

Harbour Improvements**Shag Harbour, Shelburne County, NS****R.118063.001**

General Instructions

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1. Documents Required .1 Maintain at job site, one copy each of following:
- .1 Contract drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed shop drawings/submissions
 - .5 Change orders
 - .6 Other modifications to Contract
 - .7 Field test reports
 - .8 Copy of approved work schedule
 - .9 Manufacturer's installation and application instructions
2. Site Conditions .1 Records of existing structures and geotechnical reports may be available for inspection at the offices of Public Works and Government Services Canada, 1713 Bedford Row, Halifax, N.S. This material is not necessarily up to date and is for information purposes only. It should be complemented by site visits and consultation with appropriate expertise.
3. Work Schedule And Completion Dates .1 Prepare and submit to the Departmental Representative within 5 days of notification of Contract award, one copy of the construction schedule in the form of a bar chart showing the dates for commencement and completion of each major activity of the work, including the work of subcontractors; dates for submissions, review and return of shop drawings, etc.; the dates of Substantial and Final Completion; and intended man hours of labour and equipment for each major item of work. If the schedule as submitted is unacceptable in any way, submit without delay a revised schedule satisfactory to the Departmental Representative.
- .2 The Departmental Representative is to notify the Contractor in writing of acceptance of the Construction Schedule. Comply with the Construction Schedule at all times. If, for any reason, the Construction Schedule is not
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		followed, immediately notify the Departmental Representative of the change and submit a revised schedule for acceptance. Upon written acceptance by the Departmental Representative, this schedule will become the Construction Schedule.
	.3	Whenever required, give further written particulars concerning this schedule. The submission to and acceptance by the Departmental Representative of the Contractor's Construction Schedule or the furnishing of details and particulars thereto will not relieve the Contractor of any duties and responsibilities under the Contract.
	.4	Work is to cease between November 15 th , 2021 and December 17 th , 2021 to avoid interference with harbour operations during the opening of the lobster fishing season.
	.5	All work is to be completed prior to February 28 th , 2022.
4.	Measurement Responsibilities	.1 Notify Departmental Representative sufficiently in advance of operations to permit required measurements for payment purposes.
5.	Contractor's Use of Site	.1 Co-operate with users of existing facilities.
		.2 Should interference's occur, take directions from Departmental Representative.
		.3 Do not unreasonably encumber site with materials or equipment.
		.4 Move stored products or equipment which interfere with operations of Departmental Representative or other Contractors.
		.5 Obtain and pay for use of additional storage or work areas needed for operations.

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| | .6 | Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water. |
| | .7 | Ensure no damage occurs to existing structures as a result of operations. Any said damage will be repaired at Contractor's expense. |
| | .8 | Provide temporary barriers and warning signs in location where work is adjacent to areas used by public. |
| 6. | Codes and Standards | |
| | .1 | Perform work in accordance with National Building Code of Canada (NBC) and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements will apply. |
| | .2 | Meet or exceed requirements of specified standards, codes and referenced documents. When a standard or code is outdated, the latest edition will supersede the referenced date. |
| | .3 | Observe and enforce construction safety measures by Canadian Construction Safety Code and Construction Safety Code of Nova Scotia. In the event of conflict between any provisions of above authorities the most stringent provision will apply. |
| 7. | Project Meetings | |
| | .1 | Departmental Representative will arrange project meetings and assume responsibility for setting times and recording and distributing minutes. |
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8. Setting Out of Work

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

9. Existing Services

- .1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian and vehicular traffic.
- .2 Before commencing work, establish location and extent of service lines in area of work

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and notify Departmental Representative of findings.

.3 Submit schedule to and obtain acceptance from Departmental Representative for any shut-down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.

.4 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.

10. Contract Documents .1 Contract Drawings:

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

.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.

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- .2 Specification language is of the 'Short Form type' for example, where the word "provide" occurs, interpret it to mean "the Contractor shall furnish all labour, material and equipment necessary to complete the work".
- .3 This Specification and accompanying drawings are intended to describe and provide for a finished project. They are intended to be complementary, and what is called for by either will be as binding as if called for by both. The Contractor shall understand that the work herein described will be complete in every detail, notwithstanding that every item necessarily involved is not particularly mentioned, and Contractor will be held to provide all labour, materials and equipment necessary for the entire completion of the work and will not avail himself of any errors or omissions.
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 as stated in the contract.
12. Cutting, Fitting and Patching
- .1 Execute cutting (including excavation), fitting and patching required to make work fit properly.
- .2 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.
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| | .3 | Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work. |
| | .4 | Obtain Departmental Representative's approval before cutting, boring or sleeving, or excavating adjacent to load-bearing members. |
| 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. |
| 14. Payment | .1 | Payment for all work under this contract to be in accordance with the measurement for as outlined in 01 29 00. |
| | .2 | No separate payment will be made for work specified under any sections of Specification under Division 01. The cost of this work is to be considered as overhead and to be included in the lump sum of the Contract. |
| | .3 | Dimensional changes as directed by the Departmental Representative to suit existing conditions, but not resulting in additional work or materials, will not be considered as extra to the Contract. |
| 15. Site Examination | .1 | All parties tendering should visit the site of the work prior to submission of tenders and make themselves thoroughly acquainted with site conditions, conditions of existing objects to be removed, tides, degree of exposure and all information necessary for the proper carrying out of the work covered |
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- by the drawings and this Specification. Submission of Tender will be deemed that Contractor is conversant with site conditions.
- .2 The Departmental Representative will give no consideration whatsoever to any claim by the Contractor resulting from failure to have made all the necessary investigations prior to tendering.
16. Maintenance of Shipping
- .1 Liaise with the local port officials to coordinate activities such that any interference is minimized.
17. Cooperation & Assistance to Departmental Representative
- .1 Co-operate with Departmental Representative on inspection of work.
- .2 Provide assistance when requested.
- .3 Provide small motor boat with operator and sounding chain for Departmental Representative's use when requested.
18. Datum
- .1 The datum referred to in this Specification is Chart Datum. Chart Datum is, by International Agreement a plane below which the tide will seldom fall. The Canadian Hydrographic Service has adopted the plane of the lowest normal tide (L.N.T.) as Chart Datum. As the rise, fall, and range of tides varies daily, the Canadian Tide and Current Tables, as issued by the Canadian Hydrographic Service, should be consulted for tidal predictions and other tidal information relating to the work.
19. Contractor's Representative
- .1 Continuously maintain on the site an authorized representative to whom communication may be addressed and who will be competent to speak for the Contractor in discussing work methods.
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| 20. Workers
Compensation | .1 | Contractor and all sub-contractors must be registered under the Workers Compensation Act and provide evidence of good standing. |
| | .2 | At completion of Contract and before final payment is made, the Contractor will present to the Departmental Representative a Letter of Certification from the Workers Compensation Board, showing that all required assessments are paid in connection with all trades. |
| 21. Laws, Standards
Taxes and Fees | | |
| | .1 | Comply with all laws and standards governing all or any part of the work, pay all applicable taxes and pay for all permits and certificates required in respect of the execution of the work. Where variances exist between the requirements of agencies governing all or any part of the work, the most restrictive will govern, but in no instance will the standards established by the drawings and this Specification, which exceed such requirements, be reduced. |
| 22. Protection and
Repair | | |
| | .1 | Repair any damage resulting from operations under this contract. |
| 23. Location of
Equipment and
Fixtures | | |
| | .1 | Location of equipment, fixtures or any appurtenances indicated are to be considered approximate. |
| 24. Inspection and
Testing | | |
| | .1 | The Departmental Representative may employ an Inspector and/or Testing Company to ensure work conforms with the contract. |
| 25. Disposal of
Debris | | |
| | .1 | Debris, including construction materials not incorporated in the work, oil products and containers, and other materials of this nature will be disposed of in suitable locations off the site. This includes costs |
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- of disposing of contaminated materials such as creosote treated timber. Disposal is the responsibility of the Contractor.
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 Material from the work will not be permitted to go adrift or otherwise become a menace to navigation.
27. Relics And Antiquities
- .1 Protect relics, antiquities, items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during course of work.
- .2 Give immediate notice to Departmental Representative and await written instructions before proceeding with work in this area.
- .3 Relics, antiquities and items of historical or scientific interest remain her Majesty's property.
28. Temporary Navigational Buoys
- .1 The Contractor is to maintain temporary buoy's to mark the position of the outer end of the structure as construction proceeds. All buoy's are to meet the requirements of Canadian Coast Guard Standard TP968 and be equipped with radar reflectors.
- <http://www.ccg-gcc.gc.ca/folios/00020/docs/CanadianAidsNavigationSystem2011-eng.pdf>
- .2 The Contractor shall coordinate the buoy installation with the local harbour authority.
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- .3 The Contractor is responsible for all costs associated with the supply, installation and removal of all temporary navigational buoys.

