

- 1.1 Documents Required .1 Maintain at job site, one copy each of the following:
- .1 Contract drawings;
  - .2 Specifications;
  - .3 Addenda;
  - .4 Change Orders;
  - .5 Other modifications to Contract;
  - .6 Field test reports;
  - .7 Copy of approved work schedule;
- 1.2 Site Conditions .1 A geotechnical review has been carried out for this Site. Project No. JE0160-C titled "Geotechnical Review - Proposed Breakwater Construction (Structure 305) North Lake Small Craft Harbour, Kings Col., Prince Edward Island" by Joose Environmental dated March 26, 2016 is included in Appendix A herein. A supplemental geotechnical investigation has been carried out for this site. Project No. JE0160 titled "Supplemental Geotechnical Investigation, Proposed Breakwater North Lake, Kings County, PE" by Joose Environmental dated August 18, 2017 is included in Appendix A herein. This material is not necessarily up-to-date and is for information purposes only. It should be complemented with consultation with appropriate expertise.
- .2 For excavated fill material disposal locations, refer to Figure 1 in Appendix B.
- 1.3 Work Schedule and Completion Dates .1 Prepare and submit to the Departmental Representative within five (5) days of notification of Contract award, one (1) 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; the dates of Substantial Completion; and intended man hours of labour and equipment for each major items 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 in writing of acceptance of the Construction Schedule. Comply with the Dates of the Construction Schedule at all times. If, for any reason the Construction Schedule is not followed, immediately notify the Departmental Representative of the changes 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 Construction Schedule or the furnishing of details and particulars thereto will not relieve any duties and responsibilities under the Contract.

1.4 Measurement Responsibilities

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

1.5 Use of Site

.1 Cooperate with Harbour Authority and users of existing facilities. All work taking place will be coordinated and agreed to so that there will be minimal impact to the daily ongoing activities of the harbour.

.2 Do not unreasonably encumber site with materials or equipment. Refer to Appendix B for material storage locations.

.3 Move stored products or equipment which interfere with operations of Departmental Representative or other workers.

.4 Obtain and pay for use of additional storage or work areas needed for operations.

- .5 Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water.
- .6 Provide temporary barriers and warning signs in location where work is adjacent to areas used by public.
- .7 Stay off of all existing harbour structures other than the one designated for removal.
- .8 The Provincial bridge across the harbour is posted as maximum gross: 5500kg and maximum axle: 4500kg.
- .9 Consideration will be required for determination of reasonable excavation haul routes.
- 1.6 Codes and Standards .1 Perform work in accordance with codes of federal, 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.
- 1.7 Project Meeting .1 Departmental Representative will arrange project meetings and assume responsibility for setting times and recording and distributing start-up minutes.
- 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. No extra compensation or time will be allowed for completion because of this suspension of work.

.3 Elevations for the various 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. Establish all 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 Harbour Authority, users of existing facilities and pedestrian and vehicular traffic.

.2 Before commencing work, establish location and extent of service lines in area of work and notify Department 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 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.

1.11 Cutting, Fitting & 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 the Departmental Representative's approval before cutting, boring or sleeving, or excavating adjacent to load-bearing members.

1.12 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 all excavation, dredging and breakwater work.

- 1.13 Payment
- .1 Payment for all work under this contract to be according to Section 01 29 00 - Project Particulars and Measurement.
  - .2 No separate payment will be made for work specified under General Conditions, Supplementary Conditions or any other section under Division 01. The cost of this work is to be considered as overhead and to be included in the unit prices of the Contract.
  - .3 Dimensional changes 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.
- 1.14 Site Examination
- .1 All parties tendering may visit the site of the work prior to submission of tenders and make themselves 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 In advance of a site visit, review the hazards as identified in Section 01 35 29 and submit a Site Specific Safety Plan (SSSP) for the purpose of viewing the site.
  - .3 The Departmental Representative will give no consideration whatsoever to any claim resulting from Failure to have made all the necessary investigations prior to tendering.
- 1.15 Cooperation and Assistance to Departmental Representative
- .1 Co-operate with Departmental Representative on inspection of work.
  - .2 Provide assistance when requested.

- 1.16 Datum .1 The datum referred to in this Specification 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 work.
- 1.17 Contractor's Representative .1 Continuously maintain on the site an authorized representative to whom communication may be addressed and who will be competent to discuss work methods.
- 1.18 Workers' Compensation .1 Registration under the Workers Compensation Act and evidence of good standing is required.
- .2 At onset and at completion of Contract and before final payment is made, present to the Departmental Representative a Letter of Certification from the Workers Compensation Board, showing that all required assessments are paid in connection with all trades.
- 1.19 Protection and Repair .1 Repair any damage resulting from operations under this contract. Reinstate all areas to similar or better than before construction.
- .2 Maintain protection to harbour and existing east breakwater throughout construction.
- 1.20 Inspection

- and Testing .1 The Departmental Representative may employ an Inspector and/or Testing Company to ensure work conforms with contracts.
- 1.21 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 Departmental Representative's property.
- 1.22 Temporary Navigational Buoys .1 Maintain temporary navigation light to mark the position of the outer end of the breakwater structure as construction proceeds. Navigation light is to meet the requirements of Canadian Coast Guard Standard TP968 and be equipped with radar reflectors.
- .2 Maintain temporary floating bouys at 30m intervals along the seaward face (maximum 10m offset) of the work area as construction proceeds. Navigation light shall be Go Deep International Inc GDI-0.25 bouy with internal radar reflector and M502 lantern, or approved equivalent. Place the yellow cautionary buoy farthest from the shoreward end of the wharf and 20m from ongoing construction. It must carry the following:
- .1 Radar reflector.
- .2 2nm amber light displaying characteristic (Fl) 4S from dusk to dawn and during periods of reduced visibility.

