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1. Documents Required .1 Maintain at job site, one copy each of 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
2. Site Conditions .1 Records of existing structures and 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.
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.

4. Measurement  
Responsibilities

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

5. Contractor's Use  
of Site

.1 Co-operate with users of existing facilities. All work taking place will be coordinated and agreed to so that there will be minimal impact to the daily on-going activities of the harbour. Contact information for the Harbour Authority is Byron MacKinnon - President 902-657-2856 and for Aquashell is Frank DeWaard - President 902-430-5004.

.2 Should interference's occur, take directions from Departmental Representative.

.3 Do not unreasonably encumber site with materials or equipment.

.4 Move stored products or equipment which interfere with operations of Departmental Representative or other Contractors.

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

.6 Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water.

.7 Ensure no damage occurs to existing structures as a result of operations. Any

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- said damage will be repaired at Contractor's expense.
- .8 Provide temporary barriers and warning signs in location where work is adjacent to areas used by public.
6. Codes and Standards
- .1 Perform work in accordance with National Building Code of Canada (NBC) 2005 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.
7. Project Meetings
- .1 Departmental Representative will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.
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 batterboards at all points to facilitate the progress of the work. Establish all other grades, lines, levels required to facilitate the work.

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 Departmental Representative and confirm findings in writing.

10. Contract Documents

.1 Contract Drawings:

.1 The drawings for the Work consist of all drawings listed in these "Plans And Specifications" and any additional drawings issued at a later date by the Departmental Representative.

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- .2 Departmental Representative may furnish additional drawings to assist in proper execution of work. These drawings will be issued for clarification only. Such drawings will have same meaning and intent as if they were included with plans referred to in Contract Documents.
  - .3 The drawings indicate the extent and general dimensions of the work. Make all necessary measurements to ensure that the result of the work is in accordance with the intent.
  - .4 Verify all existing conditions in field prior to proceeding with work.
  - .2 Contract Specifications:
    - .1 The general requirements and technical specifications are written solely for the General Contractor. They are organized into the NMS format of separate divisions and sections.
    - .2 Specification language is of the 'Short Form type' for example, where the word "provide" occurs, interpret it to mean "the Contractor shall furnish all labour, material and equipment necessary to complete the work".
    - .3 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.

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| <u>Regulations</u>                       | .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, per General Conditions as stated in the contract.  |
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| 12. <u>Cutting, Fitting and Patching</u> | .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.  |
|  | .3 | Obtain Departmental Representative's approval before cutting, boring or sleeving, or excavating adjacent to load-bearing members.   |
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| 13. <u>Record of Construction</u>        | .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.   |
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| 14. <u>Payment</u>                       | .1 | Payment for all work under this contract to be according to the Contract.   |
|  | .2 | No separate payment will be made for work specified under any sections of Specification under Division 01. The cost of this work is to be considered as overhead and to be included in the lump sum of the Contract.  |
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- .3 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.
15. Site Examination .1 All parties tendering should 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.
16. Maintenance of Shipping .1 Liaise with the local port officials to coordinate activities such that any interference is minimized.
17. Cooperation & Assistance to Departmental Representative .1 Co-operate with Departmental Representative on inspection of work.
- .2 Provide assistance when requested.
- .3 Provide small motor boat with operator and sounding chain for Departmental Representative's use when requested.
18. 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

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- Tables, as issued by the Canadian Hydrographic Service, should be consulted for tidal predictions and other tidal information relating to the work.
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.
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 required assessments are paid in connection with all trades.
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.
22. Protection and Repair .1 Repair any damage resulting from operations under this contract.
23. Location of Equipment and Fixtures .1 Location of equipment, fixtures or any appurtenances indicated are to be considered approximate.
24. Inspection and



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| <u>Testing</u> | .1 | The Departmental Representative may employ an Inspector and/or Testing Company to ensure work conforms with contract. |
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| 25. <u>Disposal of Debris</u> | .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. This includes costs of disposing of contaminated materials such as creosote treated timber. 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.  |
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| 26. <u>Existing Soils Conditions</u> | .1 | Any information pertaining to soils and all boreholes logs are furnished by the Departmental Representative as a matter of general information only and borehole descriptions or logs are not to be interpreted as descriptive of conditions at locations other than those described by the boreholes themselves. |
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| 27. <u>Relics And Antiquities</u> | .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.   |
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| 28. <u>Temporary Navigational Buoys</u> | .1 | The Contractor is to maintain temporary bouy's to mark the position of the outer end of the structure as construction proceeds. All bouy's are to meet the requirements of |
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Canadian Coast Guard Standard TP968 and be equipped with radar reflectors.