END OF SECTION

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Project Particulars and Measurement

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PROJECT PARTICULARS

1. Description
of Work

.1 Work under this contract involves the supply and installation of close faced timber piling to replace the deteriorated steel sheet pile wall along the ell of the Shag Harbour wharf. Work will include:

.1 Partial removal of the existing steel sheet piling including the existing steel angle connections. Demolition and removal of existing steel wales and angles supporting the steel sheet piling and timber batter piles.

.2 Supply and installation of new treated timber close face piling complete with new steel angles, timber wales and blocking.

.3 Repairs to cracked and deteriorated sections of the reinforced concrete guard.

.4 Replacement of existing ladders.

.5 Refastening of existing timber batter piles to new steel angles, wales and blocking.

PROJECT MEASUREMENT

1. General

.1 This section details the measurement method to be used for payment purposes. Incidental items covered in the various sections of the Specification are to be allowed for in the pricing of each pay item. Unless otherwise noted, payments items listed include all material, plant, and labor as required to supply, fabricate, and install works.

2. Measurement
For Payment

.1 **LUMP SUM ITEMS: The following items are to be measured separately for costing purposes, then combined and submitted as one item under Lump Sum items in the tender Documents:**

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Project Particulars and Measurement

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Division 1

Departmental Representative's Site Office: All work associated with the supply, maintenance, and removal from site of the Departmental Representative's site office per Section 01 51 00 of the Specification will constitute a lump sum for measurement purposes.

Mobilization and Demobilization for all works covered under this project, will be measured for Payment by the lump sum basis. Fifty percent (50%) of the allocation for mobilization and demobilization will be paid upon commencing the project and the remainder upon completing the project.

Environmental Controls: All environmental controls required to complete the work shall be measured for payment by the lump sum.

Division 05

Metal Fabrication: The supply and installation of all steel angles and brackets for securing the timber wales piles and batter piles will be measured for payment by the lump sum basis.

Division 31

Sitework, Demolition and Removals will be measured for payment by the lump sum.

- .2 **UNIT PRICE ITEMS: The following items outline the unit of measurement for unit price items as indicated in the tender documents:**

Division 06

Dimension Timber: The supply and installation of treated dimension timber wales and blocking will be measured for payment by the cubic metre place measure. Calculations will be based on the timber

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Project Particulars and Measurement

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dimensions indicated on the drawings. Installation of bolts and hardware will not be measured but considered incidental to the work.

Division 31

Timber Piles: Supply and installation of treated timber piles shall be measured for payment on a per each basis. All equipment, driving templates, hardware, fasteners, bolts and steel driving shoes shall be considered incidental to the work.

Division 35

Ladders: Supply and installation of treated timber ladders, including holdfasts, extensions, rungs, and fastenings shall be measured for payment per each. Bolts and hardware will not be measured but considered incidental to the work.

Reinforced Concrete guard repairs: Repairs to the concrete guard including removals and the supply and installation of fiber reinforced concrete will be measured for payment by the lineal metre of guard basis. The exact limits of repairs to be designated in the field. All associated joint fillers, reinforcing, formwork, anchors, inserts, and all other supplementary materials are considered incidental to the work.

END OF SECTION

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Submissions / Shop Drawings

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| 1. General | .1 | Submit to Departmental Representative, for review, shop drawings, product data, samples and other information specified. |
| | .2 | Until submission is reviewed, work involving relevant product may not proceed. |
| 2. Shop Drawings | .1 | Drawings to be originals prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate appropriate portion of work; showing fabrication, layout, setting or erection details as specified in appropriate Sections. |
| | .2 | Identify details by reference to sheet and detail numbers shown on Contract Drawings. |
| | .3 | Maximum sheet size 860 X 1120 mm. |
| | .4 | Reproductions for submissions: opaque diazo prints. |
| 3. Product Data | .1 | Certain Specification Sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings. |
| 4. Samples | .1 | Submit samples in sizes and quantities specified. |
| | .2 | Construct field samples and mock-ups at locations acceptable to Departmental Representative. |
| | .3 | Accepted samples will become standards of workmanship and material against which, installed work will be checked on project. |
| 5. Miscellaneous Data | .1 | Provide certificates, methodologies, designs and test results as required. |
| 6. Coordination of Submissions | .1 | Review shop drawings, product data, samples and miscellaneous data prior to submission. |
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- .2 Verify:
 - .1 Field Measurements.
 - .2 Field Construction Criteria.
 - .3 Catalogue numbers and similar data.
 - .3 Coordinate each submission with requirements of work and Contract documents. Individual submissions will not be reviewed until all related information is available.
 - .4 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submissions.
 - .5 Contractor's responsibility for deviations in submission from requirements in Contract documents is not relieved by Departmental Representative's review of submission, unless Departmental Representative gives written acceptance of specified deviations.
 - .6 Notify Departmental Representative, in writing at time of submission, of deviations from requirements of Contract documents stating reasons for deviations.
 - .7 After Departmental Representative's review, distribute copies.
7. Submission Requirements
- .1 Schedule submissions at least 14 days before dates reviewed submissions will be needed.
 - .2 Submit number of copies of shop drawings, product data which Contractor requires for distribution, plus 2 copies which will be retained by Departmental Representative.
 - .3 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date
 - .2 Project title and number.
 - .3 Contractor's name and address.
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Submissions / Shop Drawings

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

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fabrication processes or to techniques of construction and installation and for coordination of the work of all sub-trades.

