

PWGSC	Project Particulars	Section 01 00 01
Harbour Improvements	and Measurements	Page 1
Stuarttown Wavebreaks		
Installations		
Stuarttown Wharf		
Deer Island, N. B.		
Project No. R.064466.001		

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- .1 Supply, transportation and installation of three floating wavebreaks and all associated components to the location shown on the plan or as specified by the Departmental Representative.

PART 2 - PRODUCT

MEASUREMENT

2.1 General

- .1 This section details the measurement method to be used for payment purposes. Incidental items covered in the various sections of the specification are to be allowed for in the pricing of each pay item.
- .2 Only items in the bid table will be measured for payment, all other items will be incidental to this contract.

2.2 Measurement for Payment

Division 03: Cast-in-Place Concrete

Supply, transportation and installation of all reinforced concrete anchor blocks at the location shown on the plan will be included in the bid item specified in Section 35 51 24.

Division 05:

The fabrication, supply and installation of all metal parts is considered incidental to this contract. Include costs in bid items.

Division 06:

Costs for the supply of three treated timber floating wavebreaks at the location shown on the plan or as directed by the Departmental Representative, will be included in bid item in Section 35 51 24.

PWGSC	Project Particulars	Section 01 00 01
Harbour Improvements	and Measurements	Page 2
Stuarttown Wavebreaks		
Installations		
Stuarttown Wharf		
Deer Island, N. B.		
Project No. R.064466.001		

Division 35:

The transportation and installation of three floating wavebreaks will be paid by the unit. Included will be the supply, fabrication, transportation of three (3) floating wavebreaks to the location indicated on the plan, with all necessary connections and specified anchors.

2.2 Deer Island
Harbour Authority
Contribution

The Deer Island Harbour Authority will contribute fifty thousand towards this contract as listed on the tender bid form. The Contractor will invoice the Deer Island Harbour Authority directly for this amount.

- 1.1 SCOPE .1 The work covered under this project consists of the furnishing of all labour, equipment, hardware and materials for "the supply and installation of 3 timber floating wavebreaks." Also included will be the supply and installation of reinforced concrete anchors. Work area located near the Stuarttown Wharf, Deer Island, N. B., in strict accordance with Specifications and accompanying drawings and subject to all terms and Conditions of the contract.
- .2 Only items in the Unit Price Table will be measured for payment. All other work necessary to complete the work will be considered incidental to the project and will not be measured separately for payment.
- 1.2 DESCRIPTION OF WORK .1 The work will consist of but will not necessarily be limited to the following:
.1 Supply, transportation and installation of 3 floating wavebreaks including all associated materials.
- 1.3 SITE OF WORK .1 Work will be carried out in the waterlot near the Stuarttown Wharf, Deer Island, New Brunswick in the location as shown on the accompanying drawings.
- 1.4 DATUM .1 Datum used for this project is Lowest Normal Tides (LNT) and is assumed to be 8.90 metres (deck elevation) below the Benchmark shown on the Plan.
- 1.5 FAMILIARIZATION WITH SITE .1 Before submitting a bid, it is recommended that Bidders inspect and examine the site of work and satisfy themselves as to the form and nature of the work, materials, the means of access to the site, and the temporary facilities required for completion of the work. Means of access to the site, severity, exposure and uncertainty of weather, soil conditions, any accommodations they may require, and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. No allowance shall be made subsequently in this connection on account of

error or negligence to properly observe and determine the conditions that will apply.

- .2 Obtain prior permission from the Departmental Representative before carrying out such site inspection.
- .3 Contractors, bidders or those they invite to site are to review specification Section 01 35 28 - Health and Safety Requirements before visiting site. Take all appropriate safety measures for any visit to site, either before or after acceptance of bid.
- .4 Bidders are required to wear all appropriate personnel protective equipment and take all precautionary measures necessary to ensure their safety during any pre-tender site visit.
- .5 Contractor shall make own assessment of the site conditions, and difficulties in carrying out the work as specified.

1.6 CODES AND STANDARDS

- .1 Perform work in accordance with the National Building Code of Canada, FCC Standard 373 - Standard for Piers and Wharves (<http://www.hrsdc.gc.ca/en/lp/lo/fp/standards/373.shtml>), and any other provincial or local application including all amendments up to project bid closing date provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Materials and workmanship must meet or exceed requirements of specified standards, codes and referenced documents.

1.7 LAYOUT OF WORK

- .1 Assume full responsibility for and execute complete layout of work to locations, lines and elevations indicated or as directed by Departmental Representative.
- .2 Provide devices needed to layout and construct work.
- .3 Supply such devices as straight edges and templates required to facilitate Departmental Representative's inspection of work.

- .4 Supply stakes and other survey markers required for laying out work.