- .3 All costs associated with the supply, installation and removal of all temporary navigation light is included in the contract.

**END OF SECTION**

PROJECT PARTICULARS

- 1.1 Description of Work
- .1 The work covered by the Plans and Specifications involves the supply of all labour, materials and equipment required to remove an existing steel sheet pile breakwater structure including creosote timber and fill material contained within, construct a rubblemound breakwater from the existing shoreline and adjacent berlin wall wharf structure, and construct a steel sheet pile closure wall.
- .2 The work includes but not limited to:
- .1 Site work including mobilization, demobilization and removals including provincial disposal of construction materials.
- .2 Removal and disposal of creosote timber off site.
- .3 Relocation of shoreline protection.
- .4 Excavation above and below Chart Datum as required.
- .5 Haul and placement of excavated material to locations within harbour property boundaries.
- .6 Supply and installation of geotextile as indicated on the drawings and in the specification.
- .7 Supply and installation of the rubblemound breakwater including core stone, filter stone and armour stone layers as detailed on the drawings and in the specifications.
- .8 Supply and installation of a steel sheet pile closure wall from the existing berlin wall wharf Structure 406 to the rubblemound breakwater including, but not limited to: steel sheet piles, precast concrete anchor walls, wale systems, tie rods, miscellaneous steel and timber wheelguards and chocks.

PRODUCT MEASUREMENT

- 1.2 General .1 Unit and lump sum prices are full compensation for the work necessary to complete each item in the contract, in combination for all work necessary to complete the Work as a whole, and provided in accordance with the Construction Schedule and other plans indicated requiring submittal to and approval by the Departmental Representative.
- 1.3 Measurement for Payment .1 Lump Sum Items: the following items, to be read in conjunction with both the contract drawings and the technical specifications are to be measured separately as Lump Sum items in the tender documents to cover all miscellaneous work activities that do not lend themselves easily to measurement and quantification:
- Mobilization and Demobilization: Mobilization and demobilization including pile driving plant, temporary navigational aids and all other contract requirements not specifically measured, will be paid as a Lump Sum item.
- Site Work, Removals and Relocation of Shoreline Protection: Site work, removals and shoreline protection will be measured for payment by the Lump Sum (L.S.). This includes all removals and disposal in the Contract Documents including required excavation for removal of these items except for disposal of creosoted timber, which will be measured separately. Also included is the removal and relocation of shoreline protection to grades shown in the Contract Documents. Environmental protection measures are also included.

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Survey Control (Including Mock-up): this item will be measured for payment as a lump sum (L.S.). Layout and survey control, including rubblemound mock-up and the cross sections during placement, shall be included.

Floating Silt Boom: this item will be measured for payment as a lump sum (L.S.) and includes supply, installation, maintenance and removal.

- .2 Unit Price Items: the following outlines the unit of measurement of the unit price items as indicated in the Contract Documents:

Removal of Existing SSP: this item will be measured for payment by the square metre (m<sup>2</sup>) of steel sheet pile to be removed. Remove existing steel sheet pile breakwater, shown in plan and section on drawing S01, as indicated. Remove all steel sheet piling, wale systems, tie rods and connectors, timber wheelguards and chocks, mooring cleats and bollards, reinforced concrete deck and anchor walls, ladders, fenders, buried utilities, and other miscellaneous materials. All steel sheet piles must be fully removed or cut as indicated on the contract drawings. If encountered, the disposal of creosote timber will be measured separately.

Removal of Existing Breakwater Fill and Dispose on Site: this item will be measured for payment by the cubic metre truck measure (cmtm) of material removed and disposed of on site in stockpile location(s) provided in Appendix B. The unit price will also include the cost of any requirements of the Prince Edward Island Department of Environment for the disposal of material on land and for the permit, supply, installation and removal of any access roads

(if required). Verification of truck measure will be by place measure and surveyed cross sections.

Removal, Sorting and Disposal of Creosote Timber: disposal costs including haul and tippage for creosote timber will be measured for payment by the Tonne (T) based on weigh scale tickets from a disposal site provincially licensed to accept hydrocarbon impacted materials. Price will include all costs associated with any required disposal and transport permits.

Excavate and Dispose Material on Site (Above Chart Datum): will be measured for payment by the cubic metre truck measure (cmtm) of material removed and disposed of on site in stockpile location(s) (Appendix B). The unit price will also include the cost of any requirements of the Prince Edward Island Department of Environment for the disposal of material on land and for the permit, supply, installation and removal of any access roads (if required). Land based excavation and backfilling, along SSP wall and shoreline, with on-site material above Chart Datum will not be measured and will be considered incidental to the work. Verification of truck measure will be by place measure and surveyed cross sections.