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

END OF SECTION

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Health and Safety

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PART 1 - GENERAL

- 1.1 Related Work related information. .1 Refer to other Specification Sections for
- 1.2 Submittals .1 Submit to *Departmental Representative* copies of the following documents, including updates issued:
- .1 Site Specific Health and Safety Plan.
 - .2 Building Permit, compliance certificates and other permits obtained
 - .3 Reports or directions issued by Federal, Provincial inspectors or other Authority having jurisdiction.
 - .4 Formal Safety Inspection Reports
 - .5 Accident or Incident Reports
 - .6 MSDS data sheets.
 - .7 Name of person(s) designated to perform full time health and safety site supervision.
- .2 Medical Surveillance: Where prescribed by federal or provincial legislation and regulations, and upon request by *Departmental Representative*, obtain and submit certification of medical surveillance for site personnel prior to commencement of work.
- .3 Submit other data, information and documentation upon request as stipulated elsewhere in this section.
- .4 Submit above documents in accordance with the submittal - general requirements specified in Section 01 33 00.
- 1.3 Compliance Requirements .1 Comply with the Occupational Health and Safety Act for the Province of Nova Scotia, and the Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code Part II, and the Canada Occupational Safety and Health Regulations made under Part II of the Canada Labour Code.

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- .3 Observe and enforce construction safety measures required by:
 - .1 1995 National Building Code of Canada, Part 8;
 - .2 Provincial Worker's Compensation Board;
 - .3 Municipal statutes and ordinances.
 - .4 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, *Departmental Representative* will advise on the course of action to be followed.
 - .5 A copy of the Canada Labour Code Part II may be obtained by contacting:

Canadian Government Publishing
Public Works & Government Services Canada
Ottawa, Ontario, K1A 0S9
Tel: (819) 956-4800 (1-800-635-7943)
Publication No. L31-85/2000 E or F)
 - .6 Maintain Workers Compensation Coverage for duration of Contract. Submit Letter of Good Standing to *Departmental Representative* upon request.

1.4 Responsibility

- .1 Be responsible for safety of persons and property on work site and for protection of building employees and general public circulating adjacent to work operations to extent that they may be affected by conduct of Work.
- .2 Enforce compliance by workers and other persons granted access to work site with safety requirements of Contract Documents, applicable federal, provincial, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.5 Site Control
and Access

- .1 Control work site and entry points. Grant and allow entry to only workers and other
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persons so authorized. Immediately stop non-authorized persons from circulating within construction areas and remove from site.

- .2 Implement procedures for granting permission to enter onto work site to all persons who require access. Procedures to include the provision of a site safety orientation session.
- .3 Delineate and isolate construction areas from other areas of site by use of appropriate means. Erect barricades, fences, hoarding and temporary lighting as required. See Section 01 51 00 for minimum type of barriers acceptable.
- .4 Erect signage at entry points and at other strategic locations around site, clearly identifying construction area(s) as being "off-limits" to non-authorized persons. Signage must be professionally made in both official languages or by use of well understood graphic symbols.
- .5 Secure site at night time or provide security guard as deemed necessary to protect site against entry.
- .6 Ensure persons granted access are fitted and wear appropriate personal protective equipment (PPE). Be responsible for the provision of such PPE to persons who require access to conduct work or perform inspections.

1.6 Protection

- .1 Provide temporary facilities for protection and safe passage of building occupants, public pedestrians and vehicular traffic around and adjacent to work site.
 - .2 Provide safety barricades, lights and signage on work site as required to provide a safe working environment for workers.
 - .3 Carry out work placing emphasis on health and safety of public, building employees,
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	site personnel and protection of the environment.
	.4 Should unforeseen or peculiar safety related hazard or condition become evident during performance of work, immediately take measures to rectify the situation and prevent damage or harm. Advise <i>Departmental Representative</i> verbally and in writing.
1.7 Filing of Notice	.1 File Notice of Project and other Notices with Provincial authorities prior to commencement of Work.
	.2 Upon request, <i>Departmental Representative</i> will provide name and mailing address of provincial department to whom the Notice of Project must be sent.
1.8 Permits	.1 Obtain building permit related to project prior to commencement of Work.
	.2 Obtain permits, licenses, and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.
	.3 Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify <i>Departmental Representative</i> in writing and obtain <i>Departmental Representative's</i> approval to proceed prior to carrying out that portion of work.
	.4 Post all permits on site. Submit copies to <i>Departmental Representative</i> .
1.9 Hazard Assessments	.1 Implement and carry out a health and safety hazard assessment program as part of the work. Program to include: .1 Initial hazard assessment carried out immediately upon notification of contract award and prior to commencement of work.

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- .2 On-going hazard assessments performed during the progress of work identifying new or potential health risks and safety hazards not previously known. As a minimum hazard assessments shall be carried out when:
 - .1 New sub trade work, new subcontractor(s) or new workers arrive at the site to commence another portion of the work.
 - .2 The scope of work has been changed by Change Order.
 - .3 Potential hazard or weakness in current health and safety practices are identified by *Departmental Representative* or by an authorized safety representative.
 - .3 Hazard assessments to be project and site specific, based on review of contract documents, site, and weather conditions.
 - .4 Each hazard assessment to be made in writing. Keep copies of all assessments on site for duration of work. Upon request, make available to *Departmental Representative* for inspection.

1.10 Project/Site
Conditions

- .1 The following are known hazardous substances, contaminated materials or contaminated conditions at site which shall be considered as health or environmental hazards and be properly managed should they be encountered as part of the work:
 - .1 Creosote timber components of existing wharf structure that is part of the demolition and removal item.
 - .2 The following are known or potential project related safety hazards at site:
 - .1 The work of this contract involves heavy equipment in a remote marine environment in adverse weather (wind, wave, agitation, ice, etc.)
 - .3 Obtain from *Departmental Representative*, copy of MSDS Data sheets of existing hazardous materials stored on site or being
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used by Facility and Tenant personnel in the course of their operations.

- .4 Above lists shall not be construed as being complete and inclusive of safety and health hazards encountered as a result of Contractor's operations during the course of work. Include above items into the hazard assessment program specified herein.

