

PART 1 - GENERAL

- 1.1 Documents Required .1 Maintain at job site, one (1) copy each of the following:
- .1 Contract drawings;
 - .2 Specifications;
 - .3 Addenda;
 - .4 Reviewed shop drawings/submissions;
 - .5 Change Orders;
 - .6 Other modifications to Contract;
 - .7 Field test reports;
 - .8 Copy of approved work schedule;
 - .9 Manufacturer's installation and application instructions.
- 1.2 Site Conditions .1 Existing drawings are available upon request.
- 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; dates of submissions, review and return of all drawings, etc.; 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 will notify the Contractor 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 Contractor's Construction Schedule or the furnishing of details and particulars thereto will not relieve the

Contractor of any duties and responsibilities under the Contract.

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| 1.4 | <u>Measurement Responsibilities</u> | .1 | Notify Departmental Representative sufficiently in advance of operations to permit required measurements for payment purposes. |
| 1.5 | <u>Contractor's Use of Site</u> | .1 | Cooperate with Departmental Representative, Canal Operations, 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 Canal. |
| | | .2 | All on-site work is to be scheduled and approved by the Departmental Representative and Canal Operations. There may be times where on-site work will need to be temporarily suspended and equipment removed from navigation channel (for period of 1 - 2 hours) so as to allow for vessel traffic through the Canal. The Departmental Representative and/or Canal Operations will notify the Contractor as soon as possible when such temporary suspension of work and removal of equipment from navigation channel is necessary. Costs associated with work disruptions from vessel traffic through the Canal (i.e. temporary suspension of work and removal of equipment from navigation channel for period of 1- 2 hours) is to be considered incidental to the Work |
| | | .3 | Should interferences occur, take directions from the Departmental Representative. |
| | | .4 | Do not unreasonably encumber site with materials or equipment. |
| | | .5 | Move stored products or equipment which interfere with operations of Departmental Representative or other Contractors. |
| | | .6 | Obtain and pay for use of additional storage or work areas needed for operations. |
| | | .7 | Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water. |
| | | .8 | Allow for no damage to occur to existing structures as a result of the Work. Repair any damage that is caused as a result of the Work at |

no additional cost to the Contract and to the satisfaction of the Departmental Representative.

- .9 Provide temporary barriers and warning signs in location where work is adjacent to areas used by public.
- .10 Provide and implement an approved traffic control plan.

1.6 Codes and Standards

- .1 Perform work in accordance with National Building Code of Canada (NBC) 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 the Nova Scotia Occupational Health and Safety Act, and Regulations made pursuant to the Act. In the event of conflict between any provisions of above authorities, the most stringent provision will apply.

1.7 Project Meeting

- .1 Departmental Representative will arrange project meetings and assume responsibility for setting times and recording and distributing 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 for completion will be granted because of this suspension of this 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 Traffic Control

- .1 Provide traffic control in accordance with Traffic Control Manual issued by Nova Scotia Transportation and Infrastructure Renewal.
- .2 Consult with local authorities having jurisdiction for possible additional or special requirements.
- .3 Meet with local authorities having jurisdiction prior to start of construction to determine allowable diversions of traffic, pedestrian, and access to construction area.
- .4 Provide traffic control personnel, signals, lights, and other traffic control methods where required.
- .5 Provide and maintain signs, delineators, barricades, barriers, and miscellaneous warning devices to indicate construction activities or other temporary and unusual conditions.

1.10 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 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.

1.11 Contract Documents

- .1 Contract Drawings:
 - .1 The drawings listed in these "Plans and Specifications" marked "A" and any additional drawings issued at a later date by the Departmental Representative.
 - .2 The Departmental Representative may furnish additional drawings to assist in proper execution of work. These drawings will be issued for clarification only. Such drawings will have same meaning and intent as if they were included with plans referred to in Contract Documents.
 - .3 The drawings indicate the extent and general dimensions of the work. Make all necessary measurements to ensure that the result of the work is in accordance with the intent.
 - .4 Verify all existing conditions in field prior to proceeding with work.
- .2 Contract Specifications:
 - .1 The general requirements and technical specifications are written solely for the General Contractor. They are organized into the NMS format of separate divisions and sections.
 - .2 Specification language is the "Short Form Type", for example, where the word "provide" occurs, interpret it to mean "the Contractor shall furnish all labour, material and equipment necessary to complete the work".
 - .3 These Specifications and accompanying drawings are intended to describe and provide for a finished project. They are intended to be complementary, and what is called for by either will be as binding as if called for by both. The Contractor shall understand that the work herein described will be complete in every detail, notwithstanding that every item necessarily involved is not particularly mentioned, and Contractor will be held to provide all labour, materials and equipment necessary for the entire completion of the work and will not avail himself of any errors or omissions.

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| 1.12 <u>Permits and 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 and all required Municipal permits at no additional expense to the Contract. |
| 1.13 <u>Cutting, Fitting & 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 ensure flush transitions between new and existing work. |
| | .4 | Obtain the Departmental Representative's approval before cutting, boring or sleeving, or excavating adjacent to load-bearing members. |
| 1.14 <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. |
| 1.15 <u>Payment</u> | .1 | See Section 01 29 00 for work item payment breakdown. |
| | .2 | 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. |

- 1.16 Site Examination .1 An optional site visit has been arranged by the Departmental Representative. All parties tendering are recommended to attend to make themselves thoroughly acquainted with site conditions, conditions of existing objects to be removed, tides, degree of exposure and all information necessary for the proper carrying out of the work covered by the drawings and this Specification. Submission of Tender will be deemed that Contractor is conversant with site conditions.
- .2 The Departmental Representative will give no consideration whatsoever to any claim by the Contractor resulting from Failure to have made all the necessary investigations prior to tendering.
- 1.17 Maintenance of Shipping .1 Liaise with the Departmental Representative and Canal Operations to coordinate activities such that any interference is minimized.
- 1.18 Cooperation and Assistance to Departmental Representative .1 Co-operate with Departmental Representative on inspection of work.
- .2 Provide assistance when requested.
- .3 Provide small motorboat with operator for Departmental Representative's use when requested.
- 1.19 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.
- 1.20 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.

