

Public Works and Government Services CanadaCentreville Class 'A' DredgingCentreville, Digby County, Nova ScotiaProject No.: R.101365.001Index of Clauses

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END OF SECTION

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List of Drawings

Drawing No.	Title	Date
M01	Site Plan & Section	February, 2020

- 1.1 Documents Required
- .1 Maintain at job site, one copy each of the following:
 - .1 Contract drawings;
 - .2 Specifications;
 - .3 Addenda;
 - .4 Reviewed shop drawings/submissions;
 - .5 Change Orders;
 - .6 Other modifications to Contract;
 - .7 Field test reports;
 - .8 Copy of approved work schedule;
 - .9 Manufacturer's installation and application instructions.
- 1.2 Site Conditions
- .1 Records of existing structures and geotechnical reports may be available for inspection at the offices of Public Works and Government Services Canada, 1713 Bedford Row, Halifax, NS. This material is not necessarily up-to-date and is for information purposes only. It should be complemented with site visits and consultation with appropriate expertise.
- 1.3 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 is to 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.

Project to be Substantially Complete by **December 18, 2020.**

1.4 Measurement
Responsibilities

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

1.5 Contractor's
Use of Site

- .1 Co-operate with users of existing facilities.
- .2 Some dates may vary to some degree depending on openings and closings.
- .3 Should interferences occur, take directions from 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 Ensure no damage occurs to existing structures as a result of operations. Any said damage will be repaired at Contractor's expense.
- .9 Provide temporary barriers and warning signs in location where work is adjacent to areas used by public.
- .10 **No equipment or materials shall be permitted on the west breakwater wharf, timber pier wharf and the east breakwater wharf structures for the duration of the Contract.**
- .11 **Contractor shall avoid disruption to user activities and permit unrestricted user access to the pier wharf structure from November 23, 2020**

to December 7, 2020. If deemed necessary work may be ordered to stop during this period.

- 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 Construction Safety Code of Nova Scotia. In the event of conflict between any provisions of above authorities, the most stringent provision will apply.
- 1.7 Project 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. The contractor will not be allowed any extra compensation or time for completion because of this suspension of work.
 - .3 Elevations for the various features of the specified works to be referenced and properly related to a benchmark, which will be approved by the Departmental Representative.
 - .4 Verify all grades, lines, levels, and dimensions shown on the drawings and report any errors or inconsistencies to the Departmental Representative before commencing work. Establish all grades, lines, levels required to facilitate the work.

- 1.9 Existing Services
- .1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian and vehicular traffic.
 - .2 Before commencing work, establish location and extent of service lines in area of work and notify Department Representative of findings.
 - .3 Submit schedule to and obtain acceptance from Departmental Representative for any shut-down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
 - .4 Where unknown services are encountered, immediately advise the Departmental Representative and confirm findings in writing.
- 1.10 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 Departmental Representative may furnish additional drawings to assist in proper execution of work. These drawings will be issued for clarification only. Such drawings will have same meaning and intent as if they were included with plans referred to in Contract Documents.
 - .3 The drawings indicate the extent and general dimensions of the work. Make all necessary measurements to ensure that the result of the work is in accordance with the intent.
 - .4 Verify all existing conditions in field prior to proceeding with work.
 - .2 Contract Specifications:
 - .1 The general requirements and technical specifications are written solely for the General Contractor. They are organized into the NMS format of separate divisions and sections.
 - .2 Specification language is the "Short Form Type", for example, where the word "provide" occurs, interpret it to mean "the Contractor shall furnish all labour,

material and equipment necessary to complete the work".

- .3 These Specifications and accompanying drawings are intended to describe and provide for a finished project. They are intended to be complementary, and what is called for by either will be as binding as if called for by both. The Contractor shall understand that the work herein described will be complete in every detail, notwithstanding that every item necessarily involved is not particularly mentioned, and Contractor will be held to provide all labour, materials and equipment necessary for the entire completion of the work and will not avail himself of any errors or omissions.

1.11 Permits and Regulations

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

1.12 Cutting, Fitting & Patching

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

1.13 Record of Construction

- .1 As work progresses, maintain accurate records to show all deviations from the contract drawings, with particular reference to work which will be concealed. Prior to the inspection of the work for the issuance of the Final Certificate of Completion, provide the Departmental Representative with one set of white prints of

the drawings with all deviations shown neatly thereon.

- .2 Provide "as built" cross sections of any excavation, dredging or fill work.

1.14 Payment

- .1 Payment for all work under this contract to be according to the 01 29 00 - Project Particulars and Measurement for Payment.
- .2 No separate payment will be made for work specified under General Conditions, Supplementary Conditions or any sections of Specification under Division 01. The cost of this work is to be considered as overhead and to be included in the unit prices of the Contract.
- .3 Dimensional changes directed by the Departmental Representative to suit existing conditions, but not resulting in additional work or materials, will not be considered as extra to the Contract.

1.15 Site Examination

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

1.16 Maintenance of Shipping

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

1.17 Cooperation and Assistance to Departmental Representative

- .1 Co-operate with Departmental Representative on inspection of work.
- .2 Provide assistance when requested.
- .3 Provide small motor boat with operator and sounding chain for Departmental Representative's use when requested.

- 1.18 Datum .1 The datum referred to in this Specification is Chart Datum. Chart Datum is, by International Agreement a plane below which the tide will seldom fall. The Canadian Hydrographic Service has adopted the plane of the lowest normal tide (L.N.T.) as Chart Datum. As the rise, fall and range of tides varies daily, the Canadian Tide and Current Tables, as issued by the Canadian Hydrographic Service, should be consulted for tidal predictions and other tidal information relating to work.
- 1.19 Contractor's Representative .1 Continuously maintain on the site an authorized representative to whom communication may be addressed and who will be competent to speak for the Contractor in discussing work methods.
- 1.20 Workers' Compensation .1 Contractor and all sub-contractors must be registered under the Workers Compensation Act and provide evidence of good standing.
- .2 At completion of Contract and before final payment is made, the Contractor will present to the Departmental Representative a Letter of Certification from the Workers Compensation Board, showing that all required assessments are paid in connection with all trades.
- 1.21 Laws, Standards Taxes and Fees .1 Comply with all laws and standards governing all or any part of the work, pay all applicable taxes and pay for all permits and certificates required in respect of the execution of the work. Where variances exist between the requirements of agencies governing all or any part of the work, the most restrictive will govern, but in no instance will the standards established by the drawings and this Specification, which exceed such requirements, be reduced.
- 1.22 Protection and Repair .1 Repair any damage resulting from operations under this contract.
- 1.23 Location of Equipment Fixtures .1 Location of equipment, fixtures or any and appurtenances indicated are to be considered approximate.
- 1.24 Inspection

- and Testing .1 The Departmental Representative may employ an Inspector and/or Testing Company to ensure work conforms with contracts.
- 1.25 Disposal of Debris .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.
- 1.26 Existing Soils Conditions .1 Any information pertaining to soils and all boreholes logs are furnished by the Departmental Representative as a matter of general information only and borehole descriptions or logs are not to be interpreted as descriptive of conditions at locations other than those described by the boreholes themselves.
- .2 **See Appendix A for Stantec Memo for discussion related to bedrock condition.**
- 1.27 Relics and Antiquities .1 Protect relics, antiquities, items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during course of work.
- .2 Give immediate notice to Departmental Representative and await written instructions before proceeding with work in this area.
- .3 Relics, antiquities and items of historical or scientific interest remain Departmental Representative's property.
- 1.28 Temporary Navigational Buoys .1 Maintain temporary navigation light to mark the position of the outer end of the structure as construction proceeds. Navigation light is to meet the requirements of Canadian Coast Guard Standard TP968 and be equipped with radar reflectors.
- .2 Contractor is to maintain temporary floating bouys at 30m intervals along the seaward face (maximum 10m offset) of the work area as construction proceeds. Navigation light shall be Go Deep International Inc GDI-0.25 bouy with

internal radar reflector and M502 lantern, or approved equivalent. Place the yellow cautionary buoy farthest from the shoreward end of the wharf and 20m from ongoing construction. It must carry the following:

- .1 Radar reflector.
- .2 2nm amber light displaying characteristic (Fl) 4S from dusk to dawn and during periods of reduced visibility.
- .3 Coordinate the navigation light installation with the local Harbour Authority.
- .4 Contractor is responsible for all costs associated with the supply, installation and removal of all temporary navigation light.

END OF SECTION

PROJECT PARTICULARS1.1 Description
of Work

- .1 The work includes, but is not limited to:
 - .1 Class 'A' dredging of harbour basin to the lines and grade as shown on the Contract drawings.
 - .2 Disposal of Class 'A' dredge material in an upland disposal location as directed by the Departmental Representative.

PRODUCT MEASUREMENT1.2 General

- .1 This section details the measurement method to be used for payment purposes. Incidental items covered in the various sections of the specification are to be allowed for in the pricing of each pay item.

1.3 Measurement
for Payment

- .1 **Lump Sum Items: the following items are to measured separately for costing purposes, then combined and submitted in as one item under the Lump Sum items in the tender documents:**
 - .1 Site Office: this item includes all provisions for the Contractor's site office with all amenities as specified by the Contract Documents. This item also includes the disassembly and removal of the site office at the time of completion of the Works.
 - .2 Site work and Removals: This item includes all work required to supply, install, maintain and remove any temporary access roads or structures.
 - .3 Mobilization/Demobilization: This item includes all Work required to get the Contractor's equipment and forces on-site. This item also includes all Work required for the Contractor's forces and equipment to leave the site, including the final cleanup of the site to the Departmental Representative's satisfaction. Fifty percent (50%) of the allocation for mobilization and demobilization will be paid upon commencing the project and the remainder upon confirmation via Departmental Representative post dredge survey that dredge grade has been achieved.