<http://www.ccg-gcc.gc.ca/folios/00020/docs/CanadianAidsNavigationSystem2011-eng.pdf>

- .2 The Contractor shall coordinate the bouy 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 bouy's.

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PROJECT PARTICULARS

1. Description  
of Work

- .1 The work under this contract involves the installation of a new electrical system at Wallace Harbour Facility, Cumberland County, NS.
- .2 The work includes but is not limited to:
  - .1 Removal and demolition of existing electrical system.
  - .2 Construction and installation of new electrical building and equipment.
  - .3 Installation of new wharf lighting and haulout area lighting, and supply and installation of new power feed from utility service pole to new electrical building.
  - .4 Construction and installation of new power centres.
  - .5 Electrical equipment and power connection for the derrick.

PROJECT MEASUREMENT

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 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.

2. Measurement  
For Payment

- .1 Measurement for payment as follows:

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Concrete Forming and Accessories will not be measured separately but will be considered incidental to the work.

Concrete Reinforcing: Concrete Reinforcing will not be measured separately but will be considered incidental to the work.

Concrete: Cast-in-place reinforced concrete for electrical building foundation will not be measured separately but will be considered incidental to the work.

Excavation and Backfilling: Excavation and backfilling will not be measured separately but will be considered incidental to the work.

#### **Division 26**

Electrical Work: Electrical work and all associated work will be measured for payment by the lump sum. Lighting LED luminaires and mounting brackets to be supplied by others.

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| 1. <u>General</u>            | <ul style="list-style-type: none"><li>.1    Submit to Departmental Representative, for review, shop drawings, product data, samples and other information specified.</li><li>.2    Until submission is reviewed, work involving relevant product may not proceed.</li></ul>   |
| 2. <u>Shop Drawings</u>      | <ul style="list-style-type: none"><li>.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.</li><li>.2    Identify details by reference to sheet and detail numbers shown on Contract Drawings.</li><li>.3    Maximum sheet size 860 X 1120 mm.</li><li>.4    Reproductions for submissions: opaque diazo prints.</li></ul> |
| 3. <u>Product Data</u>       | <ul style="list-style-type: none"><li>.1    Certain Specification Sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings.</li></ul>  |
| 4. <u>Samples</u>            | <ul style="list-style-type: none"><li>.1    Submit samples in sizes and quantities specified.</li><li>.2    Construct field samples and mock-ups at locations acceptable to Departmental Representative.</li><li>.3    Accepted samples will become standards of workmanship and material against which, installed work will be checked on project.</li></ul>   |
| 5. <u>Miscellaneous Data</u> | <ul style="list-style-type: none"><li>.1    Provide certificates, methodologies, designs and test results as required.</li></ul>  |

6. Coordination of Submissions

- .1 Review shop drawings, product data, samples and miscellaneous data prior to submission.
- .2 Verify:
  - .1 Field Measurements.
  - .2 Field Construction Criteria.
  - .3 Catalogue numbers and similar data.
- .3 Coordinate each submission with requirements of work and Contract documents. Individual submissions will not be reviewed until all related information is available.
- .4 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submissions.
- .5 Contractor's responsibility for deviations in submission from requirements in Contract documents is not relieved by Departmental Representative's review of submission, unless Departmental Representative gives written acceptance of specified deviations.
- .6 Notify Departmental Representative, in writing at time of submission, of deviations from requirements of Contract documents stating reasons for deviations.
- .7 After Departmental Representative's review, distribute copies.