1.8 WORK SCHEDULE

- .1 Submit within 7 work days of notification of acceptance of bid, a construction schedule showing commencement and completion of all work within the time stated on the Bid and Acceptance Form and the date stated in the bid acceptance letter.
- .2 Provide sufficient details in schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
- .3 As a minimum, work schedule to be prepared and submitted in the form of Bar (GANTT) Charts, indicating work activities, tasks and other project elements, their anticipated durations and planned dates for achieving key activities and major project milestones provided in sufficient details and supported by narratives to demonstrate a reasonable plan for completion of project within designated time. Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .4 Contractor must ensure that schedule is adhered to to meet the requirements without exception.

1.9 ABBREVIATIONS

- .1 Following abbreviations of standard specifications have been used in this specification and on the drawings:

CGSB - Canadian Government Specifications
Board
CSA - Canadian Standards Association
NLGA - National Lumber Grades Authority
ASTM - American Society for Testing and
Materials

- .2 Where these abbreviations and standards are used in this project, latest edition in effect on date of bid call will be considered applicable.

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

1.11 CONTRACTOR'S USE OF SITE	.1	Co-operate with users of existing facilities. Maintain access to the wharf structures during fishing season and consult with the local Harbour Authority for the site access limitations.
	.2	Should interferences occur, take directions from Departmental Representative.
	.3	Construction operations, including storage of materials for this contract, not to interfere with the fishing activity and/or operations at this harbour.
	.4	Responsible for arranging the storage of materials on or off site, and any materials stored at the site which interfere with any of the day to day activities at or near the site will be moved promptly at the Contractor's expense, upon request by Departmental Representative. Obtain and pay for use of additional storage or work areas needed for operations.
	.5	Contractor will take adequate precautions to protect existing structures, and access area.
	.6	Exercise care so as not to obstruct or damage public or private property in the area.
	.7	Do not unreasonably encumber site with materials or equipment.
	.8	At completion of work, restore area to its original condition. Damage to ground and property will be repaired by Contractor. Remove all construction materials, residue, excess, etc. and leave site in a condition acceptable to Departmental Representative.
	.9	Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water.
	.10	Remove snow and ice as required maintaining safe access in a manner that does not damage existing structures or interference with operations of others.

1.12 PROJECT	.1	Contractor will arrange project meetings and assume
--------------	----	---

MEETINGS

responsibility for setting times and recording minutes and forwarding copies to all parties present at the meetings.

- .2 Project meetings will take place on site of work unless so directed by the Departmental Representative.
- .3 Have a responsible member of firm present at all project meetings.

1.13 PROTECTION

- .1 Store all materials and equipment to be incorporated into work to prevent damage by any means.
- .2 Repair or replace all materials or equipment damaged in transit or storage to the satisfaction of Departmental Representative and at no cost to Canada.

1.14 ACCEPTANCE

- .1 Prior to the issuance of the Certificate of Substantial Performance, in Company with Departmental Representative; make a check of all work. Correct all discrepancies before final inspection and acceptance.

1.15 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 site operations.
- .2 Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.
- .3 Submit schedule to and obtain approval 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 Provide temporary services when directed by Departmental Representative to maintain critical facility systems.
- .5 Provide adequate bridging over trenches which cross walkways or roads to permit normal traffic.
- .6 Where unknown services are encountered, immediately advise Departmental Representative and confirm

findings in writing.

- .7 Protect, relocate or maintain existing active services as required. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction over service. Record locations of maintained, re-routed and abandoned service lines.
- .8 The wharf shall remain in full service to the users during the duration of the construction contract.

1.16 WORKS
COORDINATION

- .1 Responsible for coordinating the work of the various trades, where the work of such trades interfaces with each other.
- .2 Convene meetings between trades whose work interfaces and ensure that they are fully aware of the areas and the extent of where interfacing is required. Provide each trade with the plans and specifications of the interfacing trade, as required, to assist them in planning and carrying out their respective work.
- .3 Canada will not be responsible for or held accountable for any extra costs incurred as a result of the failure to carry out coordination work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work shall be the sole responsibility to the General Contractor and shall be resolved at no extra cost to Canada.

1.17 WORK
COMMENCEMENT

- .1 Mobilization to project site is to commence immediately after acceptance of bid and submission of Site Specific Safety Plan, unless otherwise agreed by Departmental Representative.
- .2 Project work on site is to commence as soon as possible, with a continuous reasonable work force, unless otherwise agreed by Departmental Representative.
- .3 Weather conditions, short construction season, delivery challenges and the location of the work site may require the use of longer working days and additional work force to complete the project within the specified completion time.
- .4 Make every effort to ensure that sufficient material and equipment is delivered to site at the earliest possible date after acceptance of bid and replenished as required.

1.18 DOCUMENTS

- .1 Maintain at job site, one copy each of the following:
 - .1 Contract Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed Shop Drawings
 - .5 List of outstanding Shop Drawings
 - .6 Change Orders
 - .7 Other modifications to Contract.
 - .8 Field Test Reports
 - .9 Copy of Approved Work Schedule
 - .10 Health and Safety Plan and other safety related Documents
 - .11 Electrical Lock-out
 - .12 Fire Safety Hot Work Permit
 - .13 Permits, Codes and Acts
 - .14 Waste Management Plan
 - .15 Other documents as stipulated elsewhere in the Contract Documents, Drawings and these Specifications.