- .2 **Unit Price Items:** the following outlines the unit of measurement of the unit price items as indicated in the tender documents:

Division 35:

- .1 Dredging - Class "A" will be measured for payment by the cubic meter place measurement (CMPM) based on the lines and grades indicated on the Contract drawings. This unit price will include: drilling, blasting, removal and upland disposal of dredge material as required to achieve dredge grade and the provision of survey equipment to verify dredge grade has been achieved. Removal of any Class "B" dredge material and all other work required to achieve dredge grade is considered incidental to the work.

END OF SECTION

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| 1 | <u>General</u> | .1 | Submit to Departmental Representative, for review, shop drawings, product data, samples and other information specified. |
| | | .2 | Until submission is reviewed, work involving relevant product may not proceed. |
| 2 | <u>Shop Drawings</u> | .1 | Drawings to be originals prepared by contractor, subcontractor, supplier or distributor, which illustrate appropriate portion of work, showing fabrication, layout, setting or erection details as specified in appropriate sections. |
| | | .2 | Identify details by reference to sheet and detail numbers shown on Contract Drawings. |
| | | .3 | Maximum sheet size 860mm X 1120 mm. |
| 3 | <u>Product Data</u> | .1 | Certain specification sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance chart, illustrations and other standard descriptive data will be accepted in lieu of shop drawings. |
| 4 | <u>Samples</u> | .1 | Submit samples in sizes and quantities specified. |
| | | .2 | Construct field samples and mock-ups at locations acceptable to Departmental Representative. |
| | | .3 | Accepted samples will become standards of workmanship and material against which, installed work will be checked on project. |
| 5 | <u>Miscellaneous Data</u> | .1 | Provide certificates, methodologies, design and test results as required. |
| 6 | <u>Coordination of Submissions</u> | .1 | Review shop drawings, product data, samples and miscellaneous data prior to submissions. |
| | | .2 | Verify:
.1 Field Measurements.
.2 Field Construction Criteria.
.3 Catalogue numbers and similar data. |
| | | .3 | Coordinate each submission with requirements of work and contract documents. Individual submissions will not be reviewed until all related information is available. |
| | | .4 | Contractor's responsibility for errors and omissions in submission is not relieved by |

Departmental Representative's review of submissions.

- .5 Contractor's responsibility for deviations in submission from requirements in Contract documents is not relieved by Departmental Representative's review of submission, unless Departmental Representative gives written acceptance of specified deviations.
- .6 Notify Departmental Representative, in writing at time of submission, of deviations from requirements of contract documents stating reasons for deviations.
- .7 After Departmental Representative's review, distribute copies.

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

.9 Contractor's stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with contract documents.

8 Shop Drawings
Review

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

9 Other Reviews

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

END OF SECTION

PART 1 - GENERAL

- 1.1 Work Included
 - .1 Fire Safety Requirements
 - .2 Hot Work Permit
 - .3 Existing Fire Protection and Alarm Systems
- 1.2 Related Work
 - .1 Section 01 35 28: Health and Safety
 - .2 Section 01 35 25: Special Procedures on Lockout Requirements
- 1.3 References
 - .1 FCC No. 301-June 1982 Standard for Construction Operations.
 - .2 FCC No. 302-June 1982 Standard for Welding and Cutting.
- 1.4 Definitions
 - .1 Hot Work defined as:
 - .1 Welding work
 - .2 Cutting of materials by use of torch or other open flame devices
 - .3 Grinding with equipment which produces sparks.
- 1.5 Submittals
 - .1 Submit copy of Hot Work Procedures, to Departmental Representative for review, within 14 calendar days after contract award.
 - .2 Include sample of Hot Work Permit.
 - .3 Submit above documents in accordance with the submittal general requirements specified in Section 01 33 00.
- 1.6 Fire Safety & Hot Work Requirement
 - .1 Implement and follow fire safety measures during Work. Comply with following:
 - .1 National Fire Code, 2010.
 - .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 28.
 - .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.

- .3 FCC standards, noted above, may be viewed at the Regional Fire Protection Services office (previously known as the Fire Commissioner of Canada) located at 99 Wyse Road, 8th floor, Dartmouth, NS; Tel: (902) -426-6053.
 - .4 Hot Work Requirements:
 - .1 Obtain Departmental Representative's written Authorization to Proceed for the performance of Hot Work on site as may be required in the course of Work.
 - .2 To obtain authorization submit to Departmental Representative for review:
 - .1 Contractor's Hot Work Procedures to be followed on site in accordance with clause 1.8 below.
 - .2 Type of work and frequency of situations which will require Hot Work.
 - .3 Upon confirmation that effective fire safety measures will be implemented for hot work, Departmental Representative will grant Authorization to Proceed.
 - .4 In most cases, Departmental Representative will issue only one written authorization covering the entire construction project and duration of work. However in some cases, depending on the nature or phasing of work, the quantity of various trades needing to perform welding and cutting on site, or other deemed situation, Departmental Representative might designate certain portions of the work as separate entities, each entity requiring individual written authorization to proceed. Follow Departmental Representative's directives in this regard.
 - .5 Do not perform any Hot Work until receipt of Departmental Representative's written Authorization to Proceed.
- 1.7 Conformance
- .1 Stringently follow Hot Work Procedures, as established for project and agreed upon with Departmental Representative. Enforce use and compliance by all workers.
 - .2 Brief all workers and subcontractors on Hot Work Procedures and Permit system.

- 1.8 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. 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.
 - .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 and;
 - .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.

END OF SECTION

PART 1 - GENERAL

- 1.1 Work Included .1 Procedures to isolate and lockout electrical facility or other equipment from Energy source.
- 1.2 Related Work .1 Section 01 35 29: Health and Safety
- .2 Section 01 35 24: Special Procedures in Fire Safety Requirements
- 1.3 References .1 CSA C22.1-15, Canadian electrical code, part I (22nd edition), safety standard for electrical installations.
- .2 CAN/CSA-C22.3 NO. 1-15, Overhead systems.
- .3 CAN/CSA-C22.3 NO. 7-15, Underground systems
- .4 COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- 1.4 Definitions .1 Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons.
- .2 Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment is isolated.
- .3 De-energize: in the electrical sense, that a piece of equipment is isolated and 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 30.
 - .3 Regulations and code of practise as applicable to mechanical equipment or other machinery being de-energized.
 - .4 Procedures specified herein.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.
- .3 Coordination with electric power utility.

1.6 Submittals

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

1.7 Isolation of Existing Services

- .1 Obtain Departmental Representative's written authorization prior to conducting work on an existing active, energized service or facility required as part of the work and before proceeding with lockout of such services or facility.
- .2 To obtain authorization, submit to Departmental Representative following documentation:
 - .1 Written Request for Isolation of the service or facility and;
 - .2 Copy of Contractor's Lockout Procedures.

- .3 Make a Request for Isolation for each event, unless directed otherwise by Departmental Representative, and as follows:
 - .1 Fill-out standard forms in current use at the Facility when so directed by Departmental Representative or;
 - .2 Where no form exist at Facility, make request in writing identifying:
 - .1 Identification of system or equipment to be isolated, including it's location;
 - .2 Time duration, indicating Start time & date and Completion time & date when isolation will be in effect.
 - .3 Voltage of service feed to system or equipment being isolated.
 - .4 Name of person making the request.
- .3 Document to be in typewritten format.
- .4 Do not proceed until receipt of written notification from Departmental Representative granting the Isolation Request and authorizing to proceed with the isolation of designated equipment or facility. Departmental Representative may designate other individual at the Facility as the person authorized to grant the Isolation Request.
- .5 Conduct safe, orderly shut down of equipment or facilities, de-energize and isolate power and other sources of energy and lockout items in accordance with requirement of clause 1.8 below.
- .6 Plan and schedule shut down of existing services in consultation with the Departmental Representative and the Facility Manager. Minimize impact and downtime of facility operations.
- .7 Determine in advance, as much as possible, in cooperation with the Departmental Representative, the type and frequency of situations which will require a Request for Isolation. Follow Departmental Representative's directives in this regard.
- .8 Conduct hazard assessment as part of the planning process of isolating existing equipment and facilities. Hazard Assessments to conform to requirements of Health and Safety Section 01 35 29.

1.8 Lockouts

- .1 Isolate and lockout electrical facilities, mechanical equipment and machinery from all potential energy sources prior to starting work on such items.
- .2 Develop and implement lockout procedures to be followed on site as an integral part of the Work.
- .3 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.
- .4 Use industry standard lockout tags.
- .5 Provide appropriate safety grounding and guards as required.
- .6 Prepare Lockout Procedures in writing. Describe safe work practices, work functions and sequence of activities to be followed on site to safely isolate all potential energy sources and lockout/tagout facilities and equipment.
- .7 Include within procedures a system of worker request and issuance of individual lockout permit by a person, employed by Contractor, designated to be "in-charge" and being responsible for:
 - .1 Controlling issuance of permits or tags to workers.
 - .2 Determining permit duration.
 - .3 Maintaining record of permits and tags issued.
 - .4 Submitting a Request for Isolation to Departmental Representative when required in accordance with Clause 1.7 above.
 - .5 Designating a Safety Watcher, when one is required based on type of work.
 - .6 Confirming equipment or facility has been properly isolated, providing a Guarantee of Isolation to worker(s) prior to proceeding with work.
 - .7 Collecting and safekeeping lockout tags, returned by workers, as a record of the event.
 - .8 Clearly establish, describe and allocate, within procedures, the responsibilities of:
 - .1 Workers.
 - .2 Designated person controlling issuance of lockout tags/permits.
 - .3 Safety Watcher.
 - .4 Subcontractors and General Contractor.
 - .9 Procedures must meet the requirements of Codes and Regulations specified in clause 1.5 above.

.10 Generic procedures, if used, must be edited, supplemented with pertinent information and tailored to reflect specific project conditions. Clearly label as being the procedures applicable to this contract.

.1 Incorporate site specific rules and procedures established by Facility Manager and in force at site. Obtain such procedures through Departmental Representative.

.11 Provide procedures in typewritten format.

.12 Submit a copy of Lockout Procedures to Departmental Representative, in accordance with submittal requirements of clause 1.6 herein, prior to commencement of work.