Excavate and Dispose Material on Site (Below Chart Datum): will be measured for payment by the cubic metre truck measure (cmtm) of material removed and disposed of on site on the beach using the access identified in Appendix B. The unit price will also include the cost of any requirements of the Prince Edward Island Department of Environment for the disposal of material on land and for the permit, supply, installation and removal of any access roads (if required). Verification of truck measure

will be by place measure and surveyed cross sections.

Geotextile: supply and installation of geotextiles will be measured for payment by the square metre (m<sup>2</sup>) installed. All measurements will be taken from the dimensions shown on the drawings. No payment will be made for overlap, fastenings or securing boards.

Core Stone: core stone will be measured for payment by the tonne (T) based on weigh scale tickets received on site from a certified and calibrated weigh scale. This item includes supply and placement of stone to the lines and elevations indicated on the drawings and confirmation survey.

Filter Stone (200-800 kg): will be measured by the tonne (T) based on weigh scale tickets received on site from a certified and calibrated weigh scale. This item includes supply and placement of stone to the lines and elevations indicated on the drawings and confirmation survey.

Armour Stone (4-6 Tonne): will be measured by the tonne (T) based on weigh scale tickets received on site from a certified and calibrated weigh scale. This item includes supply and placement of stone to the lines and elevations indicated on the drawings and confirmation survey.

Steel Sheet Piles Supply: will be measured for payment by the square metre (m<sup>2</sup>). This item includes the costs for supply of the steel sheet piling sections to the lengths specified on the contract drawings with additional length for cut-off. The supply lengths will be the length between the cut-off elevations and the specified tip elevation plus 1.0m for cut-off.

Steel Sheet Piles Install: will be measured for payment per square metre ( $m^2$ ) of piling installed as shown on the contract drawings, defined in the specification and to the satisfaction of the Department Representative. Pricing to include installation of sheet piling, including site handling, to the lines and dimensions shown on the drawings. Pricing to include template associated with driving sheet piling.

Tie Rods: supply and installation of tie rods including pile connectors, tie rod nuts, washers and spacers will be measured for payment by the number (No.) of tie rods installed.

Miscellaneous Steel: supply, fabrication, transportation and installation of miscellaneous steel including all associated wale sections, channels, angular plates, washers, nuts, fasteners, bolts and any other miscellaneous steel not measured elsewhere will be measured for payment by Kilogram (kg).

Precast Concrete: precast reinforced concrete for anchor walls will be measured for payment by the cubic metre ( $m^3$ ). Embedments such as anchor bolts shall be included in the measurement for concrete calculated from neat plan view dimensions.

Sandstone Fill: will be measured for payment by the cubic metre place measure ( $m^3$ ). This item includes supply and placement of fill to the lines and elevations indicated on the drawings and confirmation survey.

Dimensional Timber: Treated dimensional timber will be measured for payment by the cubic metre ( $m^3$ ). Calculations will be based on the timber dimensions indicated on the

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drawings. Installation of bolts, miscellaneous hardware and grouting will not be measured but considered incidental work.

Granular Surface: This item will be measured by the tonne (T) based on weigh scale tickets received on site from a certified and calibrated weigh scale. This item includes the supply and installation of granular surface material to the lines and elevations indicated on the drawings and confirmation survey. No variation from the neat measurement will be allowed without prior approval from the Departmental Representative. This item includes supply and placement of gravel, compaction, grading and all other required work.

**END OF SECTION**

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Submissions/Shop Drawing

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- |   |                           |    |   |
|---|---------------------------|----|---|
| 1 | <u>General</u>            | .1 | Submit to Departmental Representative, for review, shop drawings, product data, samples and other information specified.  |
|   |                           | .2 | Until submission is reviewed, work involving relevant product may not proceed.  |
| 2 | <u>Shop Drawings</u>      | .1 | Drawings to be originals prepared by contractor, subcontractor, supplier or distributor, which illustrate appropriate portion of work, showing fabrication, layout, setting or erection details as specified in appropriate sections.         |
|   |                           | .2 | Identify details by reference to sheet and detail numbers shown on Contract Drawings.   |
|   |                           | .3 | Maximum sheet size 860mm X 1120 mm.   |
| 3 | <u>Product Data</u>       | .1 | Certain specification sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance chart, illustrations and other standard descriptive data will be accepted in lieu of shop drawings. |
| 4 | <u>Samples</u>            | .1 | Submit samples in sizes and quantities specified.   |
|   |                           | .2 | Construct field samples and mock-ups at locations acceptable to Departmental Representative.  |
|   |                           | .3 | Accepted samples will become standards of workmanship and material against which, installed work will be checked on project.  |
| 5 | <u>Miscellaneous Data</u> | .1 | Provide certificates, methodologies, design and test results as required.   |