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| 1.21 <u>Workers' Compensation</u> | .1 | Contractor and all sub-contractors must be registered under the Workers Compensation Act and provide evidence of good standing. |
| | .2 | At completion of Contract and before final payment is made, the Contractor will present to the Departmental Representative a Letter of Certification from the Workers Compensation Board, showing that all required assessments are paid in connection with all trades. |
| 1.22 <u>Laws, Standards Taxes and Fees</u> | .1 | Comply with all laws and standards governing all or any part of the work, pay all applicable taxes and pay for all permits and certificates required in respect of the execution of the work. Where variances exist between the requirements of agencies governing all or any part of the work, the most restrictive will govern, but in no instance will the standards established by the drawings and this Specification, which exceed such requirements, be reduced. |
| 1.23 <u>Protection and Repair</u> | .1 | Repair any damage resulting from operations under this contract. |
| | .2 | Maintain protection to basin and wharf/floats throughout fishing season. |
| 1.24 <u>Location of Equipment Fixtures</u> | .1 | Location of equipment, fixtures or any and appurtenances indicated are to be considered approximate. |
| 1.25 <u>Inspection and Testing</u> | .1 | The Departmental Representative may employ an Inspector and/or Testing Company to confirm the work conforms with contracts. |
| 1.26 <u>Disposal of Debris</u> | .1 | Dispose of debris, including construction materials not incorporated in the work, oil products and containers and other materials of this nature in suitable locations off the site. |
| | .2 | Material from the work will not be permitted to go adrift or otherwise become a menace to navigation. |

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| 1.27 <u>Existing Soils Conditions</u> | .1 | Any information pertaining to existing conditions are furnished by the Departmental Representative as a matter of general information only. |
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| 1.28 <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 Departmental Representative's property. |
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| 1.29 <u>Operations and Maintenance Data</u> | .1 | Submit Operations and Maintenance data in accordance with the requirements set forth in Section 01 33 00 - Submissions/Shop Drawing; and for any Section in these Specifications that require operation and maintenance data to be submitted. |
| | .2 | Provide cut sheets, manufacturer's literature, spare part information, maintenance schedules, operational data and any other material deemed useful by the Departmental Representative. |
| | .3 | Provide three (3) hard copies and one (1) electronic copy of all Operation and Maintenance data to the Departmental Representative in the format specified in Section 01 78 00 - Closeout Submittals. |

PART 2 - PRODUCTS

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| <u>2.1 NOT USED</u> | .1 | Not applicable. |
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PART 3 - EXECUTION

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| <u>3.1 NOT USED</u> | .1 | Not applicable. |
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END OF SECTION

PROJECT PARTICULARS

- 1.1 Description of Work .1 The work covered by the Plans and Specifications includes, but is not limited to:
- .1 Selective demolition and off-site disposal of existing concrete, as indicated on Drawings.
 - .2 Construction of new steel pile supported structure, completed with tremie concrete infill and reinforced concrete walls, pile cap and copewall.
 - .3 Placement of tremie concrete to remediate scour at base of canal and caisson walls, as indicated on Drawings.

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 and provided in accordance with the Construction Schedule and other plans indicated requiring submittal to and approval by the Departmental Representative.
- .2 The unit and lump sum prices for all items herein shall be full compensation for the work of the Item and shall include the cost of furnishing all labour, materials, tools, construction utilities and equipment necessary to complete the work in accordance with the Contract, Drawings and Specifications, and shall cover all costs of surety, management, supervision, labour, materials, plant and services, security provisions, and all operations and allowances customary and necessary to complete each item and the Contract as a whole notwithstanding the fact that not every such necessary operation is mentioned or included specifically for measurement.
- 1.3 Measurement for Payment .1 Lump Sum Items: the following items, to be read in conjunction with both the project drawings and the technical specifications is to cover all miscellaneous work activities that do not lend themselves easily to measurement and quantification:

Division 01:

- .1 Site Organization & Environmental Controls:
Project Management, construction site control and coordination, plan and schedule submissions, assistance to the Departmental Representative, mobilization and demobilization, Contractor's site offices as required, permitting and/or permissions in accordance with requirements of Authorities having jurisdiction, regulatory requirements, safety, environmental protection, pollution and sedimentation control, water quality monitoring Quality Control, Independent laboratory testing and reporting, Preconstruction Condition Survey and Post-Construction Condition Survey, reports as specified, inspections as specified, selective site demolitions and removals, security provisions and allowances, traffic control, temporary works, temporary roads and access as required, snow clearing, temporary power/utilities, site improvements and reinstatement required to perform the work, construction hoarding, disposal of wastes, marker stakes, record drawings, warranties, cleaning, and all incidentals.

Division 03

- .2 Reinforced Concrete:
Supply and construction of the cast-in-place reinforced concrete walls, pile cap and copewall as indicated on Drawings. Supply, transportation and installation of concrete, concrete formwork, reinforcement, anchors, dowels, embedded items and all supplementary materials incidental to the work.

Division 31

- .3 Demolition and Selective Concrete Removals:
This includes selective demolition and off-site disposal of reinforced concrete as indicated on Drawings.
- .4 Pipe Pile - Supply:
Supply of steel pipe piles indicated on Drawings. Transportation of piles and all

supplementary materials, including supply/installation of ring bits, and additional pile length for installation methods and cut-off will be considered incidental to the work.

.5 Pipe Pile - Installation:

This price includes the drilling/installation of piles, removal of material from interior of pipe piles, Geotechnical Engineer inspection services, dive inspection, reinforced concrete infill, concrete quality testing and all accessories and hardware and all supplementary materials. Supply and installation of SSP closure, including installation of anchors, connectors, and removal of marine sediments in preparation of tremie concrete infill incidental to the work.

.6 Earthworks and Site Reinstatement:

This price includes excavation, shoring, dewatering, disposal of surplus materials, filter fabric, filling, grading, removal and construction of concrete slab-on-grade, site improvements and reinstatement of disturbed surfaces with matching materials and thicknesses.

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

Division 03

.1 Tremie Concrete - Concrete Plug:

Tremie concrete for concrete plug infill will be measured for payment by the cubic metre delivered and placed based on truck/batch tickets for loads delivered to site. This includes supply, transportation and installation of concrete, and all supplementary materials incidental to the work.

.2 Tremie Concrete - Scour Repair:

Tremie concrete for scour repair at base of canal and caisson walls will be measured for payment by the cubic metre delivered and placed based on truck/batch tickets for

loads delivered to site. This includes supply, transportation and installation of concrete, and all supplementary materials incidental to the work.