1.9 Conformance

.1 Ensure that lockout procedures, as established for project on site, are stringently followed. Enforce use and compliance by all workers.

.2 Brief all persons working on electrical facilities, mechanical and other equipment fed by an energy source on requirements of this section.

.3 Failure to perform lockouts in accordance with regulatory requirements or follow procedures specified herein may result in the issuance of a Non-Compliance Notification at Departmental Representative's discretion with possible disciplinary measures imposed as specified in section 01 35 29.

1.10 Documents On Site

.1 Post Lockout Procedures on site in common location for viewing by workers.

.2 Keep copies of Request for Isolation submitted to Departmental Representative and lockout permits or tags issued to workers during the course of work for full project duration.

.3 Upon request, make such data available to Departmental Representative or to authorized safety representative for inspection.

PART 2 - PRODUCTS

Not applicable

PART 3 - EXECUTION

Not applicable

END OF SECTION

- 1.1 Related Work
 - .1 Section 01 35 24: Special Procedures on Fire Safety Requirements.
 - .2 Section 01 35 25: Special Procedures on Lockout Requirements.
- 1.2 Definitions
 - .1 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
 - .2 Competent Person: means a person who is:
 - .1 Qualified by virtue of personal knowledge, training and experience to perform assigned work in a manner that will ensure the health and safety of persons in the workplace, and;
 - .2 Knowledgeable about the provisions of occupational health and safety statutes and regulations that apply to the Work and;
 - .3 Knowledgeable about potential or actual danger to health or safety associated with the Work.
 - .3 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
 - .4 PPE: personal protective equipment
 - .5 Work Site: where used in this section shall mean areas, located at the premises where Work is undertaken, used by Contractor to perform all of the activities associated with the performance of the Work.
- 1.3 Submittals
 - .1 Make submittals in accordance with Section 01 33 00.
 - .2 Submit site-specific Health and Safety Plan prior to commencement of Work.
 - .1 Submit within 15 work days of notification of Bid Acceptance. Provide 3 copies.
 - .2 Departmental Representative will review Health and Safety Plan and provide comments.
 - .3 Revise the Plan as appropriate and resubmit within 10] work days after receipt of comments.
 - .4 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and

does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.

- .5 Submit revisions and updates made to the Plan during the course of Work.

- .3 Submit name of designated Health & Safety Site Representative and support documentation specified in the Safety Plan.

- .4 Submit building permit, compliance certificates and other permits obtained.

- .5 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other department of labour organization.

- .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.

- .6 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

- .7 Submit copies of incident reports.

- .8 Submit WHMIS MSDS - Material Safety Data Sheets.

1.4 Compliance Requirements

- .1 Comply with Occupational Health and Safety Act for Province of Nova Scotia, and Regulations made pursuant to the Act.

- .2 Comply with Canada Labour Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.

- .1 The Canada Labour Code can be viewed at the following web address: [www.http://laws-lois.justice.gc.ca/eng/acts/L-2fulltest.html](http://laws-lois.justice.gc.ca/eng/acts/L-2fulltest.html) .

- .2 Canadian Occupational Health and Safety Regulations can be viewed at: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/index.html>.

- .3 A copy may be obtained by contacting: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F)

- .4 Observe and enforce construction safety measures of:
 - .1 Part 8 of National Building Code.
 - .2 Provincial Workers Compensation Board.
 - .3 Municipal by-laws and ordinances.
- .5 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.
- .6 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.
- .7 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 51 00 for minimum acceptable requirements.
- .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.
- .3 Use professionally made signs with bilingual message in the 2 official languages or international known graphic symbols.

- .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
- .4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.
- .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm. Provide security guard where adequate protection cannot be achieved by other means.

1.7 Protection

- .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
- .2 Provide temporary facilities for protection and safe passage of public pedestrians and vehicular traffic around and adjacent to work site.
- .3 Provide safety barricades, lights and signage on work site as required to provide a safe working environment for workers.
- .4 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

1.8 Filing Of Notice

- .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.

- .2 Upon request, Departmental Representative will assist in locating address if needed.
- 1.9 Permits
 - .1 Post permits, licenses and compliance certificates, specified in section 01 10 10, at Work Site. Submit copies to Departmental Representative.
 - .2 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and obtain approval to proceed before carrying out applicable portion of work.
- 1.10 Hazard Assessments
 - .1 Perform site specific health and safety hazard assessment of the Work prior to commencement of work.
 - .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site, the scope of work has been changed by Change Order or when a potential hazard or weakness in current health and safety practices are identified by Departmental Representative or by an authorized safety representative.
 - .3 Record results and address in Health and Safety Plan.
 - .4 Keep documentation on site for entire duration of the Work.
- 1.11 Project/Site Conditions
 - .1 Following are potential health, environmental and safety hazards at the site for which Work may involve contact with:
 - .1 Existing hazardous substances or contaminated wharf materials:
 - .1 Pressure treated timber.
 - .2 Known latent site and environmental conditions:
 - .1 Wildlife activity.
 - .2 Water tidal action.
 - .3 Electrical.
 - .3 Facility on-going operations:
 - .1 Continued pedestrian use of wharf.
 - .2 Continued vehicular use of wharf.
 - .3 Continued vessel use of wharf for fisheries industry.
 - .4 Vessel travel around area of Work.

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

1.12 Meetings

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

1.13 Health And Safety Plan

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

- .3 On-site Contingency and Emergency Response Plan shall include:
 - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
 - .2 Evacuation Plan: site plan layouts showing escape routes, marshalling areas. Details on alarm notification methods, fire drills, location of firefighting equipment and other related data.
 - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
 - .4 Emergency Contacts: name and telephone number of officials from:
 - .1 General Contractor and subcontractors.
 - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
 - .3 Local emergency resource organizations.
 - .5 Harmonize Plan with Facility's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of PWGSC and Facility Management contacts.
- .4 On-site Communication Plan:
 - .1 Procedures for sharing of work related safety information to workers and subcontractors, including emergency and evacuation measures.
 - .2 List of critical work activities to be communicated with Facility Manager which have a risk of endangering health and safety of Facility users.
- .5 Address all activities of the Work including those of subcontractors.
- .6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrive at Work Site.
- .7 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.
- .8 Post copy of the Plan, and updates, prominently on Work Site.

- .9 Submission of the Health and Safety Plan, and updates, to the Departmental Representative is for review and information only. Its submission shall not be construed to imply approval by Departmental Representative, be interpreted as a warranty of being complete, accurate and legislative compliant and shall not relieve Contractor of their legal obligations for the provision of Health and Safety on the construction project.
- 1.14 Safety Supervision
 - .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.
 - .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
 - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work
 - .2 Monitor and enforce Contractor's site-specific Health and Safety Plan.
 - .3 Conduct site safety orientation session to persons granted access to Work Site.
 - .4 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the Work Site.
 - .5 Stop the Work as deemed necessary for reasons of health and safety.
 - .3 Health & Safety Site Representative must:
 - .1 Be qualified and competent person in occupational health and safety.
 - .2 Have site-related working experience specific to activities of the Work.
 - .3 Be on Work Site at all times during execution of the Work.
 - .4 All supervisory personnel assigned to the Work shall also be competent persons.
 - .5 Inspections:
 - .1 Conduct regularly scheduled safety inspections of the Work on a minimum bi-weekly basis. Record deficiencies and remedial action taken.
 - .2 Follow up and confirm corrective measure are taken.

- .6 Cooperate with Facility's Occupational Health and Safety representative should one be designated by Departmental Representative.
- .7 Keep inspection reports and supervision related documentation on site.

1.15 Training

- .1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.
- .2 Ensure that workers, subcontractors and other authorized persons granted access to site are trained and have been fully instructed by a competent instructor, on:
 - .1 Safe operation of tools and equipment.
 - .2 Proper wearing and use of personal protective equipment (PPE) as applicable to the purpose and activities to be conducted on site.
 - .3 Safe work practices and procedures to be followed during the performance of their given work tasks or function on site.
 - .4 Site conditions and minimum site safety rules provided through site orientation sessions.
- .3 Maintain employee records and evidence of training received. Make data available to Departmental Representative upon request.
- .4 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.16 Minimum Site Safety Rules

- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:
 - .1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.
 - .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.

- .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
 - .4 Obey warning signs and safety tags.
 - .2 Brief workers on site safety rules, and on the disciplinary measures to be taken for violation or non compliance of such rules. Post such information on site.
- 1.17 Correction Of Non-Compliance
 - .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
 - .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
 - .3 Departmental Representative will stop Work if non-compliance of health and safety regulations is not corrected in a timely manner.
- 1.18 Incident Reporting
 - .1 Investigate and report the following incidents to Departmental Representative:
 - .1 Incidents requiring notification to Provincial Department of Occupational Safety and Health, Workers Compensation Board or to other regulatory Agency.
 - .2 Medical aid injuries.
 - .3 Property damage in excess of \$10,000.00,
 - .4 Interruptions to Facility operations resulting in an operational lost to a Federal department in excess of \$5,000.00.
 - .2 Submit report in writing.
- 1.19 Hazardous Products
 - .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).
 - .2 Keep MSDS data sheets for all products delivered to site.
 - .1 Post on site.
 - .2 Submit copy to Departmental Representative.
- 1.20 Blasting
 - .1 Blasting or other use of explosives is not permitted on site
- 1.21 Powder Actuated Devices
 - .1 Use powder actuated fastening devices only after receipt of written permission from Departmental Representative.
- 1.22 Confined Spaces
 - .1 Abide by occupational health and safety regulations regarding work in confined spaces.

1.23 Site Records

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

1.24 Posting of Documents

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

END OF SECTION

1.1 References

- .1 Canada Shipping Act, Transport Canada, 2001, amended 2013-12-01
- .2 Canadian Coast Guard Regulations, Fisheries and Oceans Canada
- .3 Canadian Environmental Protection Act, 1999, amended on 2014-03-28
- .4 Canadian Navigable Waters Act, 2019. Transport Canada
- .5 Fisheries Act, 1985, Fisheries and Oceans Canada, amended 2013-11-25
- .6 Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters, 1998
- .7 Impact Assessment Act, 2019
- .8 Migratory Birds Convention Act, 1994, Environment Canada, amended 2010-12-10
- .9 Nova Scotia - Environment Act
- .10 Species at Risk Act, 2002, amended 2013-03-08
- .11 The Federal Policy on Wetland Conservation, 1991, Environment Canada
- .12 Transportation of Dangerous Goods Act, 1992, Transport Canada, amended 2009-06-16
- .13 Workplace Hazardous Materials Information System, Health Canada.

