintain full access to the work site. Should a court injunction be required ordering a person or group to refrain from impeding access to the site, such as a demonstration, picketing or union action, then obtaining the injunction and any associated costs will be considered incidental to this contract. Any delays associated with such activity will be considered incidental to this contract.

**1.4 CONTRACTOR'S SITE OFFICE**

- .1 Be responsible for and provide own site office, if required, including electricity, heat, lights and telephone. Locate site office, if required, as directed by Departmental Representative.
  - .1 Establish on the site of the work and keep open at all times during the execution of the work an office where all letters,



TEMPORARY FACILITIES

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orders, notices and other communications may be received or acknowledged either by the contractor or his authorized agent or representative.

- .2 Keep one up-to-date copy of contract documents, bulletins and other materials as specified under Section 01 10 10.

**1.5 DEPARTMENTAL REPRESENTATIVE'S SITE OFFICE**

- .1 Provide temporary office for sole use of Departmental Representative, complete with heat and lights. Insulated office required during October to May. Locate on or adjacent to site.
- .2 Inside dimensions minimum 5 m long x 3 m wide x 2.4 m high, with floor minimum 0.3m above grade, complete with four 50% opening windows and one lockable door.
- .3 Arrange and pay for telephone and internet service in Departmental Representative's office for the Departmental Representative's exclusive use. Long distance calls placed on this phone by the Departmental Representative will be paid for by Departmental Representative.
- .4 Washroom facilities not required in the office. Provide outside sanitary facilities to approval.
- .5 Equip office with six chairs, flat 1200 x 2400 x 25 table with writing surface and 4 drawer lockable filing cabinet.
- .6 Maintain in clean condition.

**1.6 MATERIAL STORAGE**

- .1 Material storage space on site is limited. Coordinate delivery to minimize storage period on site before being needed for incorporation into work.
- .2 Provide adequate weather tight sheds with raised floors for storage of materials, tools and equipment which are subject to damage by weather.
- .3 Contractor responsible for securing and obtaining approval from the Departmental Representative and Harbour Authority for the use of on-site storage areas.
- .4 Contractor responsible for securing and obtaining approval from third parties for the use of any required off-site storage areas.

**1.7 SITE ENCLOSURES**

- .1 Provide temporary fence to enclose various construction areas of work site.
- .2 Erect plastic mesh fence constructed as follows:
  - .1 1200mm minimum height, constructed of high density polyethylene mesh fence fabric, orange in colour.

- .2 Supported by steel T-bar posts or other similar framing, of sufficient quantity, adequate spacing and set firmly in ground to secure fence against sags.
- .3 Inspect fence regularly, repairing sags and damaged sections.
- .4 Incorporate within fence one operable truck gate and one pedestrian gate at each access point to site.
- .3 Make all gates lockable and provide keyed padlocks.
- .4 Obtain Departmental Representative's approval beforehand of location and layout of all temporary fence enclosures.
- .5 Provide battery powered lanterns around the perimeter of the site enclosure to clearly mark its location at night.
- .6 Provide warning signs affixed to all fenced areas, identifying those enclosed areas as "Construction Zones" with access restricted to only those persons so authorized by the General Contractor.
- .7 Do not construe fencing as an acceptable replacement for pedestrian walkway and hoarding requirements specified below.

#### 1.8 PEDESTRIAN WALKWAYS AND HOARDING

- .1 Ensure maximum safety and security to facility users during the course of the work.
- .2 Maintain access and egress to all adjacent building entrances, driveways, and fire exits to remain in use.
- .3 Adequately frame and brace hoarding and walkways to resist wind, and other weather or site conditions.
- .4 Erect such protective devices during Facility's non-operationsl off hour periods.
- .5 Obtain Departmental Representative's concurrence prior to removal of hoarding and walkways.

#### 1.9 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 Prior to the use of any local permanent sanitary facilities by Contractor forces, make arrangements with owners of said facilities through Departmental Representative and Harbour Authority. Do not use any permanent sanitary facilities unless express permission in writing is received from owner of facilities.

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**1.10 ENCLOSURE OF STRUCTURES**

- .1 Design all temporary structure enclosures to withstand wind pressure and snow loading and any other forces required by applicable codes and standards.

**1.11 POWER AND LIGHTING**

- .1 Power supply is available and may be provided for construction use.
  - .1 Prior to use of local power supply, make arrangements for the use of said service through the Departmental Representative and Harbour Authority.
  - .2 DFO/SCH and the Harbour Authority will designate and approve each location of existing power source to which connections can be made to obtain temporary power service.
  - .3 Connect to existing power supply in accordance the Canadian Electrical Code - Latest Edition.
- .2 Provide and maintain temporary lighting to conduct work. Ensure illumination level is not less than 162 lx in all locations.