END OF SECTION

PART 1 - GENERAL

- 1.1 General
 - .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.
- 1.2 Shop Drawings
 - .1 Drawings to be originals prepared by contractor, subcontractor, supplier, or distributor, which illustrate appropriate portion of work, showing fabrication, layout, setting or erection details as specified in appropriate sections.
 - .2 Identify details by reference to sheet and detail numbers shown on Contract Drawings.
 - .3 Maximum sheet size 860mm X 1120 mm.
- 1.3 Product Data
 - .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.
- 1.4 Samples
 - .1 Submit samples in sizes and quantities specified.
 - .2 Construct field samples and mock-ups at locations acceptable to Departmental Representative.
 - .3 Accepted samples will become standards of workmanship and material against which, installed work will be checked on project.
- 1.5 Miscellaneous Data
 - .1 Provide certificates, methodologies, design, and test results as required.
- 1.6 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 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 the Departmental Representative's review of submission unless the Departmental Representative gives written acceptance of specified deviations.
- .6 Notify the Departmental Representative, in writing at time of submission, of deviations from requirements of contract documents stating reasons for deviations.
- .7 After the Departmental Representative's review, distribute copies.

1.7 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 Contractor requires for distribution, plus two (2) copies which will be retained by the Departmental Representative. Provide one (1) electronic file in PDF file format for all submittals.
- .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 ASTM numbers.
- .9 Contractor's stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with contract documents.

1.8 Shop Drawings Review

- .1 The review of shop drawings by the Departmental Representative and Government Services Canada or its authorized Departmental Representative, 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 co-ordination of the work of all sub-trades.

1.9 Other Reviews

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

PART 2 - PRODUCTS

2.1 Not Used

- .1 Not applicable

PART 3 - EXECUTION3.1 Not Used

.1 Not applicable.

END OF SECTION

PART 1 - GENERAL

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| 1.1 | <u>Work Included</u> | .1 | Fire Safety Requirements |
| | | .2 | Hot Work Permit |
| | | .3 | Existing Fire Protection and Alarm Systems |
| 1.2 | <u>Related Work</u> | .1 | Section 01 35 29: Health and Safety Requirements |
| | | .2 | Section 01 35 25: Special Procedures on Lockout Requirements |
| 1.3 | <u>References</u> | .1 | FCC No. 301-June 1982 Standard for Construction Operations. |
| | | .2 | FCC No. 302-June 1982 Standard for Welding and Cutting. |
| 1.4 | <u>Definitions</u> | .1 | Hot Work is 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 | <u>Submittals</u> | .1 | Submit a copy of Hot Work Procedures, to the 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 | <u>Fire Safety & Hot Work Requirement</u> | .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 - Health and Safety Requirements.
- .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, the Departmental Representative will advise on the course of action to be followed.
- .3 Hot Work Requirements:
 - .1 Obtain the 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 the 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 (1) 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, the Departmental Representative might designate certain portions of the work as separate entities, each entity requiring individual written authorization to proceed. Follow the Departmental Representative's directives in this regard.
- .4 Do not perform any Hot Work until receipt of the Departmental Representative's written Authorization to Proceed.

- 1.7 Conformance
- .1 Stringently follow Hot Work Procedures, as established for project, and agreed upon with the Departmental Representative. 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 Noncompliance Notification at Departmental Representative's discretion with possible disciplinary measures imposed as specified in Section 01 35 29 - Health and Safety Requirements.
- 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 practices 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 - Health and Safety Requirements. Carry out 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 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 - Health and Safety Requirements.
 - .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 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.
 - .4 Returned to Contractor's Site Superintendent for safe keeping.

1.10 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 applicable.

PART 3 - EXECUTION

3.1 Not Used

- .1 Not applicable.

END OF SECTION

PART 1 - GENERAL

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| 1.1 | <u>Description</u> | .1 | Procedures to isolate and lockout electrical facility or other equipment from energy source. |
| 1.2 | <u>Related Work</u> | .1 | Section 01 35 29: Health and Safety Requirements. |
| | | .2 | Section 01 35 24: Special Procedures on Fire Safety Requirements. |
| 1.3 | <u>References</u> | .1 | CSA C22.1-21 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations. |
| | | .2 | CSA C22.3 No. 1-21, Overhead Systems. |
| | | .3 | CSA C22.3 No. 7-20, Underground Systems. |
| | | .4 | COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code. |
| 1.4 | <u>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 - Health and Safety Requirements.
 - .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 proposed Lockout Procedures and sample of 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.
 - .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.
 - .2 Where no form exist at Facility, make request in writing identifying:
 - .1 Identification of system or equipment to be isolated, including its 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 to Section 01 35 29 - Health and Safety Requirements.

1.8 Conformance

- .1 Stringently follow lockout procedures, as established for project on site. 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 the Departmental Representative's discretion with possible disciplinary measures imposed as specified in Section 01 35 29 - Health and Safety Requirements.

1.9 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 the Departmental Representative and lockout procedures issued to workers during the course of work for full project duration.
- .3 Upon request, make such data available to the Departmental Representative or to authorized safety representative for inspection.

PART 2 - PRODUCTS

2.1 Not Used

- .1 Not applicable.

PART 3 - EXECUTION

3.1 Not Used .1 Not applicable.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections
- .1 Section 01 35 24 - Special Procedures on Fire Safety Requirements.
 - .2 Section 01 35 25 - Special Procedures on Lockout Requirements.
 - .3 PSPC Policy on Occupational Health and Safety
<https://masource-mysource.spac-pspc.gc.ca/eng/services/rh-hr/santeseuritetravail-occupationalhealthsafety/normes-documents-standards/Pages/default.aspx>
 - .4 PSPC Directive on Construction Occupational Health and Safety
<https://masource-mysource.spac-pspc.gc.ca/eng/services/rh-hr/santeseuritetravail-occupationalhealthsafety/normes-documents-standards/Pages/default.aspx>
 - .5 PSPC Standard on Construction Occupational Health and Safety
<https://masource-mysource.spac-pspc.gc.ca/eng/services/rh-hr/santeseuritetravail-occupationalhealthsafety/normes-documents-standards/Pages/securite-construction-security.aspx>
- 1.2 Definitions
- .1 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.
 - .2 Medical Aid Injury: any 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.
 - .3 PPE: personal protective equipment.
 - .4 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.

- .5 Incident - occurrence, condition, or situation arising in the course of work that resulted in or could have resulted in injury, illness, property damage, environmental issues, or fatality.