1.2 Definitions

- .1 Archaeological Resources: All tangible evidence of human activity that is of historical, cultural or scientific interest. Examples include features, structures, archaeological objects or remains at or from an archaeological site, or an object recorded as an isolated archaeological find.
- .2 Buffer zone: a vegetated land that protects watercourses from adjacent land uses. It refers to the land adjacent to

watercourses, such as streams, rivers, lakes, ponds, oceans, and wetlands, including the floodplain and the transitional lands between the watercourse and the drier upland areas.

- .3 Deleterious substance: (a) any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water.
- .4 Fish habitat: spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.
- .5 Hazardous material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .6 Invasive or alien species: refers to a species or subspecies introduced outside its normal distribution whose establishment and spread threaten ecosystems, habitats or species with economic or environmental harm.
- .7 Navigable water: a canal and any other body of water created or altered as a result of the construction of any work.

.8 Surface watercourse: refers to the bed and shore of a river, stream, lake, creek, pond, marsh, estuary or salt-water body that contains water for at least part of each year.

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

1.3 Transportation

.1 Transport hazardous materials and hazardous waste in compliance with the Transportation of Dangerous Goods Act.

.2 Eliminate free board spillage when excavating, loading and hauling material.

.3 Trucks transporting excavated material will have watertight boxes.

.4 Do not overload trucks when hauling excavated material.

.5 Maintain trucks clean and free of mud, dirt and other foreign matter.

.6 Secure contents against spillage. Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the work. Immediately clean any ground spills and soils to extent as directed by authority having jurisdiction.

.7 Prior to commencement of work, advise and seek approval from the *Departmental Representative* of the existing roads and temporary routes / roads proposed to be used to access work areas and to haul material to and from the site, including roads to the dredge material disposal site.

- .8 Construction material and debris is not to become waterborne.
- .9 Any tools, equipment, vehicles, temporary structures or parts thereof used or maintained for the purpose of building or placing a work in navigable water are not to remain in place after the completion of the project.
- .10 Vessels are to be permitted safe access through the worksite at all times, and assisted as necessary.
- .11 All materials and equipment used in construction must be marked in accordance with the Collision Regulations of the *Canada Shipping Act, 2001* when located on the waterway.
- .12 Advise the Canadian Coast Guard, Marine Communication and Traffic Services (MCTS) at (902)564-7751 or toll free at 1-800-686-8676 sufficiently in advance of commencement of work or when deploying or removing site markings in order to allow for appropriate Notices to Shipping/Mariners action.
- .13 Work activities must comply with all / any conditions of the *Canadian Navigable Waters Act (CNWA)* permit issued by Transport Canada.
- .14 During work phase, the site where work will occur shall be boomed off to cease vessels traffic from entering.
- .15 Any rocks or debris in the vicinity of the proposed dredging resulting from the work are to be removed so as to provide a clear approach for vessels navigating in the area.
- .16 Place a cautionary buoy during the work phase, carrying a 1nm nominal range yellow light with flash characteristic (Fl)4s, 150mm retro-reflective tape and an integrated radar reflector in the immediate entrance of the small craft harbour.

1.5 Temporary Causeways and Access Roads

- .1 It will be the Contractor's responsibility to gain access to the work area. The construction and removal of temporary causeways and access roads will be at the Contractor's expense and will be removed immediately after clearance of the excavated area.
- .2 It will be the Contractor's responsibility to identify a location for the disposal of material imported by the Contractor for the construction of temporary causeways and access roads which will be in compliance with the *Fisheries Act* Authorization issued by Department of Fisheries and Oceans - Fish and Fish Habitat Protection Program.
- .3 All material used for construction of temporary causeways and access roads must be clean and free from excessive fines, organics, debris and non-toxic (i.e., free of fuel, oil, grease and/or any other contaminants), non-ore bearing and from a provincially approved non-water source.
- .4 Material is to be screened, if required, to ensure that no fines or stones less than 0.2 kilograms are placed in the work. Gradation of the material to be imported for the construction of the causeways, roads etc. shall be within the following limits:

Imperial Size	Metric Size	Percent Passing
18"	450 mm	100
8"	200 mm	44-75
4"	100 mm	24-50
2"	50 mm	7-14

- .5 The Contractor is to maintain temporary buoys to mark the position of the access road including the outer toe as construction proceeds. All buoys are to meet requirements of the applicable Canadian Coast Guard standard and be equipped with radar reflectors.

1.5 Operation of Machinery

- .1 Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- .2 Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the water body.
- .3 Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.

1.6 Containment and Spill Management

- .1 Comply with Federal (CEPA *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*) and Provincial regulations, codes, standards and guidelines for the storage of fuel and allied petroleum products on site.
- .2 Do not dump petroleum products or any other deleterious substances on ground or in the water.
- .3 Be diligent and take all necessary precautions to avoid spills and contaminate the soil and water (both surface and subsurface) when handling petroleum products on site and during fueling and servicing of vehicles and equipment.
- .4 Maintain on site appropriate emergency spill response equipment consisting of at least one 250-litre (55 gallon) overpack spill kit for containment and cleanup of spills.
- .5 Maintain vehicles and equipment in good working order to prevent leaks on site.
- .6 In the event of a petroleum spill, immediately notify the *Departmental Representative* and the Canadian Coast Guard (CCG) at 1-800-565-1633 (24 hour report line). Perform cleanup in accordance with

all regulations and procedures stipulated by authority having jurisdiction.

.7 Materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals are not to enter the watercourse.

.8 Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance.

1.7 Disposal of
Dredged/Excavated
Material

.1 Material will be disposed of above the high water mark at a location agreed upon by the Department Representative.

.2 Water that decants from the disposed dredge spoil shall not enter any waterways.

.3 Site should allow for diffuse, dispersion or diversion onto a field or woodland, but not into drainage ditches that would carry water to a waterway.

.4 The contractor will be responsible to construct berms to contain the disposed dredge/excavated material including any required settling ponds or other controls as required.

.5 Items such as rubber tires, bottles, cans and other debris or litter must be removed from the disposal site following regarding. Failure to remove such debris may constitute a littering offence under applicable regulations.

.6 Control runoff of water containing suspended materials or other harmful substances in accordance with requirements of all federal, provincial and municipal authorities having jurisdiction.

1.8 Hazardous
Material handling

.1 Store and handle hazardous materials in accordance with applicable federal and

provincial regulations, codes, standards and guidelines. Store in location that will prevent spillage into the environment.

- .2 Label containers to WHMIS requirements and keep MSDS data sheets on site for all hazardous materials.
- .3 Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when stored.
- .4 Store and handle flammable and combustible materials in accordance with National Fire Code.

1.9 Disposal of Wastes

- .1 Do not bury rubbish, construction and demolition debris (i.e., concrete, creosote timbers, steel, impacted soil materials etc.) and waste materials on site.
- .2 Dispose and recycle construction and demolition debris and waste materials in accordance with Provincial Waste Management Regulations and the project waste management requirements specified in sections 02 41 23 - Demolition and Removals
- .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints, thinners etc.) and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.
- .4 Dispose of hazardous waste in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.

1.10 Water Quality

- .1 All rock material that will be used for the project must be free of excessive fines, clean, non-ore bearing, non-toxic material (i.e., free of fuel, oil, grease and/or other contaminants) from a provincially approved, non-watercourse source, and

approved for use in marine infilling projects.

- .2 Site isolation methods must be used to avoid exceedances of the turbidity levels and will be installed in a manner that does not block fish passage.
- .3 Conduct excavation of watercourse in such a manner to limit turbidity and reduce sediment suspension in the water to an absolute minimum at all times.
 - .1 Maintain appropriate production speed and momentum of the excavation equipment. Make adjustments as required and as approved by *Departmental Representative*.
 - .2 Strategically position excavator equipment and haul vehicles to avoid over the water swings of dredged material whenever possible.
 - .3 Restrict the amount of material dredged to the area and depth required for navigation.
- .4 Where work may affect the water quality adjacent to water intake lines used by lobster holding facilities, fish processing facilities and other harbour users, schedule work in cooperation with the Harbour Authority as directed by *Departmental Representative* to minimize interference and impact to harbour users.
- .5 Do not wash down equipment within a 30 meter buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
- .6 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:

- a) Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering the water body.
- b) Measures for managing water flowing onto the site, as well as water being pumped / diverted from the site such that sediment is filtered out prior to the water entering a water body. For example, pumping / diversion of water to a vegetated area, construction of a settling basin or other filtration system.
- c) Site isolation measures (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., dredging, underwater cable installation).
- d) Measures for containing and stabilizing waste material (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris) above the high water mark of nearby water bodies to prevent re-entry.
- e) Regular inspection and maintenance of erosion and sediment control measures and structures during the course of the work.
- f) Repairs to erosion and sediment control measures and structures if damage occurs.
- g) Removal of non-biodegradable erosion and sediment control materials once site is stabilized.

- .7 Employ suitable operational and engineering controls (e.g., silt curtain), as approved by the Departmental Representative, around the work area.

1.11 Socioeconomic Restrictions

- .1 Abide by municipal and provincial regulations for any restrictions on work

performed during the night time and on flood lighting of the site. Obtain applicable permits.

- .2 Place flood lights in opposite direction of adjacent residential and business areas.
- .3 Work equipment and machinery must be equipped with purposely designed mufflers to reduce noise on site to lowest possible level. Maintain mufflers in good operating condition at all times.