7. Submission Requirements

- .1 Schedule submissions at least [14] days before dates reviewed submissions will be needed.
- .2 Submit number of copies of shop drawings, product data which Contractor requires for distribution, plus [2] copies which will be retained by Departmental Representative.
- .3 Accompany submissions with transmittal letter, in duplicate, containing:
  - .1 Date

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- .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 shall include:
    - .1 Date and revision dates.
    - .2 Project title and number.
    - .3 Name and address of:
      - .1 Contractor
      - .2 Sub-Contractor
      - .3 Supplier
      - .4 Manufacturer
      - .5 Separate detailer when pertinent
    - .4 Identification of product or material.
    - .5 Relation to adjacent structure or materials.
    - .6 Field dimensions, clearly identified as such.
    - .7 Specification Section Number.
    - .8 Applicable standards, such as CSA or CGSB numbers.
    - .9 Contractor's stamp, initialled 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 Public Works and Government Services Canada or its authorized consultant is for the sole purpose of ascertaining conformance with the general concept. This review shall not mean that Public Works and Government Services Canada approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the construction and contract documents. Without restricting the generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation

and for coordination 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  
conformance with the general concept.



1.1 RELATED WORK

- .1 Section [01 35 24]: Special Procedures on Fire Safety Requirements.
- .2 Section [01 35 25]: Special Procedures on Lockout Requirements.

1.2 DEFINITIONS

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

1.3 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00.
- .2 Submit site-specific Health and Safety Plan prior to commencement of Work.

- .1 Submit within 10 work days of notification of Bid Acceptance. Provide 3 copies.
  - .2 Departmental Representative will review Health and Safety Plan and provide comments.
  - .3 Revise the Plan as appropriate and resubmit within 5 work days after receipt of comments.
  - .4 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
  - .5 Submit revisions and updates made to the Plan during the course of Work.
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- .3 Submit name of designated Health & Safety Site Representative and support documentation specified in the Safety Plan.
  - .4 Submit building permit, compliance certificates and other permits obtained.
  - .5 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other department of labour organization.
    - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.
  - .6 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
  - .7 Submit copies of incident reports.
  - .8 Submit WHMIS MSDS - Material Safety Data Sheets.

#### 1.4 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of Nova Scotia, and Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
  - .1 The Canada Labour Code can be viewed at:  
[www.http://laws.justice.gc.ca/en/L-2/](http://laws.justice.gc.ca/en/L-2/)
  - .2 COSH can be viewed at:  
  
[www.http://laws.justice.gc.ca/eng/SOR-86-304/ene.html](http://laws.justice.gc.ca/eng/SOR-86-304/ene.html)
  - .3 A copy may be obtained at: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F)
- .5 Observe construction safety measures of:
  - .1 Part 8 of National Building Code
  - .2 Municipal by-laws and ordinances.
- .6 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
- .7 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.
- .8 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.

#### 1.5 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment

adjacent to the site to extent that they may be affected by conduct of Work.

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

#### 1.6 SITE CONTROL AND ACCESS

- .1 Control the Work and entry points to Work Site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
  - .1 Departmental Representative will provide names of those persons authorized by Departmental Representative to enter onto Work Site and will ensure that such authorized persons have the required knowledge and training on Health and Safety pertinent to their reason for being at the site, however, Contractor remains responsible for the health and safety of authorized persons while at the Work Site.
- .2 Isolate Work Site from other areas of the premises by use of appropriate means.
  - .1 Erect fences, hoarding, barricades and temporary lighting as required to effectively delineate the Work Site, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment. [See Section [01 50 00] for minimum acceptable requirements].
  - .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.

- .3 Use professionally made signs with bilingual message in the 2 official languages or international known graphic symbols.
  - .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
  - .4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.
  - .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm. [Provide security guard where adequate protection cannot be achieved by other means].
- 1.7 PROTECTION
  - .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
  - .2 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.
- 1.8 FILING OF NOTICE
  - .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
    - .1 Departmental Representative will assist in locating address if needed.
- 1.9 PERMITS
  - .1 Post permits, licenses and compliance certificates, specified in Section [01 10 10], at Work Site.
  - .2 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and

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- 1.10 HAZARD ASSESSMENTS
- .1 obtain approval to proceed before carrying out applicable portion of work.  
Perform site specific health and safety hazard assessment of the Work and its site.
  - .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, [including when new trades and subcontractors arrive on site].
  - .3 Record results and address in Health and Safety Plan.
  - .4 Keep documentation on site for entire duration of the Work.
- 1.11 PROJECT/SITE CONDITIONS
- .1 Following are potential health, environmental and safety hazards at the site for which Work may involve contact with:
    - .1 Existing hazardous and controlled products stored on site:
      - .1 n/a
    - .2 Existing hazardous substances or contaminated materials:
      - .1 n/a
    - .3 Known latent site and environmental conditions:
      - .1 tidal work area
      - .2 potential winter working conditions
    - .4 Facility on-going operations:
      - .1 n/a
  - .2 Above items shall not be construed as being complete and inclusive of potential health and safety hazards encountered during Work.
  - .3 Include above items in the hazard assessment of the Work.