**1.12 WATER SUPPLY**

- .1 Water supply is available on site. Contractor to make own arrangements and obtain written approval for the use and transportation of such services to the work area through the Harbour Authority.
  - .1 If written permission is not obtained or is rescinded, Contractor to supply own water for all aspects of the work.
- .2 Contractor to make provisions for own water supply for concrete curing and dust control during road work, should they be required, in advance of the start of these activities.

**1.13 SECURITY**

- .1 Contractor to make his own arrangements for security of his equipment, materials, and damages resulting from fire and theft.

**1.14 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 Maintenance and Disposal of Site Signs:
  - .1 Maintain approved signs and notices in good condition for duration of project and dispose of offsite upon completion of project or earlier if directed by Departmental Representative.

**1.15 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 Departmental Representative.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.
- .2

**END OF SECTION**

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**Part 1 General****1.1 CONFORMANCE WITH STANDARDS**

- .1 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .2 Cost for such testing will be born by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.

**1.2 QUALITY**

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .4 Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .5 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .6 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

**1.3 AVAILABILITY**

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

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- .2 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

#### **1.4 STORAGE, HANDLING AND PROTECTION**

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 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, lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .9 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

#### **1.5 TRANSPORTATION**

- .1 Pay costs of transportation of products required in performance of Work.

#### **1.6 MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.

- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative can establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

#### 1.7 QUALITY OF WORK

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

#### 1.8 CO-ORDINATION

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

#### 1.9 CONCEALMENT

- .1 In finished areas conceal pipes, ducts and wiring below the surface except as indicated or where directed otherwise by Departmental Representative, or the Harbour Authority.
- .2 Before installation inform Departmental Representative if there is interference. Install as directed by Departmental Representative.

#### 1.10 REMEDIAL WORK

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

**1.11 LOCATION OF FIXTURES**

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.

**1.12 FASTENINGS**

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

**1.13 FASTENINGS - EQUIPMENT**

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

**1.14 PROTECTION OF WORK IN PROGRESS**

- .1 Prevent overloading of parts of buildings or adjacent sluiceway. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated without written approval of Departmental Representative.

**1.15 EXISTING UTILITIES**

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or building occupants and pedestrian and vehicular traffic.



- .2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**



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**Part 1      General**

**1.1          PROJECT CLEANLINESS**

- .1      Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .2      Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .3      Provide adequate ventilation during use of volatile or noxious substances. Use of building (temporary or permanent) ventilation systems is not permitted for this purpose.
- .4      Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by other Contractors.
- .5      Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.
- .6      Clear snow and ice from access to building, bank/pile snow in designated areas only or remove from site.
- .7      Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .8      Provide on-site containers for collection of waste materials and debris.
- .9      Provide and use marked separate bins for recycling. Refer to Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .10     Dispose of waste materials and debris off site.
- .11     Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .12     Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .13     Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .14     Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .15     Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

**1.2 FINAL CLEANING**

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste products and debris including that caused by other Contractors.
- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Clean electrical fixtures. Replace broken, scratched or disfigured items.
- .8 Remove stains, spots, marks and dirt from electrical fixtures.
- .9 Clean lighting reflectors, lenses, and other lighting surfaces.
- .10 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .11 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .12 Remove dirt and other disfiguration from exterior surfaces.
- .13 Sweep and wash clean paved areas.
- .14 Clean drainage systems.
- .15 Remove snow and ice from access to buildings.

**1.3 WASTE MANAGEMENT AND DISPOSAL**

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

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

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**Part 3      Execution**

**3.1          NOT USED**

.1      Not Used.

**END OF SECTION**



**Part 1 General****1.1 SECTION INCLUDES**

- .1 Requirements for waste management and disposal.

**1.2 WASTE MANAGEMENT GOALS**

- .1 Accomplish maximum control of solid construction waste.
- .2 Preserve environment and prevent pollution and environmental damage.

**1.3 DEFINITIONS**

- .1 Hazardous Material: Product, substance, or organism that is used for its original purpose, and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .2 Waste Management Plan: a written plan developed by the Contractor in advance of the start of work activities detailing the specific waste management procedures that will be followed to manage waste throughout the project.

**1.4 WASTE MANAGEMENT PLAN**

- .1 Provide written Waste Management Plan to Departmental Representative two weeks prior to the start of construction activities for approval.
- .2 Waste Management Plan to include the following:
  - .1 Details on how contractor will incorporate environmental and sustainable practices in managing waste resulting from work.
  - .2 Details on how the waste management activities will divert as much waste as possible from landfill.
  - .3 Coordination of work of subtrades and subcontractors to ensure all possible waste reduction and recycling opportunities are taken.
  - .4 Efforts to reduce waste during installation of new materials. Undertake practices which will optimize full use of materials and minimize waste.
  - .5 Descriptions of innovative procedures that will be used to reduce quantity of waste generated by construction such as by delivering materials to site with minimal packaging etc.
  - .6 Provide on-site facilities to collect, handle and store anticipated quantities of reusable, salvageable and recyclable materials.