1.3 Submittals

- .1 Make submittals in accordance with Section 01 33 00.
- .2 Submit a Site-Specific Health and Safety Plan prior to commencement of Work.
 - .1 Submit within 14 calendar days of notification of Bid Acceptance. Allow for 5-10 days for Department review and recommendations prior to the commencement of work. Provide three (3) copies.
 - .2 Departmental Representative will review Health and Safety Plan and provide comments.
 - .3 Revise the Plan as appropriate and resubmit within five (5) workdays after receipt of comments.
 - .4 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval, or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
 - .5 Submit revisions and updates made to the Plan during the course of Work.
- .3 Submit name of designated Health and Safety Site Representative and support documentation specified in the Safety Plan.
- .4 Submit building permit, compliance certificates and other permits obtained.
- .5 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other Department of Labour organization.
 - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.
- .6 Submit copies of reports or directions issued by Federal or Provincial authorities within 24 hours after the visit to the Departmental Rep.

- .7 Submit copies of incident reports (incident, accident, injury, near-miss, fire, explosion, chemical spill, or damage to property occurring at the work site) within 24 hours after the event to the Departmental Representative.
 - .8 Submit documented plans as prescribed through Public Health requirements, directions, orders and declarations. Include industry best practices when preparing the plan and revise/update accordingly and in a timely manner as per Public Health requirements and recommended industry best practices.
- 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 Where it is not possible to relocate staff to a suitable space away from the construction activities, then the bidders must be made aware in the construction specifications, tender and contract documents of this fact and that their worksite may also be subject to the provisions of the Canada Labour Code and Regulations made pursuant to the CLC Part II. This means that the affected Workplace Health and Safety Committee (WHSC) / Workplace Health and Safety Representative (WHSR) must be made aware of the activity. In such cases it is mandatory that an invitation be sent to the WHSC/WHSR to attend the start-up meeting.
 - .3 Comply with Provincial/Federal Public Health requirements, directions, and declarations. Prepare documented plans as prescribed by Public Health and/or industry best practices in consultation with the Departmental Representative.
 - .4 Canadian Standards Association (CSA):
 - .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.
 - .5 Observe construction safety measures of:
 - .1 NBC 2015, Division B, Part 8.
 - .2 NFC 2015,
 - .3 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. Maintain records of such orientation on site for review and audit by the Departmental Representative or their authorized inspector.

.4 Confirm 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.

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. Departmental Representative will assist in locating address if needed.

1.9 Permits

.1 Pay all fees to obtain all permits required to conduct the work.

.2 Is responsible to provide authorities with plans and information for acceptance certificates and the costs arising from same.

.3 Is responsible to provide inspections certificates as evidence that work conforms to requirements of Authorities Having Jurisdiction (AHJ).

.4 Post permits, licenses, and compliance certificates, specified in Section 01 10 10, at Work Site.

- .5 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing, and obtain approval to proceed before carrying out applicable portion of the work.
- 1.10 Hazard Assessments
 - .1 Perform a documented site specific Project hazard assessment for the Work. Include any site issues / hazards / concerns identified arising from the site visit that must be considered.
 - .2 Carryout initial assessment prior to commencement of Work with further assessments completed and documented 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 Share information and controls identified from original and updated Project hazard assessments with project workers. Record this information sharing complete with names and dates. Keep documentation on site for entire duration of the Work.
- 1.11 Project/Site Conditions
 - .1 The following are known hazardous substances, contaminated materials or contaminated conditions at site which shall be considered as health or environmental hazards and be properly managed should they be encountered as part of the work:
 - .1 Oil and grease residue in area of gate recess.
 - .2 The following are known or potential project related safety hazards at site:
 - .1 Existing overhead power lines.
 - .2 Existing underground services.
 - .3 Work above/near water.
 - .4 Confined space - pipe outfall.
 - .5 Vessel traffic.
 - .6 Underwater Work - Divers.
 - .7 Uneven surfaces (slip/trip hazards).
 - .8 Open excavations.
 - .9 Power Tools.
 - .10 Construction/hoisting Equipment.
 - .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 SDS 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 pre shift tool box talks with the crew and conduct regularly scheduled (minimum bi-weekly) safety meetings during the Work.
- .3 Keep documents on site for review by DR or their authorized rep.

1.13 Health and Safety Plan

- .1 Prior to commencement of Work, develop a written Site Specific Safety Plan for the Project. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
- .2 Items to include in the Site Specific Safety Plan:
 - .1 Name of the designated Site Safety Rep showing proof of his/her competence and reporting relationship in Contractor's company. This person is expected to be on site during all work execution.
 - .2 A copy of a current WCB Letter of Good Standing
 - .3 Details as to how WHMIS 2015 / GHS will be managed on site.
 - .4 Details as to how the Project work areas will be delineated / protected from other areas of the premises (fences, signs, etc.). Must be project specific.
 - .5 Details as to how Safety orientations will be managed. Include a summary of what topics are covered in the safety orientation.
 - .6 A copy of a Notice of Project that was sent to the Provincial OHS regulator.
 - .7 Project site specific hazard assessment.

- .8 Details as to how toolbox and safety meetings will be held and recorded.
- .9 An organizational chart illustrating supervision and subs (if available) that are assigned to this Project.
- .10 On-site Emergency Response Plans that cover all potential emergency situations that could arise. This should harmonize with the facility if possible. Emergency Contacts: name and telephone number of officials from:
 - .1 General Contractor and subcontractors. (key personnel)
 - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
 - .3 Local emergency resource organizations.
- .11 List of critical work activities which have a risk of endangering health and safety of Facility users and/or others.
- .12 Details as to how the subcontractors documented safety program will be reviewed and managed prior to allowing them to work on site.
- .13 Details as to how the site safety inspection program will be managed. Include frequency, assignment of responsibility as well as standard inspection form to be used.
- .14 Basic PPE requirements as well as specialized PPE requirements; minimum being hard hat, safety footwear, safety glasses and high vis vest.
- .15 General safety rules as well as the disciplinary protocols to be taken for noncompliance.
- .16 Details as to how Incident investigations will be managed. Include procedure and incident form.

- .2 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 weekly basis. Record deficiencies and remedial action taken.
 - .2 Follow-up and ensure corrective measures are taken.
 - .3 Share inspection reports with crews / subs
- .6 Cooperate with the Facility's and / or the PSPC Occupational Health and Safety representative.
- .7 Keep inspection reports and supervision related documentation on site.

1.15 Training

- .1 Use only skilled workers on Work Site who are deemed competent and are trained in occupational health and safety procedures and practices pertinent to their assigned task.
- .2 Permit employees registered in Provincial apprenticeship program to perform specific tasks only if under direct supervision of qualified licensed workers. Determine permitted activities and tasks by apprentices, based on level of training attended and demonstration of ability to perform specific duties.

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

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

1.16 Minimum Site
Safety Rules

.1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; the company shall establish rules to govern the conduct and actions of their employees. These rules should leave no room for discretion and argument. The rules must be enforced, and action should be taken every time a rule is violated.