- .4 MSDS Data sheets of pertinent hazardous and controlled products stored on site can be obtained from Departmental Representative.

#### 1.12 MEETINGS

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

#### 1.13 HEALTH AND SAFETY PLAN

- .1 Prior to commencement of Work, develop written Health and Safety Plan specific to the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
- .2 Health and Safety Plan shall include the following components:
  - .1 List of health risks and safety hazards identified by hazard assessment.
  - .2 Control measures used to mitigate risks and hazards identified.
  - .3 On-site Contingency and Emergency Response Plan as specified below.
  - .4 On-site Communication Plan as specified below.
  - .5 Name of Contractor's designated Health & Safety Site Representative and information showing proof of his/her competence and reporting relationship in Contractor's company.

- .6 Names, competence and reporting relationship of other supervisory personnel used in the Work for occupational health and safety purposes.
- .3 On-site Contingency and Emergency Response Plan shall include:
  - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
  - .2 Evacuation Plan: site and floor plan layouts showing escape routes, marshalling areas. Details on alarm notification methods, fire drills, location of fire fighting equipment and other related data.
  - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
  - .4 Emergency Contacts: name and telephone number of officials from:
    - .1 General Contractor and subcontractors.
    - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
    - .3 Local emergency resource organizations.
  - .5 Harmonize Plan with Facility's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of PWGSC and Facility Management contacts.
- .4 On-site Communication Plan:
  - .1 Procedures for sharing of work related safety information to workers and subcontractors, including emergency and evacuation measures.
  - .2 List of critical work activities to be communicated with Facility Manager which have a risk of endangering health and safety of Facility users.



- .5 Address all activities of the Work including those of subcontractors.
- .6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrive at Work Site.
- .7 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.
- .8 Post copy of the Plan, and updates, prominently on Work Site.

1.14 SAFETY  
SUPERVISION

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

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

1.15 TRAINING

- .1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.
- .2 Maintain employee records and evidence of training received. Make data available to Departmental Representative upon request.
- .3 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.16 MINIMUM  
SITE SAFETY RULES

- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum

safety rules are obeyed by persons granted access to Work Site:

- .1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.
- .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
- .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
- .4 Obey warning signs and safety tags.

- .2 Brief persons of disciplinary protocols to be taken for non compliance. [Post rules on site].

1.17 CORRECTION OF  
NON-COMPLIANCE

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

1.18 INCIDENT  
REPORTING

- .1 Investigate and report the following incidents to Departmental Representative:
  - .1 Incidents requiring notification to Provincial Department of Occupational Safety and Health, Workers Compensation Board or to other regulatory Agency.
  - .2 Medical aid injuries.
  - .3 Property damage in excess of \$10,000.00,
  - .4 Interruptions to Facility operations resulting in an operational lost to a

Federal department in excess of  
\$5000.00.

.2 Submit report in writing.

1.19 HAZARDOUS  
PRODUCTS

.1 Comply with requirements of Workplace  
Hazardous Materials Information System  
(WHMIS).

.2 Keep MSDS data sheets for all products  
delivered to site.

.1 Post on site.

.2 Submit copy to Departmental  
Representative.

1.20 BLASTING

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

1.21 POWDER ACTUATED  
DEVICES

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

1.22 CONFINED  
SPACES

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

1.23 SITE RECORDS

.1 Maintain on Work Site copy of safety related  
documentation and reports stipulated to be  
produced in compliance with Acts and  
Regulations of authorities having  
jurisdiction and of those documents specified  
herein.

.2 Upon request, make available to Departmental  
Representative or authorized Safety Officer  
for inspection.

1.24 POSTING OF  
DOCUMENTS

.1 Ensure applicable items, articles, notices  
and orders are posted in conspicuous location

on Work Site in accordance with Acts and  
Regulations of Province having jurisdiction.