1.11 Safety Meetings

- .1 Prior to commencement of work attend health and safety meeting conducted by *Departmental Representative*. Have Contractor's Site Superintendent and/or Designated Health and Safety Site Coordinator in attendance. *Departmental Representative* will advise of time and location.
- .2 Provide site safety orientation session to all workers and other authorized persons prior to granting them access to work site. Brief persons on site conditions and on the minimum site safety rules in force at site.
- .3 Conduct site specific occupational health and safety meetings during the entire work as follows:
- .1 Formal meetings on a minimum monthly basis
 - .2 Informal tool box meetings on a regular basis from a predetermined schedule.
- .4 Keep workers informed of anticipated hazards, on safety practices and procedures to be followed and of other pertinent safety information related to:
- .1 Progress of Work;
 - .2 New sub-trades arriving on site and;
 - .3 Changes in site and project conditions.
- .5 Record and post minutes of meetings. Make copies available to *Departmental Representative* upon request.
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1.12 Health and
Safety Plan

- .1 Develop written site-specific Project Health and Safety Plan, based on hazard assessments, prior to commencement of work. Submit plan to *Departmental Representative* within 14 calendar days of Contract Award date.
 - .2 Health and Safety Plan shall contain the following three (3) parts:
 - .1 Part 1: List of individual health risks and safety hazards identified by hazard assessment(s).
 - .2 Part 2: List of specific measures to control or mitigate each hazard and risk identified in part one of Plan. Describe the engineering controls, personal protective equipment and safe work practices to be implemented and followed when performing work related to each identified hazard or risk.
 - .3 Part 3: Emergency Measures and Communications Procedures as follows:
 - .1 Emergency Measures: on-site operating procedures, evacuation measures and emergency response to be implemented in the occurrence of an accident or incident. Procedures to be specific and relevant to identified hazards. Measures to complement and be integrated with the Emergency Response Plans in place at site. Obtain information on existing emergency and evacuation plans from *Departmental Representative* and incorporate appropriate data.
 - .2 Communication Procedures:
 - .1 list of names and telephone numbers of designated official(s), to be contacted should an incident or
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emergency situation occur, including the following:

- .1 General Contractor and all Subcontractors.
 - .2 Federal and Provincial Departments and local emergency resources organizations, as applicable to the hazards identified and type of accident or incident which might occur, in accordance with applicable laws and regulations.
 - .3 Officials from PWGSC, Facility Management and Tenant Departments, where work is carried out. *Departmental Representative* will provide list of names to be included.
- .2 Procedures implemented at site to communicate and share information between workers, subcontractors, and General Contractor on work activities, and in particular those which might endanger workers and Facility employees.
- .3 List of critical construction activities to be communicated with the Facility Manager and designated tenant representative(s) which could affect facility and tenant operations, or pose a risk to the health and safety of their employees and to the general public. Develop list in consultation with the *Departmental Representative*.
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- .3 Prepare Health and Safety Plan in a three column format, addressing the three parts specified above, as follows:

Column 1	Column 2	Column 3
Identified Hazard	Control Measures Implemented	Emergency Measures & Communications Procedures

- .4 Develop Health and Safety Plan in collaboration with all subcontractors. Address all work and activities of subcontractors as they arrive on site. Immediately update Plan and submit to *Departmental Representative*.
- .5 Implement, maintain and enforce compliance with requirements of the Health and Safety Plan until final completion of work and demobilization from site.
- .6 As work progresses, review and update Plan addressing additional health risks and safety hazards identified by on-going hazard assessments.
- .7 Submit revised versions of Plan to *Departmental Representative*.
- .8 Post a typed written copy, including all updates, of the Health and Safety Plan in a common visible location at work site.
- .9 Submission of the Health and Safety Plan, and updates, to the *Departmental Representative* is for review and information purposes 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 his legal obligations for the provision Health and Safety on the construction project.
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1.13 Safety

Supervision and

Inspections

- .1 Designate competent person or persons to be present on site at all times during work, responsible for supervising health and safety and conducting safety inspections of work site.
- .2 Assign responsibility, obligation and authority to such designated person(s) to stop and start work as deemed necessary for reasons of health and safety.
- .3 Provide names of designated individuals to *Departmental Representative*.
- .4 Cooperate with Health and Safety Site Coordinator responsible for the entire site or facility, should one be designated by *Departmental Representative*.
- .5 Conduct regularly scheduled safety inspections of work site as follows:
 - .1 Informal Inspections: carry out on a minimum bi-weekly basis. Note deficiencies and remedial action taken in a log book or diary.
 - .2 Formal Inspections: carry out on a minimum monthly basis. Use standardized safety checklist forms. Prepare written report for each formal inspection. Document deficiencies, remedial action needed and assign responsibility for rectification to appropriate subcontractor or worker.
- .6 Distribute monthly reports to subcontractors for their pursuance. Follow-up and ensure appropriate action and corrective measures are taken.
- .7 Maintain safety inspection documentation on site. Submit copies of formal inspection reports to *Departmental Representative*.

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|--------------------------------|----|--|
| | .8 | All persons in Contractor's employ responsible for health and safety requirements specified in the Contract Documents to be competent in Occupational Health and Construction Safety as defined in the Provincial Occupational Health and Safety Act. |
| 1.14 Training | .1 | Ensure that workers, subcontractors and other authorized persons granted access to site are trained and have been fully instructed, by a competent instructor, on: <ul style="list-style-type: none">.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. |
| | .2 | Make training records readily available for review by <i>Departmental Representative</i> upon request. |
| 1.15 Minimum Site Safety Rules | .1 | Notwithstanding the requirement to abide by federal and provincial health and safety regulations, the following safety rules shall be considered minimum requirements at the work site and obeyed by all persons granted access: <ul style="list-style-type: none">.1 Wear personal protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat, safety footwear and eye protection..2 Immediately report unsafe activities, conditions, near-miss accidents, injuries and damages..3 Maintain site in tidy condition..4 Obey warning signs and safety tags. |
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- .2 The following actions or conduct by Contractor, workers and sub-contractors will be considered as non conformance with the health and safety requirements of the contract for which a Non-Compliance Notification will be issued to the General Contractor by the *Departmental Representative*:
- .1 Failure to follow the minimum site safety rules specified above.
 - .2 Negligence resulting in serious injury or major property damage.
 - .3 Deliberate non-compliance with Federal and Provincial Acts and Regulations.
 - .4 Falsification of information in Workers Compensation Reports, safety reports and other health and safety related documents submitted to *Departmental Representative* or to Authority having jurisdiction.
 - .5 Possession of firearms on site.
 - .6 Possession of non-prescriptive illegal drugs or alcohol.
 - .7 Action, or lack thereof, resulting in the issuance of Warnings, Fines or Stop Work Orders from a Provincial Authority having jurisdiction.
 - .8 Violation of other specified health and safety rules and requirements as determined by *Departmental Representative*.
- .3 The final decision as to what constitutes a safety violation or non-compliance issue will be made by *Departmental Representative*.
- .4 Non-Compliance Notifications may result in disciplinary measures taken as specified under the Non-Compliance Disciplinary Measures specified elsewhere in this section.
- .5 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.
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1.16 Accident

Reporting

- .1 Investigate and report incidents and accidents as outlined in Provincial Occupational Safety and Health Act and Regulations.
- .2 Investigate and immediately report to *Departmental Representative* incidents and accidents which results, or has the potential of resulting in:
 - .1 Injuries requiring Medical aid,
 - .2 Property damage in excess of \$5000.00,
 - .3 Interruption to building operations with potential loss to owner or client in excess of \$5000.00,
 - .4 Required notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable regulations.
- .3 The term "medical aid" as used in above clause shall have the same meaning as defined in the Canadian Dictionary of Safety Terms - 1987 issue, from the Canadian Society of Safety Engineers (C.S.S.E) as follows:
 - .1 Medical Aid: 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.