- 6     Coordination  
of Submissions
- .1     Review shop drawings, product data, samples and miscellaneous data prior to submissions.
  - .2     Verify:
    - .1     Field Measurements.
    - .2     Field Construction Criteria.
    - .3     Catalogue numbers and similar data.
  - .3     Coordinate each submission with requirements of work and contract documents. Individual submissions will not be reviewed until all related information is available.
  - .4     Errors and omissions in submission is not relieved by Departmental Representative's review of submissions.
  - .5     Deviations in submission from requirements in Contract documents is not relieved by Departmental Representative's review of submission, unless Departmental Representative gives written acceptance of specified deviations.
  - .6     Notify Departmental Representative, in writing at time of submission, of deviations from requirements of contract documents stating reasons for deviations.
  - .7     After Departmental Representative's review, distribute copies.
- 7     Submission  
Requirements
- .1     Schedule submissions at least 14 days before dates reviewed submissions will be needed.
  - .2     Submit number of opaque diazo copies of shop drawings, product data which are required for distribution, plus two (2) copies which will be retained by Departmental Representative.

- .3 Accompany submissions with transmittal letter, in duplicate, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample submitted.
  - .5 Other pertinent data.
  
- .4 Submissions to include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
    - .4 Separate details when pertinent.
  - .4 Identification of product or material.
  - .5 Relation to adjacent structure or materials.
  - .6 Field dimensions, clearly identified as such.
  - .7 Specification Section Number.
  - .8 Applicable standards such as CSA or CGSB numbers.
  - .9 Stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with contract documents.

8 Shop Drawings  
Review

- .1 The review of shop drawings by the Departmental Representative is for the sole purpose of ascertaining conformance with the general concept. This review shall not mean that the Departmental Representative approves the detail design inherent in the shop drawings, responsibility for which shall remain with the submission, and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the construction

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and contract documents. Without restricting the generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all sub-trades.

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

**END OF SECTION**

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PART 1 - GENERAL

- 1.1 References
- .1 FCC No. 301-June 1982 Standard for Construction Operations.
  - .2 FCC No. 302-June 1982 Standard for Welding and Cutting.
- 1.2 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.
- 1.3 Submittals
- .1 Submit copy of Hot Work Procedures, to Departmental Representative for review, within 14 calendar days after contract award.
  - .2 Include sample of Hot Work Permit.
  - .3 Submit above documents in accordance with the submittal general requirements specified in Section 01 33 00.
- 1.4 Fire Safety & Hot Work Requirement
- .1 Implement and follow fire safety measures during Work. Comply with following:
    - .1 National Fire Code, 2015.
    - .2 Fire Protection Standards FCC 301, Standard for Construction Operations and FCC 302, Standard for Welding and Cutting as issued by the Fire Protection Services of Human Resources Development Canada
    - .3 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in Section 01 35 29.
  - .2 In event of conflict between any provisions of above authorities the most stringent

provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.

.3 NFC standards, noted above, are available from the National Research Council (NRC).

.4 Hot Work Requirements:

.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 Hot Work Procedures to be followed on site in accordance with clause 1.8 below.

.2 Type of work and frequency of situations which will require Hot Work.

.3 Upon confirmation that effective fire safety measures will be implemented for hot work, Departmental Representative will grant Authorization to Proceed.

.4 In most cases, Departmental Representative will issue only one written authorization covering the entire construction project and duration of work. However in some cases, depending on the nature or phasing of work, the quantity of various trades needing to perform welding and cutting on site, or other deemed situation, Departmental Representative might designate certain portions of the work as separate entities, each entity requiring individual written authorization to proceed. Follow Departmental Representative's directives in this regard.

- .5 Do not perform any Hot Work until receipt of Departmental Representative's written Authorization to Proceed.
- 1.5 Conformance
- .1 Stringently follow Hot Work Procedures, as established for project and agreed upon with Departmental Representative. Enforce use and compliance by all workers.
- .2 Brief all workers and subcontractors on Hot Work Procedures and Permit system.
- 1.6 Hot Work Procedures
- .1 Develop Hot Work Procedures, to be followed when Hot Work is required as part of the work.
- .2 Describe safe work practices and sequence of activities to be followed on site by workers to minimize the potential occurrence of a fire resulting from Hot Work.
- .3 Hot Work Procedures to include:
- .1 Requirement to perform hazard assessment of the site or immediate work area, based on type and extent of Hot Work required, in accordance with Hazard Assessment and Safety Plan requirements of Section 01 35 29. Carry out hazard assessment for each hot work event.
- .2 Use of a Hot Work Permit system, issued by an authorized person, for each event when Hot Work is required, granting permission to carry out hot work.
- .3 Provision of a designated person (s) to carryout a Fire Safety Watch for a minimum of 30 minutes immediately upon completion of the hot work.
- .4 Procedures to comply with fire safety codes and standards specified herein and specified in Section 01 35 29.