- .2 Post other documents as specified herein,  
including:
  - .1 Site specific Health and Safety Plan
  - .2 WHMIS data sheets

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1.1 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 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 Workplace Hazardous Materials Information System, Health Canada.

1.2 Definitions

- .1 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.

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- .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 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.
  - .6 Navigable water: a canal and any other body of water created or altered as a result of the construction of any work.
  - .7 Surface watercourse: refers to the bed and shore of a river, stream, lake, creek, pond, marsh, estuary or salt-water body that

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contains water for at least part of each year.

- .8 Wetlands: land where the water table is at, near or above the surface or which is saturated for a long enough period to promote such features as wet-altered soils and water tolerant vegetation. Wetlands include organic wetlands or "peatlands," and mineral wetlands or mineral soil areas that are influenced by excess water but produce little or no peat.

1.3 Transportation

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



1.4 Operation of  
Machinery

- .1 Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- .2 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.

1.5 Containment and  
Spill Management

- . 1 Comply with Federal (CEPA Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations) and Provincial regulations, codes, standards and guidelines for the storage of fuel and allied petroleum products on site.
- .2 Do not dump petroleum products or any other deleterious substances on ground or in the water.
- .3 Be diligent and take all necessary precautions to avoid spills and contaminate the soil and water (both surface and subsurface) when handling petroleum products on site and during fueling and servicing of vehicles and equipment.
- .4 Maintain on site appropriate emergency spill response equipment consisting of at least one 250-litre (55 gallon) 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

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- 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.
- .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.
- 1.6 Hazardous Material Handling
- .1 Store and handle hazardous materials in accordance with applicable federal and provincial regulations, codes, standards and guidelines. Store in location that will prevent spillage into the environment.
- .2 Label containers to WHMIS requirements and keep MSDS data sheets on site for all hazardous materials.
- .3 Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when stored.
- .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- 1.7 Disposal of Wastes
- .1 Do not bury rubbish, construction and demolition debris (i.e., concrete, creosote timbers, steel, impacted soil materials etc.) and waste materials on site.
- .2 Dispose and recycle construction and demolition debris and waste materials in accordance with Provincial Waste Management Regulations.
- .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints,

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thinners etc.) and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.

- .4 Dispose of hazardous waste in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.

- .5 Concrete waste:

- .1 Do not discharge residual or rejected concrete on site.
- .2 Immediately clean any accidental release of concrete on site prior to solidification.
- .3 Do not wash and clean concrete vehicles on site.
- .4 Perform dumping of residual material and truck cleaning operations only at the concrete plant. Follow environmental regulations and good practices as approved by the Provincial Department of the Environment and other authorities having jurisdiction.

1.8 Water Quality

- .1 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 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 American Wood Preserver Association (AWPA) approved.
- .5 Do not use timber and lumber treated with creosote, petroleum and pentachlorophenol for any part of the work.

1.9 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.

1.10 Bird and Bird  
Habitat

- .1 Become knowledgeable with and abide by the Migratory Birds Convention Act (MBCA) in regards to the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity.
- .2 Minimize disturbance to all birds on site and adjacent areas during the entire course of the Work.
- .3 Do not approach concentrations of 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.
- .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.

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- .1 Do not disturb nest site and neighbouring vegetation until nesting is completed.
- .2 Minimize work immediately adjacent to such areas until nesting is completed.
- .3 Protect these areas by following recommendations of Canadian Wildlife Service.

1.11 Fish Protection

- .1 Avoid 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 in 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 all other miscellaneous tools and equipment previously used in a marine environment.
- .6 Cleaning and washing of equipment shall be performed immediately upon their arrival at

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the site and 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.
  - .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.
- .8 Do not perform cleaning and washdown 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 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.

- .10 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to Departmental Representative for review.
- .11 Abide by requirements and recommendations from Fisheries and Oceans Canada - Fisheries Protection Program in cleaning and wash down of equipment.

1.12 Air Quality

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

1.13 Fires

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

1.14 Archaeological

- .1 All construction personnel are responsible for reporting any unusual materials unearthed during construction to the construction supervisor. If the find is believed to be an archaeological resource, the construction supervisor will immediately stop work in the vicinity of the find and notify his / her immediate supervisor.