.2 Brief persons of the documented disciplinary protocols to be taken for noncompliance. Post rules on site.

1.17 Correction Of
Non-Compliance

.1 The constructor shall:

.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 all incidents to Departmental Representative.
 - .2 Notify the Departmental representative as soon as reasonably practicable following the incident.
 - .3 Notify the Authority having Jurisdiction is notified as prescribed by applicable legislation.
 - .4 Submit report in writing.
- 1.19 Hazardous Products
 - .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).
 - .2 Keep SDS data sheets for all products delivered to site.
 - .1 Post on site.
 - .2 Submit copy to Departmental Representative.
- 1.20 Powder Actuated Devices
 - .1 Use powder actuated fastening devices only after receipt of written permission from Departmental Representative.
- 1.21 Confined Spaces
 - .1 Abide by occupational health and safety regulations regarding work in confined spaces.
 - .2 Safety for Inspectors:
 - .1 Provide PPE and training to Departmental Representative and other persons who require entry into confined space to perform inspections.
 - .2 Be responsible for efficacy of equipment and safety of persons during their entry and occupancy in the confined space.
- 1.22 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.
- 1.23 Posting of Documents
 - .1 Post applicable items, articles, notices, and orders

in a conspicuous location on the Work Site in accordance with Acts and Regulations of Province. See local legislation for specifics.

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

PART 2 - PRODUCTS

- 2.1 Not Used
 - .1 Not applicable

PART 3 - EXECUTION

- 3.1 Not Used
 - .1 Not applicable.

END OF SECTION

PART 1 - GENERAL

1.1 References

- .1 Canada Shipping Act, 2001, Transport Canada, as amended 2019-07-30, and associated regulations.
- .2 Impact Assessment Act, 2019, as amended 2019-08-28, and associated regulations.
- .3 Canadian Environmental Protection Act, 1999, Environment and Climate Change Canada, as amended on 2021-05-01, and associated regulations.
- .4 Fisheries Act, 1985, Fisheries and Oceans Canada, as amended 2019-08-28, and associated regulations.
- .5 Migratory Birds Convention Act, 1994, Environment and Climate Change Canada, as amended 2017-12-12, and associated regulations.
- .6 Canadian Navigable Waters Act, 1985, Transport Canada, as amended 2019-10-04, and associated regulations.
- .7 Species at Risk Act, 2002, as amended 2021-04-23, and associated regulations.
- .8 Nova Scotia Environment Act, 1995, as amended 2017., and associated regulations.
- .9 Transportation of Dangerous Goods Act, 1992, Transport Canada, as amended 2019-08-28, and associated regulations.
- .10 Hazardous Products Act, 1985, as amended 2018-05-23, and associated regulations.
- .11 Workplace Hazardous Materials Information System, Health Canada.

1.2 Definitions

- .1 Deleterious Substance: any substance that, if added to water, makes the water deleterious to fish or fish habitat or any water containing substance in such quantity or concentration or has been changed by heat or other means, that if added to water makes that water deleterious to fish or fish habitat.

- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.
- .3 Hazardous Material: any 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.
- .4 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.
- .5 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.
- .6 Alien species: refers to a species or subspecies introduced outside its normal distribution whose establishment and spread threaten ecosystems, habitats, or species with economic or environmental harm.
- .7 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.

1.3 Submittals

- .1 Submit in accordance with Section 01 33 00 - Submissions/Shop Drawings.
- .2 Prior to commencing construction activities or delivery of materials to site, submit

Environmental Protection Plan for review and approval by the Departmental Representative.

- .3 Environmental Protection Plan to present comprehensive overview of known or potential environmental issues which must be addressed during construction activities.
- .4 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5 Environmental protection plan to include:
 - .1 Name(s) of person(s) responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas including methods for protection of features to be preserved within authorized Work Areas.
 - .3 Spill Control Plan: including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
 - .4 Hazardous Materials Management Plan identifying hazardous materials for removal and disposal, as well as handling, storage, and transportation procedures to ensure protection of workers and the public.
 - .5 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
 - .6 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash do not become airborne and travel off project site.
 - .7 Contaminant prevention plan that: identifies potentially hazardous substances to be used on job site; identifies intended actions to prevent introduction of such materials into air, water, or ground; and details provisions for compliance with Federal, Provincial and Municipal laws and regulations for storage and handling of these materials.
 - .8 Wastewater management plan that identifies methods and procedures for management and/or discharge of waste waters which are

directly derived from construction activities, such as clean-up and disinfection water.

- .9 Erosion and Sediment control plan (refer to 1.9.3).

1.4 Transportation

- .1 Transport hazardous materials and hazardous waste in compliance with Federal Transportation of Dangerous Goods Act.
- .2 All on-site work is to be scheduled and approved by the Departmental Representative and Canal Operations. There may be times where on-site work will need to be temporarily suspended and equipment removed from navigation channel (for period of 1 - 2 hours) so as to allow for vessel traffic through the Canal. The Departmental Representative and/or Canal Operations will notify the Contractor as soon as possible when such temporary suspension of work and removal of equipment from navigation channel is necessary. Costs associated with work disruptions from vessel traffic through the Canal (i.e. temporary suspension of work and removal of equipment from navigation channel for period of 1- 2 hours) is to be considered incidental to the Work.
- .3 Any tools, equipment, vehicles, temporary structures, or parts thereof used to carryout work in navigable water shall not be permitted to remain in place after the completion of the project.
- .4 Do not overload trucks when hauling material. Secure contents against spillage.
- .5 Maintain trucks clean and free of mud, dirt, and other foreign matter.
- .6 Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the Work. Take extra care when hauling material and other hazardous materials. Immediately clean any spillage and soils.
- .7 Vessels must be permitted safe access through the worksite at all times.
- .8 All materials and equipment used in construction must be marked in accordance with the Collision

Regulations of the Canadian Shipping Act, 2001 when located on the waterway.

1.5 Operation of Machinery

- .1 Confirm machinery arrives on site in a clean condition and is maintained free of fluid leaks, alien species, 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 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.

1.6 Containment and Spill Management

- .1 Comply with Federal and Provincial laws, regulations, codes, standards, and guidelines for the storage of fuel and petroleum products on site.
- .2 Submit a copy of a Spill Response Plan for approval to the Departmental Representative within fifteen (15) working days of Contract award.
- .3 Use biodegradable fluids in place of petroleum products whenever possible.
- .4 Do not place fuel storage tanks and 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 the Departmental Representative of acceptable location on site for fuel storage and equipment service.
- .5 Do not dump petroleum products or any other deleterious substances on ground or in the water.
- .6 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.