- .5 Generic procedures, if used, must be edited, supplemented with pertinent information and tailored to reflect specific project conditions. Clearly label as being the Hot Work Procedures applicable to this contract.
  - .6 Include within procedures the step by step process on how to prepare and issue the Hot Work Permit.
  - .7 Hot Work Procedures to be in typewritten format, listing step by step procedures and worker instructions, clearly establishing and allocating responsibilities of:
    - .1 Worker (s)
    - .2 Designated person authorized to issue the Hot Work Permit,
    - .3 Fire Safety Watcher,
    - .4 Subcontractors.
- 1.7 Hot Work Permit
- .1 Develop "Hot Work Permit" form in typewritten format.
  - .2 Hot Work Permit form to include, as a minimum, the following data:
    - .1 Project name and project number.
    - .2 Building name, address and specific floor, room or area where hot work will be performed.
    - .3 Date when permit issued.
    - .4 Description on type of hot work to be carried out.
    - .5 Special precautions required, including type of fire extinguisher needed.
    - .6 Name and signature of authorized person to issue the permit
    - .7 Name of worker (s) (clearly printed) to which the permit is being issued.
    - .8 Time duration of permit (not to exceed 8 hours) indicating "Start" time & date and "Completion" time & date when Hot Work permit will be in effect.

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- .9 Worker signature with date and time when hot work terminated.
- .10 Specified period of time requiring Safety Watch.
- .11 Name and signature of person designated Fire Safety Watcher, complete with time & date when safety watch terminated, certifying that the surrounding area was under his continual watch and inspection for the minimum time period specified in Permit and commenced immediately upon the completion of Hot Work.
- .3 Only use Industry Standard forms if all data specified above is included on form.
- .4 Each Hot Work Permit to be completed in full and signed as follows:
  - .1 Authorized person issuing Permit before hot work commences;
  - .2 Worker(s) upon completion of Hot Work;
  - .3 Fire Safety Watcher upon termination of safety watch and;
  - .4 Returned to the Site Superintendent for safe keeping.
- 1.8 Documents on Site
  - .1 Keep Hot Work Permits and Hazard assessment documentation on site for duration of Work.
  - .2 Upon request, make available to Departmental Representative or to authorized safety representative for inspection.

**END OF SECTION**

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- 1.1 Section Includes .1 Procedures to isolate and lockout electrical facility and other equipment from energy sources.
- 1.2 Related Sections .1 Section 01 35 29: Health and Safety Requirements.
- 1.3 References .1 CSA C22.1-15, 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 Requirements 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 has been isolated.
- .3 De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD).
- .4 Guarded: means that an equipment or facility is covered, shielded, fenced,

enclosed, inaccessible by location, or otherwise protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.

.5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.

.6 Live/alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

1.5 Compliance Requirements

.1 Comply with the following in regards to isolation and lockout of electrical facilities and equipment:  
.1 Canadian Electrical Code.  
.2 Federal and Provincial Occupational Health and Safety Requirements Acts and Regulations.  
.3 Regulations and code of practice 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. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.

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 the Departmental Representative's written authorization prior to working on existing live or active electrical facilities and equipment and before proceeding with isolation of such item.
- .2 To obtain authorization, submit to the Departmental Representative the following documentation:
  - .1 Written request to isolate the particular service or facility and;
  - .2 Copy of Lockout Procedures.
- .3 Make a Request for Isolation for each event, unless directed otherwise by the Departmental Representative, as follows:
  - .1 Fill-out standard form in current use at the Facility as provided by Departmental Representative or;
  - .2 Where no form exist, make written request indicating:
    - .1 The equipment, system or service to be isolated and its location;
    - .2 Duration of isolation period (ie: start time & date and completion time & date).
    - .3 Voltage of service feed to system or equipment being isolated.
    - .4 Name of person making the request.
- .4 Do not proceed with isolation until receipt of written notification from Departmental Representative granting the Isolation Request and authorizing to proceed with the work.
  - .1 Note that Departmental Representative may designate another person at the Facility being authorized to grant the Isolation Request.

- .5 Conduct safe, orderly shutdown of equipment or facility. De-energize, isolate and lockout power and other sources of energy feeding the equipment or facility.
- .6 Determine in advance, as much as possible, in cooperation with the Departmental Representative, the type and frequency of situations which will require isolation of existing services.
- .7 Plan and schedule shut down of existing services in consultation with the Departmental Representative and the Facility Manager. Minimize impact and downtime of Facility operations. Follow Departmental Representative's directives in this regard.
- .8 Conduct hazard assessment as part of the process in accordance with Health and Safety Requirements specified Section 01 35 29.

1.8 Lockouts

- .1 De-energize, isolate and lockout electrical facility, mechanical equipment and machinery from all potential sources of energy prior to working on such items.
- .2 Develop and implement clear and specific lockout procedures to be followed as part of the Work.
- .3 Prepare typed written Lockout Procedures describing safe work practices, procedures, worker responsibilities and sequence of activities to be followed on site by workforce to safely isolate an active piece of equipment or electrical facility and effectively lockout and tagout it's sources of energy.

- .4 Include as part of the Lockout Procedures a system of lockout permits managed by the Superintendent or other qualified person designated by him/her as being "in-charge" at the site.
  - .1 A lockout permit shall be issued to specific worker providing a Guarantee of Isolation before each event when work must be performed on a live equipment or electrical facility.
  - .2 Duties of person managing the permit system to include:
    - .1 Issuance of permits and lockout tags to workers.
    - .2 Determining permit duration.
    - .3 Maintaining record of permits and tags issued.
    - .4 Making a Request for Isolation to Departmental Representative when required as specified above.
    - .5 Designating a Safety Watcher, when one is required based on type of work.
    - .6 Ensuring equipment or facility has been properly isolated.
    - .7 Collecting and safekeeping lockout tags returned by workers as a record of the event.
- .5 Clearly establish, describe and allocate responsibilities of:
  - .1 Workers.
  - .2 Person managing the lockout permit system.
  - .3 Safety Watcher.
  - .4 Subcontractor(s).
- .6 Generic procedures, if used, must be edited and supplemented with pertinent information to reflect specific project requirements.
  - .1 Incorporate site specific rules and procedures in force at site as provided by

Facility Manager through the Departmental Representative.