1.12 Bird and Bird Habitat

- .1 Become knowledgeable with and abide by the Migratory Birds Convention Act (MBCA) in regards to the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity.
- .2 Minimize disturbance to all birds on site and adjacent areas during the entire course of the Work.
- .3 Do not approach concentrations of seabirds, waterfowl and shorebirds when anchoring equipment, accessing wharves or ferrying supplies.
- .4 Do not use beaches, dunes and other natural previously undisturbed areas of the site to conduct work unless specifically approved by the *Departmental Representative*.
- .5 Should nests of migratory birds be encountered during work, immediately notify *Departmental Representative* for directives to be followed.
 - .1 Do not disturb nest site and neighbouring vegetation until nesting is completed.
 - .2 Minimize work immediately adjacent to such areas until nesting is completed.
 - .3 Protect these areas by following recommendations of Canadian Wildlife Service.

1.13 Fish Protection

- .1 Avoid wet, windy and rainy periods that may increase erosion and sedimentation.
- .2 Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.
- .3 Screen any water intakes or outlet pipes to prevent entrainment or impingement of fish. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when an entrapped fish is held in contact with the intake screen and is unable to free itself.
- .4 Be aware of the risk for contamination of the fish habitat at the site as a result of alien species being introduced in the water.
- .5 To minimize the possibility of fish habitat contamination and the spread of aquatic invasive (alien species), all construction equipment which will be immersed into the water of a watercourse, or has the possibility of coming into contact with such water during the course of the work, must be cleaned and washed to ensure that they are free of marine growth and alien species.
 - .1 Equipment shall include boats, barges, cranes, excavators, haul trucks, pumps, pipe lines and 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 wetland, watercourse or other identified environmentally sensitive area.
- .9 Record of Assurance Logbook:
 - .1 Maintain an on-going log of past and present usage and washdowns of all equipment to illustrate mitigation measures undertaken against fish habitat contamination by alien species.
 - .2 Write data in a hard cover bound logbook to include the following:
 - .1 Date and location where equipment was previously used in a watercourse or wetland;
 - .2 Type of work performed.
 - .3 Dates of wash down for each piece of equipment;
 - .4 Cleaning method and cleaning agent(s) used.
- .10 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to *Departmental Representative* for review.
- .11 Abide by requirements and recommendations from Fisheries and Oceans Canada - Fisheries Protection Program in cleaning and wash down of equipment.

- .12 Work activities must comply with all/any conditions of the Fisheries Act Authorization issued by Fisheries and Oceans Canada.

1.14 Blasting

- .1 Prior to commencement of any blasting or drilling activities, a blast plan and marine mammal survey plan must be submitted to the *Departmental Representative* for submission to DFO Fish and Fish Habitat Protection Program and Transport Canada for review and written approval.
- .2 Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.
- .3 If blasting is to occur, a standby vessel shall be on station for the duration in order to provide mariners with onsite directions and safe passage as required.
- .4 If explosives are required as part of a project, the potential for impacts to fish and fish habitat should be minimized by implementing the following measures:
 - .1 No explosive is to be detonated in or near fish habitat that produces, or is likely to produce, an instantaneous pressure change (i.e., Overpressure) greater than 100 kPa (14.5 psi) in the swimbladder of a fish.
 - .2 No explosive is to be detonated that produces, or is likely to produce, a peak particle velocity greater than 13 mm•s⁻¹ in a spawning bed during the period of egg incubation.
 - .3 Back-fill blast holes (stemmed) with sand or gravel to grade or to streambed / water interface to confine the blast.
 - .4 Place blasting mats over top of holes to minimize scattering of blast debris around the area.

- .5 Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
- .6 Remove all blasting debris and other associated equipment / products from the blast area.
- .7 No explosive is to be knowingly detonated within 500 m of any marine mammal (or no visual contact from an observer using 7x35-power binocular).
- .8 Pre-blast surveys will be conducted on all surrounding residential wells within 250m prior to any blasting at the harbour. Prior to blasting baseline water quality data will be collected from all wells within 600 m of any areas where blasting will occur.
- .9 Where possible, store blasting agents off-site at an approved facility, bringing only the amount on-site that is needed for one day of work.

1.15 Air Quality

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

1.16 Fires

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

1.17 Archaeological

- .1 All construction personnel are responsible for reporting any unusual materials unearthed during construction to the construction supervisor. If the find is believed to be an archaeological resource, the Construction Supervisor will immediately stop work in the vicinity of the find and notify the PSPC Project Manager.
- .2 If an archaeological and / or historically significant item is discovered during the work activities, work in the area will be stopped immediately and the Departmental representative will be contacted as well as the provincial Archaeological Services unit.
Nova Scotia - NS Department of Communities, Culture and Heritage, Special Places Program, telephone: (902) 424-6475
- .3 Work can only resume in the vicinity of the find when authorized by the PSPC Project Manager and Construction Supervisor, after approval has been granted by the Nova Scotia Department of Communities, Culture and Heritage.
- .4 In the event of the discovery of human remains or evidence of burials, excavation work will immediately cease and nearest law enforcement agency will be contacted immediately by the PSPC Project Manager and/or the Construction Supervisor.

END OF SECTION

- 1 Related Requirements .1 Particular requirements for inspection and testing of concrete to be carried out by testing laboratory designated by Departmental Representative are specified under various sections.

- 2 Appointment and Payment .1 Departmental Representative will appoint and pay for services of testing laboratory except for the following:
 - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - .2 Inspection and testing performed exclusively for Contractor's convenience.
 - .3 Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by 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. Pay costs for additional tests or inspections as Departmental Representative may require to verify acceptability of corrected work.

- 3 Contractor's Responsibilities .1 Furnish labour and facilities to:
 - .1 Provide access to work to be inspected and tested.
 - .2 Facilitate inspections and tests.
 - .3 Make good work disturbed by inspection and test.
 - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
 - .2 Notify Departmental Representative sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
 - .3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.

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

END OF SECTION

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| 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 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. |
| 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. |
| 3 | <u>Departmental Representative's Site Office</u> | .1 | Provide furnished temporary office for sole use of Departmental Representative complete with heat, lights, phone/fax connection and internet connection. Insulated office required if used during October to May. Locate on or adjacent to site. |
| | | .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. |
| 4 | <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. |

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| 5 | <u>Sanitary Facilities</u> | .1 | Provide sanitary facilities for work force in accordance with governing regulations and ordinances. |
| | | .2 | Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition. |
| 6 | <u>Parking</u> | .1 | Make arrangements with the Departmental Representative to provide parking space for work force. |
| 7 | <u>Power</u> | .1 | Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances. |
| | | .2 | Install temporary facilities for power such as pole lines and cables to approval of local power supply authority. |
| 8 | <u>Water Supply</u> | .1 | Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances. |
| 9 | <u>Barricades</u> | .1 | Provide and maintain sufficient barricades, fencing, notices, warning signs, light signals, etc. for the protection of adjoining property and to warn others and workmen engaged on the job of the dangers caused by the work. |
| | | .2 | Types and location of barricades, etc. to be in accordance with local regulations and to the satisfaction of Departmental Representative. |
| | | .3 | The presence of such barricades, lights, etc. will not relieve the Contractor of the responsibility for any damages. |
| 10 | <u>Security</u> | .1 | Make arrangements with the Departmental Representative for security of his equipment, materials, damages resulting from fire and theft. |
| 11 | <u>Site Signs and Notices</u> | .1 | Only Project Identification and Consultant/ Contractor signboards and notices for safety or instruction are permitted on site. |
| | | .2 | Format, location and quantity of site signs and notices to be accepted by Departmental Representative. |
| | | .3 | Signs and notices for safety or instruction to be in English and French languages, or commonly understood graphic symbols. |

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| 12 | Removal of Temporary
<u>Facilities</u> | .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. |

END OF SECTION

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| 1.1 <u>General</u> | .1 Use new material and equipment unless otherwise specified. |
| | .2 Submit following information for any or all materials and products proposed for supply within seven (7) days of request by Departmental Representative: <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 one manufacturer for equipment or material of same type or classification unless otherwise specified. |
| 1.2 <u>Manufacturer's Instructions</u> | .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods. |
| | .2 Notify Departmental Representative in writing of any conflict between these specifications and manufacturers' instructions. Departmental Representative will designate which document is to be followed. |
| 1.3 <u>Fastenings - General</u> | .1 All fastenings are to be the sizes indicated on the contract plans and are to be hot dipped galvanized to ASTM 123 unless otherwise noted. |
| 1.4 <u>Delivery and Storage</u> | .1 Deliver, store and maintain packaged material and equipment with manufacturer's seal and labels intact. |
| | .2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site. |
| | .3 Store material and equipment in accordance and Storage with supplier's instructions. |
| 1.5 <u>Conformance</u> | .1 When material or equipment is specified by standard or performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or |

equipment meets or exceeds specified requirements.

1.6 Substitution

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

1.7 Construction Equipment and Plant

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

1.8 Damaged and Rejected Materials

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

.2 Remove rejected materials from site.

END OF SECTION

1.1 Record
Drawings

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

END OF SECTION

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| 1 | <u>General</u> | <ul style="list-style-type: none">.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. |
| 2 | <u>Cleaning During Construction</u> | <ul style="list-style-type: none">.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. |
| 3 | <u>Final Cleaning</u> | <ul style="list-style-type: none">.1 In preparation for acceptance of the project on an interim or final certificate of completion perform final cleaning..2 Remove grease, dust, dirt, stains, and other foreign materials, from exterior finished surfaces. |

END OF SECTION

1 GENERAL

1.01 RELATED SECTIONS

- .1 Section 01 29 00 - Project Particulars and Measurement.
- .2 Section 01 35 44 - Environmental Protection for Marine Work.
- .3 Section 01 74 11 - Cleaning.

1.02 PRICE AND PAYMENT PROCEDURES

- .1 Measurement for Payment will be paid under section 01 29 00.