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- .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:
- a) Nova Scotia - NS Department of Communities, Culture and Heritage, Special Places Program, telephone: (902) 424-6475



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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 Work

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

1.3 References

- .1 FCC No. 301-June 1982 Standard for Construction Operations.
- .2 FCC No. 302-June 1982 Standard for Welding and Cutting.

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.

1.5 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.

1.6 Fire Safety & Hot Work Requirement

- .1 Implement and follow fire safety measures during Work. Comply with following:
  - .1 National Fire Code, 1995

- .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 FCC standards, noted above, may be viewed at the Regional Fire Protection Services' office (previously known as the Fire Commissioner of Canada) located at 99 Wyse Road, 8th floor, Dartmouth, NS; telephone: (902)-426-6053.
- .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 Contractor's 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.
- .6 In tenant occupied facilities, coordinate performance of Hot Work with Facility Manager through the Departmental Representative. When directed perform Hot Work during non-operative hours when Facility is vacant of employees. Follow Departmental Representative's directives in this regard.

#### 1.7 Conformance

- .1 Ensure that Hot Work Procedures, as established for project and agreed upon with Departmental Representative, are stringently followed. Enforce use and compliance by all workers.
- .2 Brief all workers and subcontractors on Hot Work Procedures and Permit system.
- .3 Failure to comply with the established hot work procedures may result in the issuance of a Non-Compliance Notification at Departmental Representative's discretion with possible disciplinary measures imposed as specified in Section [01 35 29].

1.8 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 practises and sequence of activities to be followed on site by Contractor and 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]. Carryout hazard assessment for each hot work event.
  - .2 Use of a Hot Work Permit system, issued by an authorized person in Contractor's employ, for each event when Hot Work is required, granting permission to carryout 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 occupational health and safety regulations 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 and Contractor.

1.9 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, designated by Contractor, 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.
  - .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 as 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 Industry Standard forms shall only be used 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 Contractor's Site Superintendent for safe keeping.

1.10 Fire Protection and Alarm Systems

- .1 Fire protection and alarm systems shall not be:
  - .1 Obstructed.
  - .2 Shut-off, unless approved by *Departmental 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 fire fighting.
- .3 Costs incurred, from the fire department, building owner [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 *Departmental 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.

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PART 1 - GENERAL

- |                             |    |   |
|-----------------------------|----|---|
| <u>1.1 Section Includes</u> | .1 | Procedures to isolate and lockout electrical facility or other equipment from energy source.  |
|                             |    |   |
| <u>1.2 Related Work</u>     | .1 | Section 01 35 29: Health and Safety   |
|                             | .2 | Section 01 35 24: Fire Safety Requirements  |
|                             |    |   |
| <u>1.3 References</u>       | .1 | CSA C22.1-2002 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.  |
|                             | .2 | CSA C22.3 No. 1-M87 (R2001) - Overhead Systems.   |
|                             | .3 | CSA C22.3 No. 7-94 (R2000) - Underground Systems.   |
|                             | .4 | COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.   |
|                             |    |   |
| <u>1.4 Definitions</u>      | .1 | Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons. |
|                             | .2 | Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment is 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 Perform lockouts in compliance with:
  - .1 Canadian Electrical Code
  - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in section [01 35 29].
  - .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. 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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1.6 Submittals

- .1 Submit copy of proposed Lockout Procedures and sample form of [lockout permit] [or] [lockout tags] for review.
- .2 Submit documentation within [14] calendar days of contract award. Do not proceed with work until submittal has been reviewed by Departmental Representative.
- .3 Submit above documents in accordance with the submittal - general requirements specified in section 01 33 00.
- .4 Resubmit Lockout Procedures with noted revisions as may result from Departmental Representative's review.

1.7 Isolation of Existing Services

- .1 Obtain Departmental Representative's written authorization prior to conducting work on an existing active, energized service or facility required as part of the work and before proceeding with lockout of such services or facility.
- .2 To obtain authorization, submit to Departmental Representative 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 Departmental Representative, and as follows:
  - .1 Fill-out standard forms in current use at the Facility when so directed by Departmental Representative or;
  - .2 Where no form exist at Facility, make request in writing identifying:

- .1 Identification of system or equipment to be isolated, including it's location;
  - .2 Time duration, indicating Start time & date and Completion time & date when isolation will be in effect.
  - .3 Voltage of service feed to system or equipment being isolated.
  - .4 Name of person making the request.
- .3 Document to be in typewritten format.
- .4 Do not proceed until receipt of written notification from Departmental Representative granting the Isolation Request and authorizing to proceed with the isolation of designated equipment or facility. Departmental Representative may designate other individual at the Facility as the person authorized to grant the Isolation Request.
- .5 Conduct safe, orderly shut down of equipment or facilities, de-energize and isolate power and other sources of energy and lockout items in accordance with requirement of clause 1.8 below.
- .6 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.
- .7 Determine in advance, as much as possible, in cooperation with the Departmental Representative, the type and frequency of situations which will require a Request for Isolation. Follow Departmental Representative's directives in this regard.
- .8 Conduct hazard assessment as part of the planning process of isolating existing

equipment and facilities. Hazard Assessments to conform with requirements of Health and Safety Section [01 35 29].

### 1.8 Lockouts

- .1 Isolate and lockout electrical facilities, mechanical equipment and machinery from all potential energy sources prior to starting work on such items.
- .2 Develop and implement lockout procedures to be followed on site as an integral part of the Work.
- .3 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.
- .4 Use industry standard lockout tags.
- .5 Provide appropriate safety grounding and guards as required.
- .6 Prepare Lockout Procedures in writing. Describe safe work practices, work functions and sequence of activities to be followed on site to safely isolate all potential energy sources and lockout/tagout facilities and equipment.
- .7 Include within procedures a system of worker request and issuance of individual lockout permit by a person, employed by Contractor, designated to be "in-charge" and being responsible for:
  - .1 Controlling issuance of permits or tags to workers.
  - .2 Determining permit duration.
  - .3 Maintaining record of permits and tags issued.
  - .4 Submitting a Request for Isolation to *Departmental Representative* when required in accordance with Clause 1.7 above.

- .5 Designating a Safety Watcher, when one is required based on type of work.
  - .6 Ensuring equipment or facility has been properly isolated, providing a Guarantee of Isolation to worker(s) prior to proceeding with work.
  - .7 Collecting and safekeeping lockout tags, returned by workers, as a record of the event.
  - .8 Clearly establish, describe and allocate, within procedures, the responsibilities of:
    - .1 Workers.
    - .2 Designated person controlling issuance of lockout tags/permits.
    - .3 Safety Watcher.
    - .4 Subcontractors and General Contractor.
  - .9 Procedures shall meet the requirements of Codes and Regulations specified in clause 1.5 above.
  - .10 Generic procedures, if used, must be edited, supplemented with pertinent information and tailored to reflect specific project conditions. Clearly label as being the procedures applicable to this contract.
    - .1 Incorporate site specific rules and procedures established by Facility Manager and in force at site. Obtain such procedures through *Departmental Representative*.
  - .11 Procedures to be in typewritten format.
  - .12 Submit copy of Lockout Procedures to Departmental Representative, in accordance with submittal requirements of clause [1.6] herein, prior to commencement of work.
- 1.9 Conformance .1 Ensure that lockout procedures, as established for project on site, are

stringently followed. Enforce use and compliance by all workers.

- .2 Brief all persons working on electrical facilities, mechanical and other equipment fed by an energy source on requirements of this section.
- .3 Failure to perform lockouts in accordance with regulatory requirements or follow procedures specified herein may result in the issuance of a Non-Compliance Notification at Departmental Representative's discretion with possible disciplinary measures imposed as specified in section [01 35 29].

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 submitted to *Departmental Representative* and lockout permits or tags issued to workers during the course of work for full project duration.
- .3 Upon request, make such data available to *Departmental 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.

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1. Related Requirements
    - .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by Departmental Representative are 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 Contractor's 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 by Contractor under the supervision of Departmental Representative.
    - .2 Where tests or inspections by designated testing laboratory reveal work not in accordance with contract requirements, Contractor shall 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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allow for assignment of laboratory personal  
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.