- .7 Protect all catch basins, drains and watercourses from contamination in the event of a spill.
 - .8 All equipment to be used for the Work of the Contract must be free of fluid leaks and in good working order. Equipment will be inspected for fluid leaks before each use and at regular intervals during use. Equipment not in good repair to be immediately removed from use.
 - .9 Onsite crews must have emergency spill cleanup equipment, adequate for the activity involved, on-site. Spill equipment will include, as a minimum, at least one 250L (i.e., 55 gallon) overpack spill kit containing items to prevent a spill from spreading; absorbent booms, pillows, and mats; rubber gloves; and plastic disposal bags. Onsite crews to be trained in the use of spill control kits and the equipment they contain.
 - .10 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.
- 1.7 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 SDS data sheets on site for all hazardous materials.
 - .3 Maintain written inventory of all hazardous materials kept on site. List product name, quantity, and storage date.
 - .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- 1.8 Waste Management and Disposal
- .1 Do not bury rubbish, demolition debris and waste materials on site.

- .2 Dispose and recycle demolition debris and waste materials in accordance with Provincial Waste Management requirements.
- .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints, thinners, etc.) and petroleum products into waterways, storm, or sanitary sewers or in waste landfill sites.
- .4 Dispose of hazardous waste in accordance with applicable federal and provincial laws, regulations, codes, 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.

1.9 Water Quality

- .1 Conduct visual monitoring for suspended solids daily during periods of in-water works, and other related works. If any changes occur in the turbidity of the water in the vicinity of the work area as a result of construction activities, the work should immediately stop and the Department of Fisheries and Oceans – Fisheries Protection Program contacted at (902) 426-3909 to determine if additional mitigation measures are required.
- .2 Do not wash down equipment within a 30 metre buffer zone of a watercourse, wetland, or other identified environmentally sensitive area.
- .3 Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the water body during all phases of the work. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended

sediment has resettled to the bed of the water body or settling basin and runoff water is clear. The plan should, where applicable, include:

- .1 Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering the water body.
 - .2 Measures for managing water flowing onto the site, as well as water being pumped/diverted from the site such that sediment is filtered out prior to the water entering a water body (via settling basin or other filtration system).
 - .3 Site isolation measure (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., concrete removal and replacement, grouting, drilling, etc.).
 - .4 Measures for containing and stabilizing waste material (e.g., construction waste and materials, accumulated debris) above the high water mark of nearby water bodies to prevent re-entry.
 - .5 Regular inspection and maintenance of erosion and sediment control measures and structures during the course of the work.
 - .6 Repairs to erosion and sediment control measures and structures if damage occurs.
 - .7 Removal of non-biodegradable erosion and sediment control materials once site is stabilized.
- .4 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.

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- .5 Any construction debris/material that enters the marine environment will be removed immediately.
- 1.10 Socioeconomic Restrictions
- .1 Abide by municipal and provincial regulations for any restrictions on work performed during the nighttime and on flood lighting of the site. Obtain applicable permits.
- .2 Use work equipment and machinery with purposely designed mufflers to reduce noise on site to lowest possible level. Maintain mufflers in good operating condition at all times.
- 1.11 Bird And Bird Habitat
- .1 Comply with Federal and Provincial laws, Migratory Birds Convention Act (MBCA) in regard 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 nighttime work, position flood lights in opposite direction of nearby bird nesting habitat.
- .5 All machinery must be well muffled. If necessary, trucks may be required to avoid the use of "hammer" braking along specific sections of the route.
- .6 Contractors must ensure that food scraps and garbage are not left at the work site.
- .7 All equipment to be used in or over the marine environment is to be free from leaks or coating of hydrocarbon-based fluids and/or lubricants harmful to the environment. Hoses and tanks are to be inspected on a regular basis to prevent fractures and breaks.

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- 1.12 Fish and Fish Habitat
- .8 Construction activities will be carried out during times acceptable to local authorities.
 - .1 Avoid wet, windy, and rainy periods that may increase erosion and sedimentation.
 - .2 Confirm in-water activities, or associated in-water structures, do not interfere with fish passage.
 - .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, 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, pipelines and other all miscellaneous tools and equipment previously used in a marine environment.
 - .6 Cleaning and washing of equipment shall be performed immediately upon their arrival at the site and 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 watercourse, wetland, 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,
 - .3 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 washdown 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 of Environment Canada and the Department of Fisheries and Oceans – Oceans and Habitat Branch in cleaning and washdown of equipment.
- .12 Marine equipment may be inspected by PWGSC or DFO to ensure alien and invasive species are not introduced to the marine environment.

1.13 Air Quality

- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
- .2 Employ dust suppression by the application of water when required. Apply dust control measures to work areas. The Departmental Representative will determine locations where water is to be

applied and the times at which is to be applied. Waste oil must not 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.
- .5 Construction activities must be carried out during times acceptable to local authorities and smaller, less disturbing equipment will be used where possible.

1.14 Fires

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

PART 2 - PRODUCTS

2.1 Not Used

- .1 Not applicable.

PART 3 - EXECUTION

3.1 Not Used

- .1 Not applicable.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Requirements .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by the Departmental Representative are specified under various sections.
- 1.2 Appointment and Payment .1 Departmental Representative will appoint and pay for services of testing laboratory as part of their own Quality Assurance program. However, the Contractor is responsible for the payment and coordination of all Quality Control testing, including:
- .1 All field quality control testing and inspection items relating to the Contractor's work. The Contractor will be responsible for all testing as part of their work to ensure Quality Control. All results must be forwarded to the Departmental Representative for review.
 - .2 Inspection and testing required by laws, ordinances, rules, regulations, or orders of public authorities.
 - .3 Inspection and testing performed exclusively for Contractor's convenience.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by the 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 to pay costs for additional tests or inspections as Departmental Representative may require verifying acceptability of corrected work.
- 1.3 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 the Departmental Representative sufficiently in advance of operations to 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.

PART 2 - PRODUCTS

- 2.1 Not Used .1 Not applicable.

PART 3 - EXECUTION

- 3.1 Not Used .1 Not applicable.