1.03 DEFINITIONS

- .1 Definitions:
 - .1 Dredging: excavating, transporting and disposing of underwater materials.
 - .2 Class A material: solid rock requiring drilling and blasting to loosen, and boulders or rock fragments of individual volumes 1.5 m³ or more.
 - .3 Class B material: loose or shale rock, silt, sand, quick sand, mud, shingle, gravel, clay, sand, gumbo, boulders, hardpan and debris of individual volumes less than 1.5 m³.
 - .4 Debris: pieces of wood, wire rope, scrap steel, pieces of concrete and other waste materials.
 - .5 Grade: plane above which material is to be dredged.
 - .7 Estimated quantity:
 - .1 Volume of material calculated to be above dredge grade and within specified side slopes unless otherwise specified.
 - .8 Side slope: inclined surface or plane from subgrade at side limit of dredging area to intersect original ground line outside of side limit and to be expressed as ratio of horizontal to vertical.
 - .9 Chart Datum: permanently established plane from which soundings or tide heights are referenced, usually Lower Low Water Large Tide (LLWLT), but Lowest Normal Tide (LNT) is still retained on most charts.
 - .10 Universal Transverse Mercator Projection (UTM) or Modified Transverse Mercator Projection (MTM) Co-ordinates: plane rectangular coordinates used in grid system in which grid network is applied to UTM. or MTM. projection. Horizontal control information as indicated.
 - .11 Drawing Scale: Commonly used ratios to relate drawing measurements to real world measurements. IE: 1:250, 1:500, 1:1000. This scale defines the size of matrix block to be used to represent the soundings.
 - .12 Matrix Block: Each sounding is presented as number of specific length and width depending on scale. The sounding is a mathematical representation of multiple soundings within this block. Block sizes are usually as follows:
 - .1 1:250 - 0.6m X 1.5m
 - .2 1:500 - 1.2m X 3.0m
 - .3 1:1000 - 2.4m X 6.0m
 - .13 Minimum Depths Plan: A hydrographic survey plan in which shoalest depth from an average high resolution bathymetric surface or XYZ within the matrix block is plotted.
 - .14 Average High Resolution Bathymetric Surface or XYZ: A surface or XYZ with

- grid spacing equal to or less than 1m x 1m in which multiple soundings are averaged and then verified against raw data to ensure true representation of seafloor.
- .15 Average Depths Plan: A hydrographic survey plan in which average depth from an average high resolution bathymetric surface or XYZ within matrix block is plotted.
 - .16 Lower Low Water Large Tide (LLWLT): The average of lowest low waters. One from each of 19 years of predictions.
 - .17 Lowest Normal Tide (LNT): plane so low that tide will seldom fall below it.
 - .18 Cleared Area: area of dredging accepted as complying with plans and specifications.

1.04 ADMINISTRATIVE REQUIREMENTS

- .1 Navigation co-ordination:
 - .1 Be familiar with vessel movements and fishery activities in area affected by dredging operations. Plan and execute Work in manner that will not interfere with fishing operations, marina operations, construction activities at wharf sites, or access to wharves by land or water.
 - .2 Departmental Representative will not be responsible for loss of time, equipment, material or any other cost related to interference with moored vessels in harbor or due to other Contractor's operations.
 - .3 Keep Departmental Representative informed of dredging operations in order that necessary NAVWARN will be issued.
- .2 Scheduling:
 - .1 Submit to Departmental Representative within 2 weeks after award of Contract, schedule of work including time periods during which each operation involved in Work will be undertaken. At time of submission of schedule, meet with Departmental Representative to review schedule.
 - .2 Adhere to schedule and take immediate action to correct any slippage by effectively altering existing dredging operations or mobilizing other equipment. Notify Departmental Representative of corrective action to be taken.

1.05 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to Departmental Representative for approval, 6 weeks before blasting, details of proposed blasting operations showing types and quantities of explosives, loading charges and patterns, type of blasting caps, blasting techniques, blast protection measures, time of blasting and other pertinent details. Submit subsequent changes to Departmental Representative before proceeding.
- .3 Submit to Departmental Representative complete photographic and descriptive record of buildings, roads and structures in general area of Project Work, before blasting is started. Describe buildings both inside and out. Record existing cracks in walls or structural components.
- .4 Submit to Departmental Representative a Pre-Blast Seismographic survey and reports on continuous Seismographic monitoring.

1.06 SITE CONDITIONS

- .1 Contractor to visit and inspect work site and become thoroughly familiar with extent and nature of Work and conditions affecting Work before tendering.
- .2 Results of prior soundings and geotechnical investigations are made available for tendering purposes only. It should be noted that this information may differ from site condition. Take this into consideration when submitting tender.
- .3 Take necessary steps to become fully familiar with potential inclement weather and sea conditions in this area.
- .4 Survey requirements:
 - .1 Provide, at own expense, survey vessel, equipment and crew to set up and maintain control for location of dredge limits and to sound areas immediately after dredging to verify that grade depth has been attained. Areas are to be sounded to provide sounding printout display of at least 2 x 2m UTM grid to approval of Departmental Representative.

2 PRODUCTS

2.01 DREDGING EQUIPMENT

- .1 Contractor to determine required equipment necessary to dredge material specified and to dispose of dredged material at locations specified.

3 EXECUTION

3.01 EXAMINATION

- .1 Verification of location:
 - .1 Dredge "A" at the location indicated on the drawings.
- .2 Surveys and acceptance of work:
 - .1 The tender drawings shall be considered as the pre-dredge survey. Survey will be by multi-beam echosounder. Survey plan at 1:250 scale plotting minimum depths obtained from an average high resolution bathymetric surface in this survey will define actual pre-dredge seabed areas.
 - .2 No area will be dredged prior to Departmental Representative's and Contractor's mutual acceptance of pre-dredge survey for that area.
 - .3 As soon as practical, Post-dredge survey will be undertaken by Departmental Representative upon completion of dredging. Survey will confirm if dredging is completed as specified and whether area can be considered cleared area. Survey will be by multi-beam equipment to produce a minimum depths plan. Survey plan at 1:250 scale plotting minimum depths from an average high resolution bathymetric surface obtained in this survey will identify areas requiring reworking to obtain following elevations: -1.5m below Chart Datum.
 - .4 Contractor to re-dredge as necessary to remove all material within dredge areas which is found to be above grade as specified herein.
 - .5 One additional survey will be undertaken at Departmental Representative's cost, for those areas not meeting acceptance criteria for dredging. Additional surveys required to clear areas will be undertaken by Departmental Representative at Contractor's cost.
 - .6 All post-dredge elevations within specified areas of dredging must be at

or deeper than -1.5m below Chart Datum before area will be considered completed.

3.02 DREDGING

- .1 Place and maintain buoys, ranges, markers and lights required to define work and disposal areas.
- .2 Lay out Work from bench marks, ranges and base lines established by Departmental Representative. Be responsible for accuracy of Work relative to established bench marks, ranges and baseline. Provide and maintain electronic position fixing and distance measuring equipment, laser transits and such other equipment as normally required for accurate dredging control.
- .3 Areas to be dredged are to be referenced to vertical bench marks for each location of dredging as indicated.
- .4 Benchmark for soundings indicated is PWGSC control point +9.049m above Chart Datum referenced from CHS benchmark 84N9503(5-1984) which is 9.531m above Chart Datum.
- .5 Establish and maintain water level gauges, tide boards in order that proper depth of dredging can be determined. Locate gauges, tide boards so as to be clearly visible.
- .6 Establish and maintain on-land targets for location and definition of designated dredge area limits. Targets to be suitable for control of dredging operations and locating soundings. Remove targets on completion of Work.
- .7 Dredge areas to grade depth of EL -1.5m below Chart Datum.
- .8 Side slopes are to be 1:1 (rise:run).
- .9 Remove materials above specified grade depths, within limits indicated. Material removed from below subgrade depth or outside specified area or side slope is not part of Work and will not be measured for payment, unless it's authorized by the Departmental Representative.
- .10 Remove shoaling which occurs as result of Work at no expense to Departmental Representative.
- .11 Remove material cast-over on surrounding area and dispose of it as dredged material. Do not cast-over material unless authorized by Departmental Representative.
- .12 Remove infilling in dredge areas which occurs prior to acceptance by Departmental Representative.
- .13 Immediately notify Departmental Representative upon encountering object which might be classified as obstruction. By-pass object after clearly marking its location and continue work.
- .14 Tolerances:
 - .1 Grade tolerance: \leq -1.5m below Chart Datum.
- .15 No dredging equipment will be permitted to be used, from the existing wharves.

3.03 CLASS 'A' REMOVAL

- .1 Provide specialist with qualifications acceptable to Departmental Representative and Municipal or Provincial Authorities to program and supervise blasting.
- .2 Contractor will retain Specialist Company to carry out seismographic survey before rock excavation is started, to determine maximum charges that can be used at different locations in area of rock excavation. Following survey, full report detailing control requirement throughout Project will be forwarded to the Departmental Representative prior to the start of blasting. Report or any part of it will not over-rule requirements of local authority having jurisdiction unless report requirements are more conservative.
- .3 Seismographic blast monitoring will be provided by Contractor during the entire progress of blasting operations.

- .4 All necessary precautions to prevent damage to existing structures and private property must be suitably employed by the Contractor to the satisfaction of the Departmental Representative prior to any blasting. Any damage to existing structures and private property as a result of blasting operation will be repaired at Contractor's expense.
- .5 Representative of testing laboratory will visit owners of adjacent buildings and structures and describe blasting and seismic recording operations to them and obtain their permission for setting up seismographs.
- .6 Contractor will conduct a pre-blast survey prior to commencement of blasting operations. Survey to include condition of adjacent structure, buildings, etc., and submit a report to the Departmental Representative.

3.04 SEISMOGRAPHIC MONITORING

- .1 Contractor will hire and pay for a registered consultant to do the Seismographic monitoring.
- .2 Contractor to perform continuous monitoring of the seismic instrument during all periods of blasting and periods thereafter to the satisfaction of the Departmental Representative.
- .3 Provide a written blasting schedule to the Departmental Representative prior to mobilization
 - .1 Contact information will be provided at the Start-up Meeting.
- .4 Contractor will be fully responsible for any damages that occur to any structure near the blasting, and will be responsible to reinstate all damages.