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| 1. <u>Access</u>   | <ul style="list-style-type: none"><li>.1    Provide and maintain adequate access to project site.</li><li>.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 Contractor's use of roads.</li><li>.3    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.</li></ul> |
| 2.    Contractor's<br><u>Site Office</u>                     | <ul style="list-style-type: none"><li>.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 either by the Contractor or his authorized agent or representative. Provide a telephone in the office.</li><li>.2    Keep one up-to-date copy of contract documents, bulletins and other materials as specified under <b>Section 01 10 10.</b></li></ul>  |
| 3.    Departmental<br>Representative's<br><u>Site Office</u> | <ul style="list-style-type: none"><li>.1    n/a</li></ul>   |
| 4. <u>Storage Sheds</u>                                      | <ul style="list-style-type: none"><li>.1    Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.</li><li>.2    Contractor to make his own arrangements for on-site storage areas.</li></ul>   |

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| 5. <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.  |
| 6. <u>Parking</u>             | .1     Contractor to make own arrangements to provide parking space for work force.   |
| 7. <u>Power</u>               | .1     Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances.   |
|                               | .2     Install temporary facilities for power such as pole lines and cables to approval of local power supply authority.  |
| 8. <u>Water Supply</u>        | .1     Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances.  |
| 9. <u>Barricades</u>          | .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     Types and location of barricades, etc. to be in accordance with local regulations and to the satisfaction of Departmental Representative.  |
|                               | .3     The presence of such barricades, lights, etc. shall not relieve the Contractor of the responsibility for any damages.  |
| 10. <u>Security</u>           | .1     Contractor to make his own arrangements for security of his equipment, materials, damages resulting from fire and theft.   |

11. 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.

12. 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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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 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.
    - .4 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified.
  2. Manufacturers Instructions
    - .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
    - .2 Notify Departmental Representative in writing of any conflict between these specifications and manufacturers instructions. Departmental Representative will designate which document is to be followed.
  3. Fastenings-General
    - .1 All fastenings are to be the sizes indicated on the contract plans and are to be hot dipped galvanized to CSA-G164 Latest Edition unless otherwise noted.
  4. Delivery and Storage
    - .1 Deliver, store and maintain packaged material and equipment with manufacturer's seal and labels intact.
    - .2 Prevent damage, adulteration and soiling of material and equipment during delivery,
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- handling and storage. Immediately remove rejected material and equipment from site.
- .3 Store material and equipment in accordance with supplier's instructions.
5. Conformance .1 When material or equipment is specified by standard or performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.
6. Substitution .1 Proposals for substitution may be submitted only after award of Contract. Such requests must include statements of respective costs of items originally specified and proposed substitutions.
- .2 Proposals will be considered by Departmental Representative if:
- .1 Products selected by tenderer from those specified, are not available, or
- .2 Delivery date of products from those specified would unduly delay completion of Contract, or
- .3 Alternative products to those specified, which are brought to attention of, and considered by Departmental Representative as equivalent to those specified and will result in a credit to Contract amount.
- .3 Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution.
- .4 Amounts of all credits arising from approval of substitutions will be determined by Departmental Representative and Contract price will be reduced accordingly. No substitutions will be permitted without prior

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- written approval of Departmental Representative.
- .5 Owner reserves the right for acceptance or rejection of substitution of materials.
7. Construction  
Equipment and Plant .1 On request, prove to the satisfaction of Departmental Representative that the construction equipment and plant are adequate to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.
- .2 Maintain construction equipment and plant in good operating order.
8. Damaged and  
Rejected Materials .1 Immediately replace, repair or otherwise make good any material damaged, broken or defaced during construction to the satisfaction of Departmental Representative.
- .2 Remove rejected materials from site.

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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.

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| 1. <u>General</u>                      | <ul style="list-style-type: none"><li>.1    Conduct cleaning and disposal operations to comply with ordinances and antipollution laws.</li><li>.2    Store volatile waste in covered metal containers, and remove from premises at end of each working day.</li><li>.3    Prevent accumulation of waste which create hazardous conditions.</li></ul>   |
| 2. <u>Cleaning During Construction</u> | <ul style="list-style-type: none"><li>.1    Maintain the work, at least on a daily basis free from accumulations of waste material and debris.</li><li>.2    Provide on-site containers for collection of waste materials, and debris.</li><li>.3    Remove waste materials, and debris from site.</li><li>.4    Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet concrete or newly painted surfaces.</li></ul> |
| 3. <u>Final Cleaning</u>               | <ul style="list-style-type: none"><li>.1    In preparation for acceptance of the project on an interim or final certificate of completion perform final cleaning.</li><li>.2    Remove grease, dust, dirt, stains, and other foreign materials from finished surfaces.</li></ul>   |