1.17 Tools and
Equipment Safety

- .1 Implement and follow a scheduled tool and equipment inspection/maintenance program at work site. Regularly check tools, equipment and machinery for safe operation and perform maintenance at pre-established time and frequency intervals as recommended by manufacturer. Include subcontractor's equipment as part of the inspection process.
- .2 Use standardized checklists to ensure established safety checks are stringently followed.
- .3 Immediately tag and remove items found faulty or defective off site.

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| | .4 | Maintain written documentation on each inspection. Make available to <i>Departmental Representative</i> upon request. |
| 1.18 Hazardous Products | .1 | Comply with requirements of Workplace Hazardous Materials Information System (WHMIS). |
| | .2 | Keep MSDS data sheets on site. Provide copies of all data sheets to <i>Departmental Representative</i> upon receipt of materials on site. |
| | .3 | Post all MSDS data sheets on site, in a common area, visible to workers. |
| 1.19 Posting of Documents | .1 | Post documents indicated herein and as required by Authority having jurisdiction. |
| 1.20 Records on Site | .1 | 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. |
| | .2 | Make available to <i>Departmental Representative</i> , or authorized safety representative, for inspection upon request. |
| 1.21 Non Compliance Notifications and Disciplinary Measures | .1 | Immediately address and correct health and safety violations and non-compliance issues. |
| | .2 | In an effort to communicate the importance placed by Public Works and Government Services Canada (PWGSC) of stringently maintaining health and safety on the construction site, <i>Departmental Representative</i> will institute on project a system of "Non-Compliance Notifications" issued to the General Contractor. The non-compliance notifications could lead to disciplinary measures imposed on the offending party and on the General Contractor depending on the frequency or severity of infractions. |
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- .3 The system consists in the issuance of a "Non-Compliance Notification" by *Departmental Representative* to the General Contractor whenever a worker, subcontractor, or other person, granted access to the work site violates a site safety rule, or a health and safety requirement of the Contract or is non-compliant with applicable occupational health and safety laws and regulations.
- .1 Each non-compliance notification issued is given a rating based on a three level classification system.
- .2 Levels are graduated and progressive to reflect:
- .1 The seriousness of the infraction(s) as viewed by PWGSC and by the *Departmental Representative* and;
- .2 The degree of disciplinary measures which will be taken by PWGSC.
- .4 The following describes the situations and disciplinary actions to be taken by *Departmental Representative* dependent on the rating level given to a particular Non-Compliance Notification issued:
- .1 Non-Compliance Notification-Level 1 rating:
- .1 Situation: occurrence of a first time infraction by a person or party on site.
- .2 Action: verbal warning to General Contractor, documented in PWGSC project files and copy sent to the General Contractor.
- .2 Non-Compliance Notification-Level 2 rating:
- .1 Situation:
- .1 The second occurrence of a previous infraction by the same person or party on site or;
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- .2 Accumulation of several level one notifications for different infractions by the same person or party on site or;
 - .3 Non-action on the part of the Contractor or subcontractor to rectify non-compliance infractions previously identified in one or several level one notifications or;
 - .4 Violation or non observance of a Federal or Provincial safety Law or Regulation by subcontractor or Contractor or;
 - .5 Negligence by a person or party resulting in injury or major property damage.
 - .2 Action: written notice to General Contractor complete with an Order for immediate remedial action to be taken. Depending on the severity of the offence, Order may include the immediate removal of the offending person or party from site.
 - .3 Non-Compliance Notification-Level 3 rating:
 - .1 Situation:
 - .1 Continued and repeated non-compliance with health and safety requirements by the General Contractor or by subcontractor(s) or;
 - .2 The occurrence of a "serious accident" on site resulting in serious bodily injury or death.
 - .2 Action:
 - .1 Formal letter issued to General Contractor with an Order to "Immediately Stop Work" until so notified to proceed.
 - .2 Review and possible
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investigation by *Departmental Representative* and other PWGSC officials of all the non compliance incidences which have occurred or of the serious accident.

.3 Based on outcome of the review/investigation, *Departmental Representative* may proceed with "Taking the Work out of the Contractor's Hands" in accordance with article no. GC 38 of the General Conditions Document "C", "Suspension or Termination of the Contract in accordance with article no. GC 17 of the General Conditions for Minor Works.

.4 General Contractor may also be placed on a PWGSC list of tenderers for which bidding privileges will be suspended on future projects for a stipulated period of time.

.3 The term "serious accident", as used herein, shall have the same meaning as defined in the Canadian Dictionary of Safety Terms - 1987 issue from the Canadian Society of Safety Engineers (C.S.S.E).

.5 Non-Compliance Notifications issued by *Departmental Representative* shall not be construed as to overrule or disregard warnings, orders and fines levied against Contractor by a Regulatory Agency having jurisdiction.

.6 An explanation of the disciplinary system, how it will function and be administered will be provided to the successful Tenderer at the pre-construction Health and Safety meeting. Upon award of contract, be responsible to fully brief workers and subcontractors on the operation and

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importance of this system.

- .7 Decision on which "rating level" to be placed on any given Non-Compliance Notification will be determined solely by *Departmental Representative*.
- .8 *Departmental Representative* will make final decision as to when a Non-Compliance Notification will be issued, based on nature of violation noted or brought to his/her attention by an authorized safety representative.
- .9 Denied future tendering opportunities: Be aware that Contractors to whom a charge or charges are laid by a Regulator for violations of safety laws and/or regulations and which result in a conviction, may have their bidding privileges suspended indefinitely on future PWGSC construction projects. This decision will be solely at the discretion of PWGSC and be dependent on the severity of the offense.