3.05 CLASS "A" DREDGE DISPOSAL

- .1 Contractor shall transport and dispose dredge material at the following disposal site(s): PID 30166383. If removed dredge material exceeds the safe storage capacity of PID 30166383 the excess quantity shall be transported and disposed at PID 30166367. Contractor to confirm precise disposal location for dredge material with Departmental Representative prior to disposal on PID 30166367.

3.06 SITE QUALITY CONTROL

- .1 Site test and inspections:
 - .1 Co-operate with Departmental Representative on inspection of Work and provide assistance requested.
 - .2 Upon request of Departmental Representative, furnish use of such boats, equipment, labor and materials forming ordinary and usual part of dredging plant as may be reasonably necessary to inspect and supervise Work. Volume of material transported in partially filled scows will be determined by Departmental Representative.

3.07 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

END OF SECTION

To:	Kate McCarthy, P.Eng.	From:	Maureen Matthew, M.Sc., P.Geo.
	PSPC		Stantec Consulting Ltd.
File:	121623104	Date:	November 5, 2019

Reference: Centreville (Trout Cove) Wharf Bedrock Assessment, Centreville, NS

We are pleased to provide you with this memo that summarizes the findings of a bedrock assessment that was carried out in support of proposed improvements to the Centreville (Trout Cove) Small Craft Harbour in Centreville, Digby Neck, NS. This work was carried out in accordance with our proposal dated October 21, 2019, which included a site visit to collect non-intrusive geotechnical data from exposed bedrock, a summary of the findings, and comments on the anticipated rippability of the rock mass.

BACKGROUND

The Centreville (Trout Cove) Small Craft Harbour is scheduled to undergo improvements that would require dredging of the seafloor in the intertidal zone up to approximately 3.5 m below current elevations. A low bedrock outcrop is present within the proposed area of dredging. The bedrock is almost completely exposed and accessible during low tide, but fully submerged from mid to high tide periods.

SITE VISIT

Our site visit was carried out on October 23rd, 2019 and consisted of a walk-over and visual assessment by an engineering geologist. The visit was carried out at low tide to provide maximum exposure of the bedrock outcrop. The bedrock outcrop was fully covered in a thick layer of seaweed, which prohibited an overview of the outcrop surface in its entirety. Select areas across the outcrop were manually skimmed of seaweed for observation during the site visit.

Data collection consisted of photographs, geological assessment (rock type, strength, degree of fracture, rock mass classification), and general spatial measurements. A photo log of the site visit, with annotations is provided for reference in the attachment. A summary of the conditions encountered is provided below.

BEDROCK CONDITION

The bedrock outcrop consists of basalt, a mafic volcanic rock, of the North Mountain Formation. The formation extends along the southern shore of the Bay of Fundy from Cape Split, in the northeast, to the southern extent of Digby Neck in the southwest. The basalt is a fine-grained rock that, as observed in the natural rock faces of the bluffs immediately east and west of the wharf, occurs in thickly bedded flows that dip gently towards the northwest in this area.

Locally, some cobble and small boulder size blocks (typically <30 cm in maximum dimension) are scattered throughout the outcrop; otherwise, the outcrop is largely intact. Despite continual exposure to the wave action of the intertidal zone, the bedrock exposed in the outcrop consisted of slightly weathered to fresh, hard, very strong basalt. In the areas examined, a thin layer (less than 5 mm thick) of softened rock or mineral coating was common. Beneath this thin layer of weathering or mineralization, the rock was generally fresh. Field estimate of rock strength in accordance with the International Society of Rock Mechanics (ISRM) yields an unconfined compressive strength (UCS) estimate of 100 – 250 MPa equivalent to a rating of very strong (R5). Stantec's experience on geotechnical projects within the North Mountain basalt supports this potential strength range, with previously reported UCS values up to 250 MPa in this rock type.

Reference: Centreville (Trout Cove) Wharf Bedrock Assessment, Centreville, NS

In the areas examined, the rock mass was moderately fractured with fracture spacing on the order of 10 – 30 cm. Fractures were generally clean and tight, with apertures less than 1 mm and limited visible mineral coatings. Geological Strength Index (GSI) is a value that represents the overall strength of a rock mass, taking into account the degree of fracture and condition of fracturing. GSI values range from 0 to 100; where a value of 0 represents very poor, heavily fractured or disintegrated rock mass and 100 represents intact or massive rock with very good joint surface conditions (i.e. clean, rough, interlocked). A GSI index of 70 – 80 is estimated for the bedrock examined at Trout Cove.

DISCUSSION

The strength, hardness, and tightly interlocking structure of the bedrock observed at the Centreville (Trout Cove) wharf will limit its excavatability. Literature suggests that for GSI > 60 in strong rocks, blasting is generally required for excavation (Tsiambaos & Saroglou, 2010). For reference, a chart that illustrates the relationship of GSI to excavatability in strong rocks has been developed and is provided on Page 5 of the attachments. Our experience with similar rock types supports this relationship and we anticipate blasting will be required during the dredging operations to achieve the proposed design grades.

CLOSURE

We trust this report meets your present requirements and we thank you for the opportunity to support the advancement of this project. If you have any questions or comments on the information provided, please do not hesitate to contact the undersigned at your convenience.

Stantec Consulting Ltd.



Maureen Matthew M.Sc., P.Geo.
Team Lead, Geotechnical Engineering

Phone: 902 468 7777
Fax: 902 468 9009
maureen.matthew@stantec.com

Attachment: Photo Log (Page 1 – 4)
GSI vs. Excavatability (Page 5)

Photo Log – Centreville (Trout Cove) Small Craft Harbour Bedrock Assessment (Page 1 / 4)



Photo 1 – Overview of seaweed-covered bedrock outcrop in area of proposed dredging



Photo 2 – View west of the small craft harbour showing typical thickly bedded basalt flows (background)

Photo Log – Centreville (Trout Cove) Small Craft Harbour Bedrock Assessment (Page 2 / 4)



Photo 3 – Bedrock condition at test location (western area of outcrop)



Photo 4 – Bedrock condition at test location (center of outcrop)

Photo Log – Centreville (Trout Cove) Small Craft Harbour Bedrock Assessment (Page 3 / 4)



Photo 5 – Bedrock condition at test location (northern area of outcrop)



Photo 6 – Bedrock condition at test location (eastern of outcrop)

Photo Log – Centreville (Trout Cove) Small Craft Harbour Bedrock Assessment (Page 4 / 4)

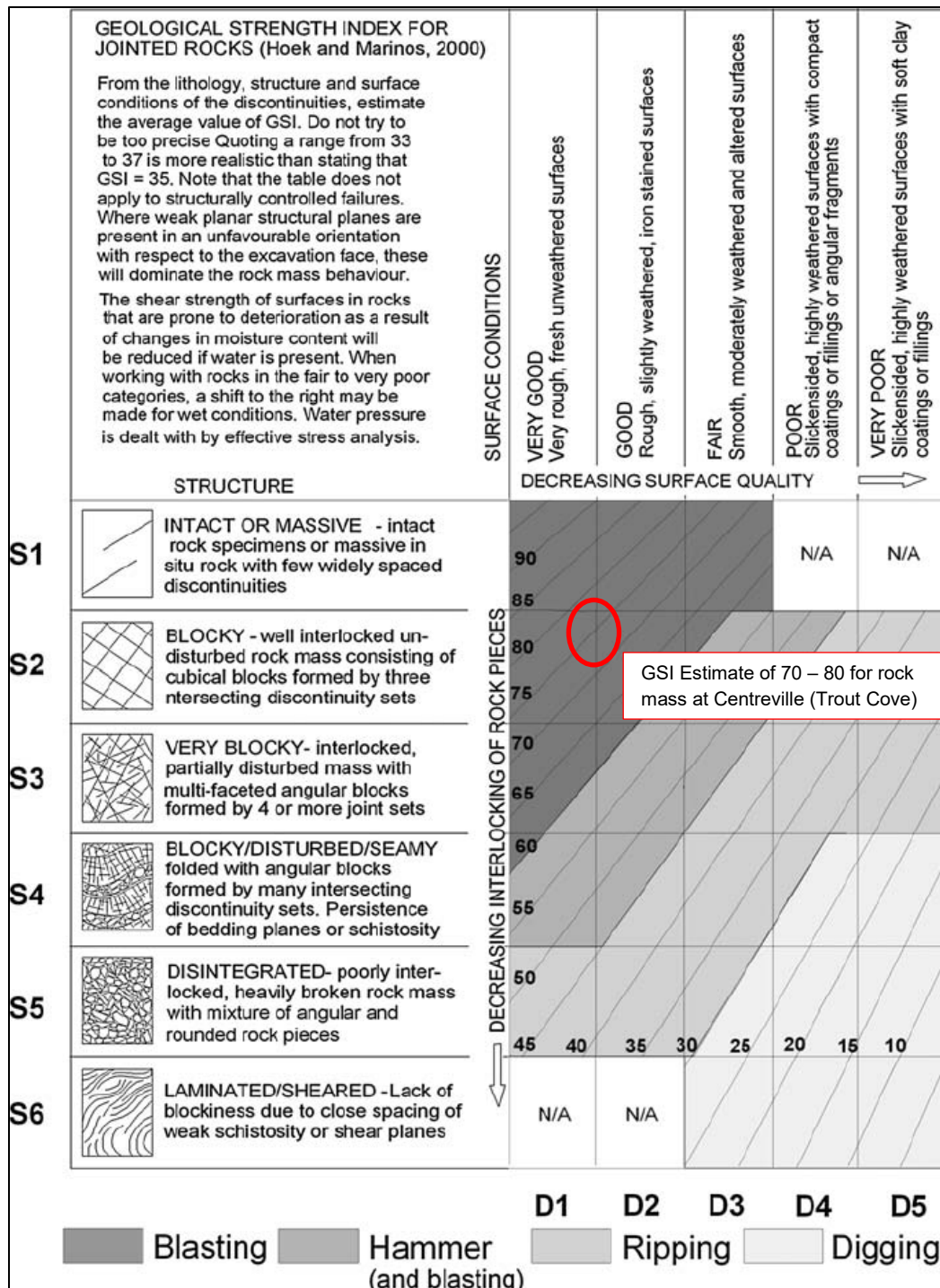


Photo 7 – Bedrock condition at test location (western/central area of outcrop)



Photo 8 – Overview of seaweed-covered outcrop at beach level (low tide)

Proposed Geological Strength Index (GSI) Chart for the Excavatability of Strong Rock Masses



Tsiambaos, G., Saroglou, H. 2010. Excavatability assessment of rock masses using the Geological Strength Index (GSI). Bulletin of Engineering Geology and the Environment, 69:13-27.