END OF SECTION

PART 1 - GENERAL

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| 1.1 <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 Contractor's use of roads. |
| | .3 | Maintain full access to the work site. Should a court injunction be required ordering a person or group to refrain from impeding access to the site, such as a demonstration, picketing or union action, then obtaining the injunction and any associated costs will be considered incidental to this Contract. Any delays associated with such activity will be considered incidental to this Contract. |
| 1.2 <u>Contractor's 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 either by the Contractor or his 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. |
| 1.3 <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. |
| 1.4 <u>Sanitary Facilities</u> | .1 | Provide temporary sanitary facilities for work force in accordance with governing regulations and ordinances. There will be no access to existing permanent sanitary facilities at the project site. |

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| | .2 | Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition. |
| 1.5 <u>Parking</u> | .1 | Make arrangements with the Departmental Representative to provide parking space for work force. |
| 1.6 <u>Power</u> | .1 | Arrange, pay for, and maintain temporary electrical power supply required to complete the work. There will be no access to existing electrical power at the project site. |
| 1.7 <u>Water Supply</u> | .1 | Arrange, pay for, and maintain temporary water supply in accordance with governing regulations and ordinances. There will be no access to existing water supply at the project site. |
| 1.8 <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. will not relieve the Contractor of the responsibility for any damages. |
| 1.9 <u>Security</u> | .1 | Make arrangements with the Departmental Representative for security of equipment, materials, damages resulting from fire and theft. |
| | .2 | Departmental Representative will arrange and pay for Commissionaire services. This does not relieve responsibility to provide security of equipment, materials, damages resulting from fire and theft. |
| 1.10 <u>Site Signs and Notices</u> | .1 | Only Project Identification and the Departmental Representative/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.
- 1.11 Temporary Shoring
 - .1 Maintain the stability of existing structures at all times during work.
 - .2 Provide the Departmental Representative a temporary shoring plan for approval. Plan must be stamped and signed by a professional engineer licensed to practice in the Province of Nova Scotia.
- 1.12 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.

PART 2 - PRODUCTS

- 2.1 Not Used
 - .1 Not applicable.

PART 3 - EXECUTION

- 3.1 Not Used
 - .1 Not applicable.

END OF SECTION

PART 1 - GENERAL

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| 1.1 <u>General</u> | <ul style="list-style-type: none">.1 Use new material and equipment unless otherwise specified..2 Submit following information for any or all materials and products proposed for supply within seven (7) days of request by the Departmental Representative:<ul style="list-style-type: none">.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 a single manufacturer for equipment or material of same type or classification unless otherwise specified. |
| 1.2 <u>Manufacturer's Instructions</u> | <ul style="list-style-type: none">.1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods..2 Notify the Departmental Representative in writing of any conflict between these specifications and manufacturers' instructions. Departmental Representative will designate which document is to be followed. |
| 1.3 <u>Fastenings - General</u> | <ul style="list-style-type: none">.1 All fastenings are to be the sizes indicated on the contract plans and are to be hot dipped galvanized to ASTM A123 or CSA G164, unless otherwise noted. |
| 1.4 <u>Delivery and Storage</u> | <ul style="list-style-type: none">.1 Deliver, store and maintain packaged material and equipment with manufacturer's seal and labels intact..2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling, |

and storage. Immediately remove rejected material and equipment from site.

- .3 Store material and equipment in accordance with the manufacturer's or supplier's instructions.

1.5 Conformance

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

1.6 Substitution

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

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| 1.7 Construction Equipment and <u>Plan</u> | .1 | On request, prove to the satisfaction of the Departmental Representative that the construction equipment and plant are adequate to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed. |
| | .2 | Maintain construction equipment and plant in good operating order. |
| 1.8 Damaged and <u>Rejected Materials</u> | .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. |

PART 2 - PRODUCTS

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

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

PART 1 - GENERAL

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| 1.1 <u>Record Drawings</u> | .1 | Departmental Representative will provide two (2) 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 the Departmental Representative. |
| | .3 | Mark changes in red coloured ink. |
| | .4 | Record following information: <ul style="list-style-type: none">.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 the Departmental Representative. |

PART 2 - PRODUCTS

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

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

PART 1 - GENERAL

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| 1.1 <u>General</u> | .1 Conduct cleaning and disposal operations to comply with local ordinances and antipollution laws. |
| | .2 Store volatile waste in covered metal containers and remove from premises at end of each working day. |
| | .3 Prevent accumulation of waste which creates hazardous conditions. |
| 1.2 <u>Cleaning During Construction</u> | .1 Maintain the work, at least on a daily basis free from accumulations of waste material and debris. |
| | .2 Provide on-site containers for collection of waste materials, and debris. |
| | .3 Remove waste materials, and debris from site. |
| | .4 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces. |
| 1.3 <u>Final Cleaning</u> | .1 In preparation for acceptance of the project on an interim or final certificate of completion perform final cleaning. |
| | .2 Remove grease, dust, dirt, stains, and other foreign materials, from exterior finished surfaces. |

PART 2 - PRODUCTS

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

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

PART 1 - GENERAL1.1 Definitions

- .1 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .2 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .3 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .4 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .5 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .6 Separate Condition: refers to waste sorted into individual types.
- .7 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.
- .8 Waste Management Coordinator (WMC): Contractor representative responsible for supervising waste management activities.

1.2 Waste Management Workplan

- .1 Prior to commencement of work, prepare a Waste Management Workplan.
- .2 Workplan to include:
 - .1 Waste reduction practices.
 - .2 Material source separation process.
 - .3 Procedures for sending recyclables to recycling facilities.
 - .4 Procedures for sending non-salvageable items and waste to approved waste processing

facility or landfill site.

- .5 Training and supervising workforce on waste management at site.
- .6 Descriptions of and anticipated quantities in percentages of materials to be salvaged reused, recycled, and landfilled.
- .7 Schedule of selective demolition.
- .8 Number and location of dumpsters.
- .9 Anticipated frequency of tipping.
- .10 Name and address of haulers, waste facilities and waste receiving organizations.

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

1.3 Submittals

- .1 Provide submittals, including the Waste Management Work Plan, in accordance with Section 01 33 00 - Submissions/Shop Drawings.
- .2 Submit copies of certified receipts from authorized disposal sites and reuse and recycling facilities for material removed from site on a weekly basis.
 - .1 Written authorization from the Departmental Representative is required to deviate from haulers, facilities and receiving organizations listed in Waste Management Workplan.
 - .2 Include copy of weigh bills, scale tickets and disposal receipts for all waste disposed.

1.4 Storage, Handling, and Protection

- .1 Store materials to be reused, recycled, and salvaged in locations as directed by the Departmental Representative.