PART 2 - PRODUCTS

2.1 Not Used .1 Not Used.

PART 3 - EXECUTION

3.1 Not Used .1 Not Used

END OF SECTION

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1.1 References

- .1 Canada Shipping Act, Transport Canada, 2001, amended 2013-12-01
- .2 Canadian Coast Guard Regulations, Fisheries and Oceans Canada
- .3 Impact Assessment Act, 2019;
- .4 Canadian Environmental Protection Act, 1999, amended on 2014-03-28
- .5 Fisheries Act, 1985, Fisheries and Oceans Canada, amended 2019-08-28;
- .6 Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters, 1998
- .7 Migratory Birds Convention Act, 1994, Environment Canada, amended 2010-12-10
- .8 Navigation Navigable Waters Act, Transport Canada, 2019;
- .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.

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- .2 Buffer zone: a vegetated land that protects watercourses from adjacent land uses. It refers to the land adjacent to watercourses, such as streams, rivers, lakes, ponds, oceans, and wetlands, including the floodplain and the transitional lands between the watercourse and the drier upland areas.
 - .3 Deleterious substance: (a) any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water.
 - .4 Fish habitat: spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.
 - .5 Hazardous material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
 - .6 Invasive or alien species: refers to a species or subspecies introduced outside its normal distribution whose establishment and
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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 Maintain trucks clean and free of mud, dirt and other foreign matter.

.3 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.

.4 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.

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- .5 Construction material and debris is not to become waterborne.
 - .6 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.
 - .7 Vessels are to be permitted safe access through the worksite at all times, and assisted as necessary.
 - .8 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.
 - .9 Advise the Canadian Coast Guard, Marine Communication and Traffic Services (MCTS) at (902)564-7751 or toll free at 1-800-686-8676 sufficiently in advance of commencement of work or when deploying or removing site markings in order to allow for appropriate Notices to Shipping/Mariners action.

1.4 Operation of
Machinery

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

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- .4 All equipment used for the works must be in good working condition and must respect all applicable emissions regulations.
- .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 primers, 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
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- sediment release or spill of a deleterious substance.
- 1.6 Hazardous
Material handling
- .1 Store and handle hazardous materials in accordance with applicable federal and provincial regulations, codes, standards and guidelines. Store in location that will prevent spillage into the environment.
 - .2 Label containers to WHMIS requirements and keep MSDS data sheets on site for all hazardous materials.
 - .3 Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when stored.
 - .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- 1.7 Disposal of Wastes
- .1 Do not bury rubbish, construction and demolition debris (i.e., concrete, steel, 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 and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.
 - .4 Dispose of hazardous waste in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.
 - .5 Concrete waste:
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- .1 Do not discharge residual of rejected concrete on site.
 - .2 Immediately clean any accidental release of concrete on site prior to solidification.
 - .3 Do not wash and clean concrete vehicles on site.
 - .4 Perform dumping of residual material and truck cleaning operations only at the concrete plant. Follow environmental regulations and good practices as approved by the Provincial Department of the Environment and other authorities having jurisdiction.
- 1.8 Water Quality
- .1 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.
 - .2 Do not wash down equipment within a 30 meter buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
 - .3 Where required, install effective sediment control measures before starting work to prevent the entry or re-suspension of sediment in the water body. Inspect sediment control measures regularly to ensure they are functioning properly, and make all necessary repairs if any damage occurs. Upon completion of use, remove these control measures in a way that prevents the escape of settled sediment.
 - .4 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
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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) Measures for containing and stabilizing waste material (e.g., 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.
- d) Regular inspection and maintenance of erosion and sediment control measures and structures during the course of the work.
- e) Repairs to erosion and sediment control measures and structures if damage occurs.
- f) Removal of non-biodegradable erosion and sediment control materials once site is stabilized.

.5 Water contamination by preservative treated wood:

- a) Preservative treated lumber and timber, whether plant or site treated, shall be cured for a minimum of 30 days from date of the treatment application before their installation in areas
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which will be in contact with the water.

- b) Do not cut treated lumber over the surface of a watercourse or wetland.
- c) Do not use liquid applied preservative products over the surface of a watercourse or wetland.
- d) Wood treated with chromate copper arsenate or ammoniac copper zinc arsenate must be Canadian Standards Association or American Wood Preserver Association approved.
- e) Do not use timber and lumber treated with creosote, petroleum, or pentachlorophenol for any part of the work.

1.9 Socioeconomic
Restrictions

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

1.10 Bird and Bird
Habitat

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

- .4 During night time work shield flood lights, and position them facing downward and in opposite direction of nearby bird nesting habitat.
- .5 Do not use beaches, dunes and other natural previously undisturbed areas of the site to conduct work unless specifically approved by the *Departmental Representative*.
- .6 Should nests of migratory birds in wetlands be encountered during work, immediately notify *Departmental Representative* for directives to be followed.
 - .1 Do not disturb nest site and neighbouring vegetation until nesting is completed.
 - .2 Minimize work immediately adjacent to such areas until nesting is completed.
 - .3 Protect these areas by following recommendations of Canadian Wildlife Service.

1.11 Fish Protection

- .1 Avoid wet, windy and rainy periods that may increase erosion and sedimentation.
 - .2 Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.
 - .3 Be aware of the risk for contamination of the fish habitat at the site as a result of alien species being introduced in the water.
 - .4 To minimize the possibility of fish habitat contamination and the spread of aquatic invasive (alien species), all construction equipment which will be immersed into the water of a watercourse, or has the possibility of coming into contact with such
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water during the course of the work, must be cleaned and washed to ensure that they are free of marine growth and alien species.

- .1 Equipment shall include boats, barges, cranes, excavators, haul trucks, pumps, pipe lines and other all miscellaneous tools and equipment previously used in a marine environment.
 - .5 Cleaning and washing of equipment shall be performed immediately upon their arrival at the site and before use in or over the body of water.
 - .6 Conduct cleaning and washing operations as follows:
 - .1 Scrape and remove heavy accumulation of mud and dispose appropriately.
 - .2 Wash all surfaces of equipment by use of a pressurized fresh water supply.
 - .3 Immediately follow with application of a heavy sprayed coating of undiluted vinegar or other environmentally approved cleaning agent to thoroughly remove all plant matter, animals and sediments.
 - .4 Check and remove all plant, animal and sediment matter from the all bilges and filters.
 - .5 Drain standing water from equipment and let fully dry before use.
 - .6 Upon removal from the water, drain standing water from equipment and let fully dry before removal off the site.
 - .7 Do not perform cleaning and washdown within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
 - .8 Record of Assurance Logbook:
 - .1 Maintain an on-going log of past and present usage and washdowns of all
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- 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.
- .9 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to *Departmental Representative* for review.
- .10 Abide by requirements and recommendations from Fisheries and Oceans Canada - Fisheries Protection Program in cleaning and wash down of equipment.
- .11 Pile driving in/near the water can generate underwater sound waves that can harm aquatic species and disrupt normal behaviour. To minimize this impact, pile driving will be ramped up over approximately 20 minutes from low to high intensity, so that aquatic species (particularly marine mammals) can leave the area before they are exposed to louder sounds.
- .12 Stop all in-water work if a cetacean (whales, porpoises) or a leatherback sea turtle is observed within 500 meters of the work area. Only resume work once the cetacean or sea turtle has moved more than 500 meters away from the equipment.
- .13 A marine mammal and leatherback sea turtle safety zone must be established at the work site:
- .1 The safety zone shall consist of a circle with a radius of at least 500
-

Harbour Improvements**Shag Harbour, Shelburne County, NS****R.118063.001**Environmental Protection
Procedures For Marine Work

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meters as measured from the centre of the work site.