.2 Clearly label the document as being the Lockout procedures applicable to work of this contract.

.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 the Departmental Representative or to authorized safety representative for inspection.

**END OF SECTION**

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PART 1 - GENERAL1.1 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 Prince Edward Island Environmental Protection 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 Workplace Hazardous Materials Information System, Health Canada

1.2 Definitions

- .1 Archaeological Resources: all tangible evidence of human activity that is of historical, cultural or scientific interest.

Examples include features, structures, archaeological objects or remains at or from an archaeological site, or an object recorded as an isolated archaeological find.

- .2 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.
- .3 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.
- .4 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.
- .5 Navigable water: a canal and any other body of water created or altered as a result of the construction of any work.
- .6 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.

### 1.3 Transportation

- .1 Vessels are to be permitted safe access through the worksite at all times, and assisted as necessary.
- .2 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.
- .3 During construction, mark the "construction area" with a yellow cautionary buoy(s) as required, placed 20m from the seaward end of the construction area in order to identify the location of the ongoing work, carrying the following:
  - .1 radar reflector;
  - .2 2nm amber light displaying characteristic (FI) 4S from dusk to dawn and during periods of reduced visibility.
- .4 Transport hazardous materials and hazardous waste in compliance with the Transportation of Dangerous Goods Act.
- .5 Eliminate free board spillage when excavating, loading and hauling dredged/excavated material.
- .6 Trucks transporting dredged/excavated material will have watertight boxes.
- .7 Do not overload trucks when hauling dredged/excavated material.
- .8 Maintain trucks clean and free of mud, dirt and other foreign matter.
- .9 Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the work. Immediately clean any

ground spills and soils to extent as directed by authority having jurisdiction.

- .10 Prior to 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 the project) proposed to be used to access work areas and to haul material to and from the site, including roads to the excavated material disposal site.
- .11 Construction material and debris is not to become waterborne.
- .12 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.
- .13 Work activities must comply with all / any conditions of the Navigation Protection Act (NPA) approval issued March 18, 2015 by Transport Canada. A copy of the NPA approval will be provided and must be kept on-site while the work is in progress.

1.4 Temporary Causeways and Access Roads

- .1 Gain access to the construction and dredging area(s). The construction and removal of temporary causeways and access roads will not be measured for payment and will be removed immediately after clearance of the project area.
- .2 Identify a location for the disposal of material imported for the construction of temporary causeways and access roads. Temporary road material **must not** be disposed of in on-site containment area.
- .3 All material used for construction of temporary causeways and access roads must be clean and

free from excessive fines, organics, debris and non-toxic (i.e., free of fuel, oil, grease and/or any other contaminants), non-ore bearing and from a provincially approved non-water source.

- .4 Material is to be screened, if required, to ensure that no fines or stones less than 0.2 kilograms are placed in the work.
- .5 Heavy machinery and equipment will not be allowed in the water and must be operated from a dry platform only. Temporary causeways and access roads shall be constructed at an elevation such that machinery and equipment is operating completely out of the water at all stages of the tide. If tidal work is being carried out, machinery and equipment shall be relocated back to a suitable elevation to prevent operating in submerged waters.
- .6 Maintain temporary buoys to mark the position of the access road including the outer toe as construction proceeds. All buoys are to meet requirements of the applicable Canadian Coast Guard standard and be equipped with radar reflectors.

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 Disposal of Excavated Material
- .1 All newly excavated fill material from above below Chart Datum will be disposed of on site in stockpile locations(s) provided by the Departmental Representative, see Appendix B, not including any temporary road material.
  - .2 Water that decants from the disposed dredge spoil shall not directly enter any waterways.
  - .3 Items such as rubber tires, bottles, cans and other debris or litter must be removed from the disposal site. Failure to remove such debris may constitute a littering offence under applicable regulations.
  - .4 Control runoff of water containing suspended materials or other harmful substances in accordance with requirements of all federal, provincial and municipal authorities having jurisdiction.
- 1.7 Containment and Spill Management
- .1 Comply with Federal (CEPA Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations) and Provincial regulations, codes, standards and guidelines for the storage of fuel and allied petroleum products on site.
  - .2 Do not place fuel storage tanks or store fuel or other petroleum products within a 30 metre buffer zone of watercourses and wetlands. Do not fuel or lubricate equipment within this 30 metre buffer zone. Obtain approval from Departmental Representative of acceptable location on site for fuel storage and equipment service.
  - .3 Do not dump petroleum products or any other deleterious substances on ground or in the water.
  - .4 Be diligent and take all necessary precautions to avoid spills and contaminate the soil and water (both surface and subsurface) when

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handling petroleum products on site and during fueling and servicing of vehicles and equipment.