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- .7 During demolition and removal work, details on how materials and equipment will be separated at source, with careful dismantling, labeling and stockpiling alike items for the following purposes:
  - .1 Reinstallation into the work where indicated (e.g. Type A excavation materials if deemed suitable).
  - .2 Salvaging reusable items not needed in project which Contractor may sell to other parties.
  - .3 Sending as many items as possible to locally available recycling facility.
  - .4 Segregating remaining waste and debris into various individual waste categories for disposal in a "non-mixed state" as recommended by waste processing/landfill sites.
    - .1 Plan to include staging/stockpiling details for Type A, Type B, Type C and Type D excavation materials.
- .8 Details on plans to isolate product packaging and delivery containers from general waste stream with transport to recycling facility or return to supplier/manufacturer. Leftover material resulting from installation work to be sent for recycling whenever possible.
- .9 Details on handling methods whereby hazardous and toxic materials, and their containers used on site are properly handled, stored and disposed in accordance with applicable federal, provincial and municipal regulations.
- .10 Descriptions of and anticipated quantities in percentages of materials to be salvaged, reused, recycled and landfilled.
- .11 Schedule of selective demolition.
- .12 Number and location of dumpsters.
- .13 Anticipated frequency of tipping.
- .14 Name and address of waste receiving organizations.

**1.5 DISPOSAL REQUIREMENTS**

- .1 Burying or burning of rubbish and waste materials is prohibited.
- .2 Disposal of volatile materials, mineral spirits, oil, paint, and other hazardous materials into waterways, storm, or sanitary sewers is prohibited.
- .3 Dispose of waste only at approved waste processing facility or landfill sites approved by authority having jurisdiction as detailed in the approved Waste Management Plan.
- .4 Excavated material Type A and Type B will be temporarily stockpiled on or near the site. Type A and Type B material will be sampled by Departmental Representative prior to contractor disposing or reinstating any stockpiled material. Excess Type B material is to be removed from site and disposed of as soon as fill requirements behind new wharf structure are satisfied if Type B material is found to be suitable for reinstatement. Excavated Type A material, if found suitable for reinstatement, is to remain on-site and be incorporated into the work as detailed in the project drawings.

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- .5 Excavated materials Type C and Type D are to be removed from site and disposed of as soon as possible.
- .6 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.
- .7 Transport and dispose of waste intended for waste processing plant or landfill facility in separated condition and to Operator's rules and recommendations in support of their effort to recycle, reduce and divert certain waste streams from general landfill.
- .8 Collect, bundle and transport salvaged materials to be recycled in separated categories and condition as directed by recycling facility. Ship materials only to approved recycling facilities.

**Part 2 Products****2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution****3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

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**Part 1      General**

**1.1          SECTION INCLUDES**

- .1      Administrative procedures preceding inspection and acceptance of Work by 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.
- .2      Notify Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for Departmental Representative's inspection of the complete work.
- .3      Departmental Representative's Inspection:
  - .1      Accompany Departmental Representative during all substantial and final inspections of the Work.
  - .2      Address defects, faults and outstanding items of work identified by such inspections.
  - .3      Advise Departmental Representative when all deficiencies identified have been rectified.
  - .4      Correction of all discrepancies shall be completed before Departmental Representative will issue the Certificate of Completion.
  - .5      Note that Departmental Representative will not issue a Certificate of Substantial Performance of the work until such time that Contractor performs following work and turns over the specified documents:
    - .1      Project record as-built documents.
    - .2      Reports resulting from designated tests.

**Part 2      Products**

**2.1          NOT USED**

- .1      Not Used.



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**Part 3      Execution**

**3.1            NOT USED**

.1      Not Used.

**END OF SECTION**



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**Part 1      General**

**1.1          SECTION INCLUDES**

- .1    Project Record Documents.

**1.2          PROJECT RECORD DOCUMENTS**

- .1    Departmental Representative will provide 2 white print sets of contract drawings and 2 copies of Specifications Manual specifically for "As-Built" purposes.
- .2    Maintain at site one set of the contract drawings and specifications to record actual as-built site conditions.
- .3    Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Departmental Representative upon request.
- .4    As-Built Drawings:
  - .1    Record changes in red ink on the prints. Mark only on one set of prints and at completion of work, neatly transfer notations to second set (also by use of red ink).
  - .2    Submit both sets to Departmental Representative prior to application for Certificate of Substantial Performance.
  - .3    Stamp all drawings with "As-Built Drawings". Label and place Contractor's signature and date.
  - .4    Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
  - .5    Record following information:
    - .1    Horizontal and vertical location of various elements in relation to chart Datum.
    - .2    Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
    - .3    Field changes of dimension and detail.
    - .4    Location of all capped or terminated services and utilities.
    - .5    Any details produced in the course of the contract by the Departmental Representative to supplement or to change existing design drawings.
  - .6    All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.

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**Part 2      Products**

**2.1            NOT USED**

.1      Not Used.

**Part 3      Execution**

**3.1            NOT USED**

.1      Not Used.

**END OF SECTION**