.2 If marine mammals or sea turtles are observed within the safety zone while in-water activities are underway, all activities must cease until the marine mammals or sea turtles leave the safety zone and are not observed within the safety zone for a minimum of thirty (30) minutes.

.3 Work may start or restart if marine mammals or sea turtles are not observed within the safety zone within the thirty (30) minute period.

.14 A copy of the Letter of Advice (LoA) issued by DFO-FFHPP for this project (DFO File # 21-HMAR-00467) must be kept on site for the duration of the project, see Appendix A. Adhere to recommended mitigation measures as detailed in the LoA.

1.12 Air Quality

.1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.

.2 Dust suppression by the application of water must be employed, when required. Apply dust control measures to roads, parking lots and work areas. The *Departmental Representative* shall determine locations where water is to be applied, the amount of water to be applied, and the times at which it shall be applied. Waste oil must not to be used for dust control under any circumstances.

.3 Spray surfaces with water or other environmentally approved product. Use purposely suited equipment or machinery and apply in sufficient quantity and frequency to provide effective result and continued dust control during the entire course of the work.

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| | .4 | Do not use oil or any other petroleum products for dust control. |
| 1.13 <u>Fires</u> | .1 | Fires and burning of rubbish on site is not permitted. |
| 1.14 <u>Archaeological</u> | .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 PWGSC 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 <i>Departmental Representative</i> 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 PWGSC 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 PWGSC Project Manager and/or the Construction Supervisor. |

END OF SECTION

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Testing Laboratory Services

Page 1

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1. Related Requirements
 - .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by Departmental Representative are specified under various sections.
 2. Appointment and Payment
 - .1 Departmental Representative will appoint and pay for services of testing laboratory as part of their own Quality Assurance program. However, the Contractor is responsible for the payment and coordination of all Quality Control Testing, including:
 - .1 All field quality control testing and inspection items relating to the Contractor's work. The Contractor will be responsible for all testing as part of their work to ensure Quality Control. All results must be forwarded to the Departmental Representative for review.
 - .2 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - .3 Inspection and testing performed exclusively for Contractor's convenience.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by Contractor under the supervision of Departmental Representative.
 - .2 Where tests or inspections by designated testing laboratory reveal work not in accordance with contract requirements, Contractor shall pay costs for additional tests or inspections as Departmental Representative may require to verify acceptability of corrected work.
 3. Contractor's Responsibilities
 - .1 Furnish labour and facilities to:
 - .1 Provide access to work to be inspected and tested.
 - .2 Facilitate inspections and tests.
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Testing Laboratory Services

Page 2

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- .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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Temporary Facilities

Page 1

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| 1. Access | .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 | The contractor is to maintain full access to the work site. Should a court injunction be required ordering a person or group to refrain from impeding access to the site, such as a demonstration, picketing or union action, then obtaining the injunction and any associated costs will be considered incidental to this contract. Any delays associated with such activity will be considered incidental to this contract. |
| 2. Contractor's Site Office | | |
| | .1 | Establish on the site of the work and keep open at all times during the execution of the work an office where all letters, orders, notices and other communications may be received or acknowledged either by the Contractor or his authorized agent or representative. Provide a telephone in the office. |
| | .2 | Keep one up-to-date copy of contract documents, bulletins and other materials as specified under Section 01 10 10 - General Instructions. |
| 3. Departmental Representative's Site Office | | |
| | .1 | Provide furnished temporary office heated and insulated for sole use of the Departmental Representative complete with heat, lights, phone/fax connections and internet connection. Insulated office required if used during October to May. Locate on or adjacent to site. |
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Temporary Facilities

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| | .2 | Inside dimensions minimum 5 m long x 3 m wide x 2.4 m high, with floor 0.3 m above grade, complete with 4-50% opening windows and one lockable door. |
| | .3 | Arrange and pay for telephone, fax machine and internet connection installation and service in Departmental Representative's office for the Departmental Representative's exclusive use. Long distance calls placed on this phone by the Departmental Representative will be paid for by Departmental Representative. |
| | .4 | Washroom facilities not required in the office. Provide outdoor sanitary facilities. |
| | .5 | Equip office with six chairs, flat 1200 X 2400 X 25 table with writing surface and 4 drawer lockable filing cabinet. |
| | .6 | Maintain in clean condition. |
| 4. | Storage Sheds | |
| | .1 | Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather. |
| | .2 | Contractor to make his own arrangements for on-site storage areas. |
| 5. | Sanitary Facilities | |
| | .1 | Provide sanitary facilities for work force in accordance with governing regulations and ordinances. |
| | .2 | Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition. |
| 6. | Parking | |
| | .1 | Contractor to make own arrangements to provide parking space for work force. |
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Temporary Facilities

Page 3

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| 7. Power | .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. Barricades | .1 | Provide and maintain sufficient barricades, fencing, notices, warning signs, light signals, etc. for the protection of adjoining property and to warn others and workmen engaged on the job of the dangers caused by the work. |
| | .2 | Types and location of barricades, etc. to be in accordance with local regulations and to the satisfaction of Departmental Representative. |
| | .3 | The presence of such barricades, lights, etc. shall not relieve the Contractor of the responsibility for any damages. |
| 9. Security | .1 | Contractor to make his own arrangements for security of his equipment, materials, damages resulting from fire and theft. |
| 10. Site Signs and Notices | .1 | Only Project Identification and Consultant/ Contractor signboards and notices for safety or instruction are permitted on site. |
| | .2 | Format, location and quantity of site signs and notices to be accepted by Departmental Representative. |
| | .3 | Signs and notices for safety or instruction to be in English and French languages, or commonly understood graphic symbols. |
| 12. Temporary Shoring | .1 | Contractor to ensure stability of existing structures at all times during work. |
| | .2 | Provide the Departmental Representative a methodology for using existing structures, and temporary shoring plans for Departmental |
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Temporary Facilities

Page 4

Representative review. Submission must be stamped by a Professional Engineer registered to practice in the province of work.

13. Removal of
Temporary
Facilities

- .1 Remove temporary facilities from site when directed by Departmental Representative.
- .2 When project is closed down for a period of time, keep temporary facilities operational until no longer required by Departmental Representative.