- .2 Unless specified otherwise, materials for removal become Contractor's property.
 - .3 Handle, stockpile and protect material destined for removal off Site in accordance with Section 01 35 44.
- 1.5 Disposal Requirements
- .1 Burying or burning of waste materials on site is prohibited.
 - .2 Disposal of waste, volatile materials, mineral spirits, oil, paint, paint thinner or unused preservative material into waterways, storm, or sanitary sewers is prohibited.
 - .3 Do not dispose of preservative treated wood through incineration.
 - .4 Do not dispose of preservative treated wood with other materials destined for recycling or reuse.
 - .5 Dispose of treated wood, end pieces, wood scraps and sawdust at a construction and demolition waste approved facility.
 - .6 Dispose of waste only at approved waste processing facility or landfill sites approved by authority having jurisdiction.
 - .7 Contact the authority having jurisdiction prior to commencement of work, to determine what, if any, demolition, and construction waste materials have been banned from disposal in landfills and at transfer stations. Take appropriate action to isolate such banned materials at site of work and dispose in strict accordance with provincial and municipal regulations.
 - .8 Transport waste intended for landfill in separated condition, following rules and recommendations of Landfill Operator in support of their effort to divert, recycle and reduce amount of solid waste placed in landfill.
 - .9 Sale of salvaged items is not permitted on site.
 - .10 Remove materials from deconstruction as deconstruction/disassembly work progresses.

- 1.6 Tipping Fees .1 All tipping fees are to be covered item 1.3.1.1 in Section 01 29 00. No additional payments will be made to cover waste disposal.
- 1.7 Scheduling .1 Co-ordinate Work with other activities at site to maintain a timely and orderly progress of the Work.

PART 2 - PRODUCTS

- 2.1 Not Used .1 Not applicable

PART 3 - EXECUTION

- 3.1 Application .1 Dispose of all materials as required by regulatory codes, regulations, acts and municipal by-laws.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.
- 3.2 Cleaning .1 Remove tools and waste materials on completion of Work and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Separate materials to be reused/recycled into specified sort areas.
- 3.3 Diversion of Materials .1 Separate materials from general waste stream and stockpile in separate piles or containers, as approved by the Departmental Representative, and consistent with applicable fire regulations.
- .1 Mark containers or stockpile areas.
- .2 Provide instruction on disposal practices.

END OF SECTION

PART 1 - GENERAL

- 1.1 Related Sections .1 Section 01 78 00 - Closeout Submittals.
- 1.2 Inspection and Declaration .1 Contractor's Inspection: Coordinate and perform, in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
- .1 Notify the Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for Departmental Representative's inspection of the completed work.
- .2 Departmental Representative's Inspection: Accompany the Departmental Representative during all interim and final inspections of the Work.
- .1 Address defects, faults and outstanding items of work identified by such inspections.
- .2 Advise Departmental Representative when all deficiencies identified have been rectified.
- .3 Note the Departmental Representative will not issue a Certificate of Substantial Performance of the work until such time that the Contractor performs the following work and turns over the specified documents:
- .1 Project record as-built documents.
- .2 Final record documentation.
- .3 Reports resulting from designated tests.
- .4 Correct all discrepancies before the Departmental Representative will issue the Certificate of Completion.

PART 2 - PRODUCTS

- 2.1 Not Used .1 Not applicable.

PART 3 - EXECUTION

3.1 Not Used

.1 Not applicable.

END OF SECTION

PART 1 - GENERAL

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

documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.

- .5 As-built Specifications: legibly mark in red each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly items substituted from that specified.
 - .2 Changes made by Addenda and Change Orders.
 - .3 Mark up both copies of specifications; stamp "as-built", sign and date similarly to drawings as per above clause.
- .6 Maintain As-built documents current as the contract progresses. Departmental Representative will conduct reviews and inspections of the documents on a regular basis. Failure to maintain as-builts current and complete to satisfaction of the Departmental Representative will be subject to financial penalties in the form of progress payment reductions and holdback assessments.

1.2 Reviewed Shop Drawings

- .1 Provide a complete set of all shop drawings reviewed for project to incorporate into each copy of the Operations & Maintenance manuals.
- .2 Submit full sets at same time and as part of the contents of the Operation and Maintenance manuals specified.

1.3 Record Documentation

- .1 Record data including detailed technical information, documents and records describing individual products or systems as specified in individual sections of the specifications.
- .2 Manual Language: final manuals to be in English.
- .3 Number of copies required:
 - .1 Submit interim pdf digital copy and one (1) hard copy binder of the manual for review and inspection by the Departmental Representative. Make revisions and additions as directed and resubmit.
 - .2 Upon review and acceptance by the Departmental Representative, final pdf digital copy and one (1) hard copy binder.

Interim copies are not to be considered as part of the final copies unless they have been fully revised and are identical to the final approved version.

- .4 Submission Date: submit complete operation and maintenance manual to Departmental Representative three (3) weeks prior to application for Certificate of Substantial Performance of the work.
- .5 Binding:
 - .1 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual.
 - .2 Use vinyl, hard covered, 3" "D" ring binders, loose leaf, sized for 215 x 280 mm paper, with spine pocket.
 - .3 Where multiple binders are needed, correlate data into related consistent groupings.
 - .4 Identify contents of each binder on spine.
 - .5 Organize and divide data following same numerical system as the section numbers of the Specification Manual.
 - .6 Dividers: separate each section by use of cardboard dividers and labels. Provide tabbed fly leaf for each individual product and system and give description of product or component.
 - .7 Type lists and notes. Do not hand write.
 - .8 Drawings, diagrams and manufacturers' literature must be legible. Provide with reinforced, punched binder tab. Bind in with text, fold larger drawings to size of text pages.
- .6 Manual Contents:
 - .1 Cover sheet containing:
 - .1 Date submitted.
 - .2 Project title, location, and project number.
 - .3 Names and addresses of Contractor, and all Sub-contractors.
 - .2 Table of Contents: provide full table of contents in each binder(s), clearly indicate which contents are in each binder.
 - .3 Original or certified copy of warranties and product guarantees.
 - .4 Copy of approval documents and certificates issued by Inspection Authorities.
 - .5 Copy of reports and test results performed

by Contractor as specified.

- .7 Shop drawings:
 - .1 Include complete set of reviewed shop drawings into each copy of the operations and maintenance manual.
 - .2 Fold and bind material professionally in a manner that corresponds with the specification section numbering system.
 - .3 When large quantity of data is submitted, place into separate binders of same size as O&M binders.

PART 2 - PRODUCTS

- 2.1 Not Used .1 Not applicable.

PART 3 - EXECUTION

- 3.1 Not Used .1 Not applicable.

END OF SECTION