- .5 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.
- .6 Maintain vehicles and equipment in good working order to prevent leaks on site.
- .7 In the event of a petroleum spill, immediately notify the Departmental Representative and the Canadian Coast Guard (CCG) at 1-800-565-1633 (24 hour report line). Perform clean-up in accordance with all regulations and procedures stipulated by authority having jurisdiction.
- .8 Materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals are not to enter the watercourse.
- .9 Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance.

1.8 Hazardous  
Material Handling

- .1 Store and handle hazardous materials in accordance with applicable federal and provincial regulations, codes, standards and guidelines. Store in a location that will prevent spillage into the environment.
- .2 Label containers to WHMIS requirements and keep MSDS data sheets on site for all hazardous materials.
- .3 Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when storage.

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- .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- 1.9 Disposal of Wastes
- .1 Do not bury rubbish, construction and demolition debris (i.e., concrete, creosote timbers, steel, impacted soil materials etc.) and waste materials on site.
- .2 Construction material and debris are not allowed to become waterborne.
- .3 No person shall permit any tools, equipment, vehicles, temporary structures or parts thereof used or maintained for the purpose of building or placing a work in a navigable water to remain in such water after the completion of the project.
- .4 All work(s) and associated equipment shall be removed from the waterway at no expense in the event the operation of the work(s) is terminated.
- .5 Dispose and recycle construction and demolition debris and waste materials in accordance with Provincial Waste Management Regulations.
- .6 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.
- .7 Dispose of hazardous waste in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.
- .8 Daily clean-up of floating or sinking construction materials, litter, and other debris arising from the work site will be conducted to ensure protection of the marine environment. Any construction debris/material that enters the marine environment should be removed immediately and

be disposed of in a provincially approved manner.

### 1.9 Water Quality

- .1 Conduct any excavation work 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 Departmental Representative.
  - .2 Strategically position excavator equipment and haul vehicles to avoid over the water swings of excavated material whenever possible.
  - .3 Restrict the amount of material excavated to the area and depth required for the project.
  - .4 Excavated material must not re-enter the waterway.
  - .5 Avoid bottom stockpiling, dragging, or side casting material during dredging/excavation.
- .3 Visually monitor the water turbidity of the surrounding areas adjacent to the work area on a daily basis during the in-water work periods.
  - .1 Should excessive change occur in the turbidity of the water outside the work area, such as a distinct color difference; the work must stop and the Area Habitat Coordinator of the Department of Fisheries and Oceans - Habitat Management Division will be contacted to determine if additional mitigation measures are required.
- .4 Install Type II silt fence or silt boom as required in accordance with Section 7.1 Erosion Control in PEI DOTIE Environmental Protection Plan.
- .5 Water contamination by preservative treated wood:

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- .1 Preservative treated lumber and timber, whether plant or site treated, shall be cured for a minimum of 30 days from date of the 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 AWWA approved.
  - .5 Do not use timber and lumber treated with creosote, petroleum and pentachlorophenol for any part of the Work.
  - .6 Do not wash down equipment within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
- 1.10 Socioeconomic Restrictions
- .1 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 Work equipment and machinery must be equipped with purposely designed mufflers to reduce noise on site to lowest possible level. Maintain mufflers in good operating condition at all times.
- 1.11 Bird and Bird Habitat
- .1 Become knowledgeable with and abide by the Migratory Birds Convention Act (MBCA) in regards to the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity.

- .2 Minimize disturbance to all birds on site and adjacent areas during the entire course of the Work.
- .3 Do not approach concentrations of seabirds, waterfowl and shorebirds when anchoring equipment, accessing wharves or ferrying supplies.
- .4 Do not use beaches, dunes and other natural previously undisturbed areas of the site to conduct work unless specifically approved by the Departmental Representative.

#### 1.12 Fish Protection

- .1 Weather conditions are to be assessed on a daily basis to determine the potential risk of extreme weather in the project area. Avoid work during periods which Environment and Climate Change Canada (ECCC) has issued rainfall or wave warning for the work area that may increase erosion and/or 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 Be aware of the risk for contamination of the fish habitat at the site as a result of alien species being introduced in the water.
- .4 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 all miscellaneous

tools and equipment previously used in a marine environment.

- .5 Cleaning and washing of equipment shall be performed immediately upon their arrival at the site and before use in or over the body of water.
- .6 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.
  - .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, animals and sediments.
  - .4 Check and remove all plant, animal and sediment matter from the 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.
- .7 Record of Assurance Logbook:
  - .1 Maintain an on-going log of past and present usage and washdowns of all equipment to illustrate mitigation measures undertaken against fish habitat contamination by alien species.
  - .2 Write data in a hard cover bound logbook to 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.

- .7 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to Departmental Representative for review.
- .8 Abide by requirements and recommendations from Fisheries and Oceans Canada - Fisheries Protection Program in cleaning and wash down of equipment.
- .9 Work activities must comply with all conditions of the Fisheries Act Authorization (FAA) issued on March 15, 2011 and subsequent amendment issued September 23, 2016. Departmental Representative shall provide a copy of the FAA, which must remain onsite at all times, while work is in progress.
- .10 All project works and mitigation measures shall be implemented to the satisfaction of the Departmental Representative.