END OF SECTION

Harbour Improvements**Shag Harbour, Shelburne County, NS****R.118063.001**

Material and Equipment

Page 1

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| 1. General | .1 | Use new material and equipment unless otherwise specified. |
| | .2 | Submit following information for any or all materials and products proposed for supply within 7 days of request by Departmental Representative: <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. |
| 2. Manufacturers Instructions | .1 | Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods. |
| | .2 | Notify Departmental Representative in writing of any conflict between these specifications and manufacturers instructions. Departmental Representative will designate which document is to be followed. |
| 3. Fastenings-General | .1 | All fastenings are to be the sizes indicated on the contract plans and are to be hot dipped galvanized to CSA-G164 Latest Edition unless otherwise noted. |
| 4. Delivery and Storage | .1 | Deliver, store and maintain packaged material and equipment with manufacturer's seal and labels intact. |
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Material and Equipment

Page 2

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| | .2 | Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site. |
| | .3 | Store material and equipment in accordance with supplier's instructions. |
| 5. Conformance | .1 | When material or equipment is specified by standard or performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements. |
| 6. Substitution | .1 | Proposals for substitution may be submitted only after award of Contract. Such requests must include statements of respective costs of items originally specified and proposed substitutions. |
| | .2 | Proposals will be considered by Departmental Representative if: <ul style="list-style-type: none">.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 |
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Material and Equipment

Page 3

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.

7. Construction

Equipment and Plant

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

- .2 Maintain construction equipment and plant in good operating order.

8. Damaged and

Rejected Materials

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

- .2 Remove rejected materials from site.

END OF SECTION

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Project Record Documents

Page 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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Cleaning

Page 1

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|---------------------------------------|--|
| 1. General | <ul style="list-style-type: none">.1 Conduct cleaning and disposal operations to comply with 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 create hazardous conditions. |
| 2. Cleaning
During
Construction | <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 concrete or newly painted surfaces. |
| 3. Final Cleaning | <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 finished surfaces. |

END OF SECTION

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Closeout Procedures

Page 1

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1. Inspection and Declaration
 - .1 Contractor's Inspection: Coordinate and perform, Declaration in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
 - .1 Notify the Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for Departmental Representative's inspection of the completed work.
 - .2 Departmental Representative's Inspection: Accompany the Departmental Representative during all interim and final inspections of the Work.
 - .1 Address defects, faults and outstanding items of work identified by such inspections.
 - .2 Advise Departmental Representative when all deficiencies identified have been rectified.
 - .3 Note the Departmental Representative will not issue a Certificate of Substantial Performance of the work until such time that the Contractor performs the following work (as applicable to the project) and turns over the specified documents:
 - .1 Project record as-built documents;
 - .2 Final Operations and Maintenance Manuals;
 - .3 Maintenance materials, parts and tools;
 - .4 Compliance certificates from applicable authorities;
 - .5 Reports resulting from designated tests;
 - .6 Demonstration and training complete with user manuals;
 - .7 Manufacturer's Guarantee certificates.
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Closeout Procedures

Page 2

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- .8 Testing, adjusting and balancing of equipment and systems complete with submission of test reports.
 - .9 Commissioning of equipment and systems specified.
 - .4 Correct all discrepancies before the Departmental Representative will issue the Certificate of Completion.

END OF SECTION

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Closeout Submittals

Page 1

.1 Project Record Documents

- .1 Departmental Representative will provide two white print sets of contract drawings and two copies of Specifications Manual specifically for "as-built" purposes.
 - .2 Maintain at site one set of the contract drawings and specifications to record actual as-built site conditions.
 - .3 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Departmental Representative upon request.
 - .4 As-Built Drawings:
 - .1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of work, neatly transfer notations to second set (also by use of red ink).
 - .2 Submit both sets to Departmental Representative prior to application for Certificate of Substantial Performance.
 - .3 Stamp all drawings with "As-Built Drawings". Label and place Contractor's signature and date.
 - .4 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
 - .5 Record following information (as applicable to the project):
 - .1 Horizontal and vertical location of exterior underground utilities and appurtenances referenced to permanent surface improvements.
 - .2 Horizontal and vertical location of various elements in relation to Chart Datum, including but not limited to finished deck elevations and pile tip elevations;
 - .3 Location of internal utilities and appurtenances concealed in
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Closeout Submittals

Page 2

construction, referenced to visible and accessible features of structure;

.4 Field changes of dimension and detail;

.5 Location of all capped or terminated services and utilities.

.6 Chases for mechanical, electrical and other services;

.7 Any details produced in the course of the contract by the Departmental Representative to supplement or to change existing design drawings;

.8 All change orders issued over the course of the contract must be documented on the finished as-built documents, accurately and consistently depicting the changed condition as it applies to all affected drawing details.

.5 As-Built Specifications: legibly mark in red each item to record actual construction, including:

.1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly items substituted from that specified.

.2 Changes made by Addenda and Change Orders.

.3 Mark up both copies of specifications. Stamp "as-built", sign and date similarly to drawings as per above clause.

.6 Maintain As-built documents current as the contract progresses. Departmental Representative will conduct reviews and inspections of the documents on a regular basis. Failure to maintain as-builts current and complete to satisfaction of the Departmental Representative may be subject to financial penalties in the form of progress payment reductions and holdback assessments.

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Closeout Submittals

Page 3

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| Shop Drawings | .1 | Provide a complete set of all shop drawings reviewed for project to incorporate into each copy of the Operations & Maintenance manuals. |
| | .2 | Submit full sets at same time and as part of the contents of the Operation and Maintenance manuals specified. |
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 | | |
| 1.3 Operations and Maintenance Manual | .1 | The Operations and Maintenance Manual is an organized compilation of operating and maintenance data including detailed technical information, documents and records describing operation and maintenance of individual products or systems as specified in individual sections of the specifications. |
| | .2 | Manual Language: final manuals to be in English. |
| | .3 | Number of copies required:
.1 Submit interim pdf digital copy and one hard copy binder of the manual for review and inspection by Departmental Representative. Make revisions and additions as directed and resubmit.
.2 Upon review and acceptance by Departmental Representative, final pdf digital copy and one hard copy binder. Interim copies are not to be considered as part of the final copies unless they have been fully revised and are identical to the final approved version. |
| | .4 | Submission Date: submit complete operation and maintenance manual to Departmental Representative 3 weeks prior to application for Certificate of Substantial Performance of the work. |
| | .5 | Binding:
.1 Assemble, coordinate, bind and index required data into Operation and Maintenance Manual. |
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Closeout Submittals

Page 4

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

Page 5

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- .9 Product Information (PI Data) on materials, equipment and systems as specified in various sections of the specifications. Data to include:
 - .1 List of equipment including manufacturer's name, supplier, local source of supplies and service depot(s). Provide full addresses and telephone numbers.
 - .2 Nameplate information including equipment number, make, size, capacity, model number and serial number.
 - .3 Parts list.
 - .4 Installation details.
 - .5 Operating instructions.
 - .6 Maintenance instructions for equipment.
 - .7 Maintenance instructions for finishes.

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

END OF SECTION