Paragraphs 34.4(2)(b) and 35(2)(b) *Fisheries Act* Authorization

Authorization issued to:

Fisheries and Oceans Small Craft Harbours (*hereafter referred to as the "Proponent"*)

Fisheries and Oceans Canada Small Craft Harbours
Attention: Gary Hubbard
215 Main Street
Yarmouth, NS B5A 1C6

Location of Proposed Project

Nearest community (city, town, village): Centreville
Municipality, district, township, county: Digby County
Province: Nova Scotia
Name of watercourse, waterbody: Trout Cove, Bay of Fundy
Longitude and latitude, UTM Coordinates: 44.5508° N, -66.0325° W

Description of Proposed Project

The proposed project of which the work, undertaking or activity authorized is a part involves:

The capital dredge of up to 1072 m² northeast of the central wharf within an active Fisheries and Oceans (DFO) Small Craft Harbour facility in Centreville, Digby County, Nova Scotia. Currently, vessels can only access the wharf at high tide in the area proposed to be dredged. This proposal will allow vessels to access the wharf during any tide.

A temporary access road may be installed within the footprint of the project and removed upon completion of the work. It is likely that drilling and blasting will be required to reach the targeted depth requirements for the dredging activities.

Description of Authorized work(s), undertaking(s) or activity(ies) likely to result in the death of fish by means other than fishing:

The work(s), undertaking(s), or activity(ies) associated with the proposed project described above, that is likely to result in the death of fish by means other than fishing, are:

- Incidental death of fish resulting from dredging and blasting activities at the DFO Small Craft Harbour facility at Centreville, Digby County, Nova Scotia.

Description of Authorized work(s), undertaking(s) or activity(ies) likely to result in the harmful alteration, disruption or destruction of fish habitat:

The work(s), undertaking(s), or activity(ies) associated with the proposed project described above, that are likely to result in the harmful alteration, disruption or destruction of fish habitat, are:

- The harmful disruption of fish habitat resulting from dredging and blasting activities at the DFO Small Craft Harbour facility at Centreville, Digby County, Nova Scotia.

The authorized work(s), undertaking(s), or activity(ies) are likely to result in the following impacts to fish and fish habitat:

- The incidental death of fish and the disruption of up to 1072 m² fish habitat resulting from dredging and blasting activities within DFO-SCH Centreville facility.

Conditions of Authorization

The above described work, undertaking or activity must be carried on in accordance with the following conditions.

1. Conditions that relate to the period during which the work, undertaking or activity can be carried on

The work, undertaking or activity that is/are authorized to be carried on during the following period:

From the date signed by the Regional Director General to December 31, 2022.

If the Proponent cannot complete the work, undertaking or activity during this period, Fisheries and Oceans Canada (DFO) must be notified in advance of the expiration of the above time period. An application for amendment, suspension or cancellation of the authorization should be submitted to DFO-FFHPP.

The periods during which other conditions of this authorization must be complied with are provided in their respective sections below.

2. Conditions that relate to measures and standards to avoid and mitigate impacts to fish and fish habitat, including impacts to aquatic species at risk.

- 2.1 Sediment and erosion control: Sediment and erosion control measures must be in place and shall be upgraded and maintained, such that release of sediment does not result in exceedances of the turbidity levels specified in subsection 2.2.1 at the location of the authorized work, undertaking, or activity.
- 2.2 List of measures and standards to avoid and mitigate impacts to fish and fish habitat including impacts to aquatic species at risk
 - 2.2.1 Turbidity levels must not exceed 8 Nephelometric Turbidity Units (NTUs) above the background level when background levels are between 8 and 80 NTUs OR exceed 10% above background levels when background is greater than 80 NTUs. Background levels are to be measured at least 100 metres (m) outside the plume. Background and in-plume turbidity samples to be measured in as close a timeframe as technically possible;
 - 2.2.2 Prior to commencement of any blasting or drilling activities, a blast plan and marine mammal survey plan must be submitted to DFO Fish and Fish Habitat Protection Program for review and written approval;
 - 2.2.3 Site isolation methods must be used to avoid exceedances of the turbidity levels described in subsection 2.2.1 and will be installed in a manner that does not block fish passage;
 - 2.2.4 Any temporary structures built and/or placed below the ordinary high water mark will only be built and/or placed within the footprint of the approved dredge area and will be constructed in

a manner that will avoid exceedances of the turbidity levels described in subsection 2.2.1 into the adjacent waterbody. Temporary structures will be removed upon completion of the dredging project;

- 2.2.5 All machinery on site must be maintained (e.g., washing, refueling and servicing) in a clean condition and free of fluid leaks to prevent any deleterious substances from entering the water. All fuel and other materials for the machinery must be stored in such a way as to prevent any deleterious substances from entering the water and;
- 2.2.6 Do not work in water during periods which Environment and Climate Change Canada has issued any storm surge, wind and wave warning for the work area;
- 2.2.7 A response plan must be developed prior to the start of the authorized work, undertaking, or activity and this plan must be implemented immediately in the event of a sediment release or spill of a deleterious substance. An emergency spill kit will be kept on site. All spills or leaks must be promptly contained, cleaned up, and reported to the 24-Hour Environmental Emergencies Report System (1-800-565-1633).
- 2.3 Contingency measures: Additional sediment and erosion control measures shall be put in place if monitoring required in section 3 below indicates that the measures and standards to avoid and mitigate impacts to fish and fish habitat are not successful in avoiding exceedances of the turbidity levels specified in Condition 2.2.1.
- 2.4 Dates by which these measures and standards shall be implemented: Measures and standards to avoid and mitigate impacts to fish and fish habitat shall be implemented prior to, during and after the initiation of works, undertakings or activities.

3. Conditions that relate to monitoring and reporting of measures and standards to avoid and mitigate impacts to fish and fish habitat including impacts to aquatic species at risk.

- 3.1 Monitoring of avoidance and mitigation measures: The Proponent shall monitor the implementation of avoidance and mitigation measures referred to in section 2 of this authorization and indicate whether the measures and standards to avoid and mitigate impacts to fish and fish habitat including impacts to aquatic species at risk were conducted according to the conditions of this authorization. This shall be done, by:
 - 3.1.1 Demonstration of effective implementation and functioning: Providing inspection reports with dated photos and blasting logs (including: date/time, drilling and loading characteristics, number and quantity of explosives in kilograms, delay pattern and post-blast site inspection) to demonstrate effective implementation and functioning of mitigation measures and standards described above to limit the impacts to fish and fish habitat including impacts to aquatic species at risk to what is covered by this authorization.
 - 3.1.2 Contingency measures: Providing details of any contingency measures that were followed to prevent impacts greater than those covered by this authorization in the event that mitigation measures did not function as described.
- 3.2 Other monitoring and reporting conditions:
 - 3.2.1 Completion of Authorized Work(s), Undertaking(s) or Activity(ies): The proponent shall report to DFO-FFHPP within 30 days that the work authorized has been completed by submitting the attached Completion of Authorized Work(s), Undertaking(s) or Activity(ies) form.

4. Conditions that relate to offsetting

- 4.1 Letter of credit: Not applicable (N/A)

- 4.2 Scale and description of offsetting measures: The Fish and Fish Habitat Protection Program has determined that offsetting measures are not required for this project as habitat will re-establish within a year or two.

Authorization Limitations and Application Conditions

The Proponent is solely responsible for plans and specifications relating to this authorization and for all design, safety and workmanship aspects of all the works associated with this authorization.

The holder of this authorization is hereby authorized under the authority of Paragraphs 34.4(2)(b) and 35(2)(b) of the *Fisheries Act*, R.S.C., 1985, c.F-14, to carry on the work(s), undertaking(s) and/or activity(ies) that are likely to result in impacts to fish and fish habitat as described herein.

This authorization does not purport to release the applicant from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.

This authorization does not permit the deposit of a deleterious substance in water frequented by fish. Subsection 36(3) of the *Fisheries Act* prohibits the deposit of any deleterious substances into waters frequented by fish unless authorized by regulations made by Governor in Council.

This authorization does not permit the killing, harming, harassment, capture or taking of individuals of any aquatic species listed under the *Species at Risk Act* (SARA) (s. 32 of the SARA), or the damage or destruction of residence of individuals of such species (s. 33 of the SARA) or the destruction of the critical habitat of any such species (s. 58 of the SARA).


It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the unauthorized death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (<http://www.dfo-mpo.gc.ca/pnw-ppe/CONTACT-eng.html>).

The failure to comply with any condition of this authorization constitutes an offence under Paragraph 40(3)(a) of the *Fisheries Act* and 97(1)(c) of the *Species at Risk Act*, and may result in charges being laid under said Act.

A copy of this authorization should be kept on site while the work is in progress and upon request be provided to relevant federal or provincial officials. The authorization holder is responsible for ensuring work crews are familiar with, and able to adhere to, the conditions.

This authorization cannot be transferred or assigned to another party. If the work(s), undertaking(s) or activity(ies) authorized to be conducted pursuant to this authorization are expected to be sold or transferred, or other circumstances arise that are expected to result in a new Proponent taking over the work(s), undertaking(s) or activity(ies), the Proponent named in this authorization shall advise DFO in advance.

Date of Issuance: May 8, 2020

Approved by: 
Mary-Ellen Valkenier
Regional Director General, Maritimes Region
Fisheries and Oceans Canada

Digitally signed 08-05-2020