1.13 Air Quality

- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
- .2 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.
- .3 Do not use oil or any other petroleum products for dust control.

1.15 Fires

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

**END OF SECTION**

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Testing Laboratory Services

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- 1     Related Requirements            .1     Particular requirements for inspection and testing of concrete and piling to be carried out by testing laboratory designated by Departmental Representative as specified under various sections.
- 2     Appointment and Payment       .1     Departmental Representative will appoint and pay for services of testing laboratory except for the following:
- .1     Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
  - .2     Inspection and testing performed exclusively for convenience.
  - .3     Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
  - .4     Mill tests and certificates of compliance.
  - .5     Tests specified to be carried out must be under the supervision of Departmental Representative.
- .2     Where tests or inspections by designated testing laboratory reveal work not in accordance with contract requirements. Pay costs for additional tests or inspections as Departmental Representative may require to verify acceptability of corrected work.
- 3     Contractor's Responsibilities   .1     Furnish labour and facilities to:
- .1     Provide access to work to be inspected and tested.
  - .2     Facilitate inspections and tests.
  - .3     Make good work disturbed by inspection and test.
  - .4     Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
- .2     Notify Departmental Representative sufficiently in advance of operations to

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Testing Laboratory Services

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allow for assignment of laboratory personnel and scheduling of test.

.3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.

.4 Pay costs for uncovering and making good work that is covered before required inspection or testing is completed and approved by Departmental Representative.

**END OF SECTION**

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Temporary Facilities

Page 1

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- |   |                            |    |  |
|---|----------------------------|----|--|
| 1 | <u>Access</u>              | .1 | Provide and maintain adequate access to project site.  |
|   |                            | .2 | If authorized to use existing roads or structures for access to project site, maintain such roads for duration of Contract and make good damage resulting from the use of roads.   |
| 2 | <u>Site Office</u>         | .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, orders, notices and other communications may be received or acknowledged by an authorized agent or representative. Provide a telephone and fax machine in the office. |
|   |                            | .2 | Keep one up-to-date copy of the Contract Documents, bulletins and other materials as specified under Section 01 10 10 - General Instructions.  |
| 3 | <u>Storage Sheds</u>       | .1 | Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.   |
|   |                            | .2 | Make arrangements with the Departmental Representative for on-site storage areas.  |
| 4 | <u>Sanitary Facilities</u> | .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.  |
| 5 | <u>Power</u>               | .1 | Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.   |

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Temporary Facilities

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- .2 Install temporary facilities for power such as pole lines and cables to approval of local power supply authority.
- .3 Power used for heating or idling equipment will need to be compensated to the Harbour Authority.
- 6 Water Supply .1 Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances.
- 7 Barricades .1 Provide and maintain sufficient barricades, fencing, notices, warning signs, light signals, etc. for the protection of adjoining property and to warn others and workmen engaged on the job of the dangers caused by the work.
- .2 The presence of such barricades, lights, etc. will not relieve the any responsibility for any damages.
- 8 Site Signs and Notices .1 Only Project Identification and Consultant/ Contractor signboards and notices for safety or instruction are permitted on site.
- .2 Signs and notices for safety or instruction to be in English and French languages, or commonly understood graphic symbols.
- 9 Removal of Temporary Facilities .1 Remove temporary facilities from site when directed by Departmental Representative.
- .2 When project is closed down for a period of time, keep temporary facilities operational until no longer required by Departmental Representative.

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Temporary Facilities

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**END OF SECTION**

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Material and Equipment

Page 1

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- 1.1 General
- .1 Use new material and equipment unless otherwise specified.
  - .2 Submit following information for any or all materials and products proposed for supply within seven (7) days of request by Departmental Representative:
    - .1 name and address of manufacturer
    - .2 trade name, model and catalogue number
    - .3 performance, descriptive and test data
    - .4 manufacturer's installation or application instructions
    - .5 evidence of arrangements to procure.
  - .3 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available.
- 1.2 Delivery and Storage
- .1 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage.
- 1.3 Conformance
- .1 When material or equipment is specified by standard or performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.
- 1.4 Construction Equipment and Plant
- .1 On request, prove to the satisfaction of Departmental Representative that the construction equipment and plant are adequate to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.
  - .2 Maintain construction equipment and plant in good operating order.

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Material and Equipment

Page 2

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

**END OF SECTION**

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Project Record Documents

Page 1

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1.1 Record

Drawings

- .1 Departmental Representative will provide two sets of white prints for record drawing purposes.
- .2 Maintain project record drawings and accurately record deviations from contract documents caused by site conditions and changes ordered by Departmental Representative.
- .3 Mark changes in red coloured ink.
- .4 Record following information:
  - .1 Elevations of various elements in relation to Chart Datum.
  - .2 Field changes in dimensions and details.
  - .3 Changes made by Change Order.
- .5 At completion of project and prior to final inspection, neatly transfer notations to second set and submit both sets to Departmental Representative.
- .6 Refer to Section 35 31 23.13 for digital cross section submission requirements.

**END OF SECTION**