1.19 PERMITS

- .1 In accordance with the General conditions, obtain and pay for building permits, certificates, licenses and other permits as required by Municipal, Provincial, and Federal Authorities.
- .2 Provide appropriate notifications of project to municipal and provincial inspection authorities.
- .3 Obtain compliance certificates as prescribed by legislative and regulatory provisions of municipal, provincial and federal authorities as applicable to the performance of work.
- .4 Submit to Departmental Representative, copy of application submissions and approval documents received for above referenced authorities.
- .5 Comply with all requirements, recommendations and advice by all regulatory authorities unless otherwise agreed in writing by Departmental Representative. Make requests for such deviations to these requirements sufficiently in advance of related work.

1.20 FACILITY
SMOKING
ENVIRONMENT

- .1 Comply with smoking restrictions.

1.21 INTERPRETATION
OF DOCUMENTS

- .1 Supplementary to CG1.1 of the General Conditions, the Division 01 sections of the specifications take precedence over technical specifications in other divisions of the specifications.

1.22 CUTTING,
FITTING AND
PATCHING

- .1 Execute cutting, fitting and patching required to make work fit properly.
- .2 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.
- .3 Do not cut, bore, or sleeve load-bearing members.
- .4 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.

1.23 LOCATION OF
EQUIPMENT

- .1 Location of cleats, equipment, fixtures, power pedestals and outlets, shown or specified shall be considered as approximate. Actual location shall be as required to suit conditions at time of installation and as is reasonable. Obtain approval of Departmental Representative.
- .2 Locate equipment and fixtures to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Departmental Representative when impending installation conflicts with other new or existing components. Follow directives for actual location.
- .4 Submit field drawings to indicate relative position of various services and equipment when required by Departmental Representative.

1.1 SUBMITTALS

- .1 Upon acceptance of bid and prior to commencement of work, submit to Departmental Representative the following work management documents:
 - .1 Work Schedule as specified herein.
 - .2 Shop Drawing Submittal Schedule specified in section 01 33 00
 - .3 Waste Management Plan
 - .4 Environmental Plan
 - .5 Health and Safety Plan specified in section 01 35 28
 - .6 Hot Work Procedures specified in section 01 35 24

1.2 WORK SCHEDULE

- .1 Upon acceptance of bid submit:
 - .1 Work schedule within 7 calendar days of contract award.
- .2 Schedule to indicate all calendar dates from commencement to completion of all work within the time stated in the accepted bid.
- .3 Provide sufficient details in preliminary schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
- .4 Preliminary work schedule content to include as a minimum the following:
 - .1 Bar (GANTT) Charts, indicating all work activities, tasks and other project elements, their anticipated durations, planned dates for achieving key activities and major project milestones supported with;
 - .2 Written narrative on key elements of work illustrated in bar chart, providing sufficient details to demonstrate a reasonable implementation plan for completion of project within designated time.
 - .3 Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .5 Work schedule must take into consideration and reflect the operational restrictions as specified.

- .6 Schedule work in cooperation with the Departmental Representative. Incorporate within work schedule, items identified by Departmental Representative during review of preliminary schedule.
- .7 Completed schedule shall be approved by Departmental Representative. When approved, take necessary measures to complete work within scheduled time. Do not change schedule without Departmental Representative's approval.
- .8 Ensure that all subtrades and subcontractors are made aware of the work restraints and operational restrictions specified.
- .9 Schedule Updates:
 - .1 Submit on a monthly basis requested by Departmental Representative.
 - .2 Provide information and pertinent details explaining reasons for necessary changes to implementation plan.
 - .3 Identify problem areas, anticipated delays, impact on schedule and proposed corrective measures to be taken.
- .10 Departmental Representative will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by Departmental Representative. Address and take corrective measures on items identified by reviews and as directed by Departmental Representative. Update schedule accordingly.
- .11 In every instance, change or deviation from the Work Schedule, no matter how minimal the risk or impact on safety or inconvenience to tenant or public might appear, will be subject to prior review and approval by the Departmental Representative.

1.3 PROJECT PHASING

- .1 Be aware that Harbour Facilities must be kept operational for the full duration of work of this contract. Building services to areas under use by tenants must also be maintained at all times during the Facility's operational hours.

PWGSC
Harbour Improvements
Stuarttown Wavebreaks
Installations
Stuarttown Wharf
Deer Island, N. B.
Project No. R.064466.001

Scheduling and
Management of Work

Section 01 14 10
Page 3

1.4 OPERATIONAL
RESTRICTIONS

- .1 The Contractor must recognize that Harbour users will be effected by implementation of this contract. The Contractor must perform the work with utmost regard to the safety and convenience of harbour users.
- .2 Facility Circulation maintained:
 - .1 Ensure that entrance and exit routes to the harbour, are maintained free and clear providing safe and uninterrupted passage for facility users and public at all times during the entire work.
 - .2 Maintain those areas clean and free of construction materials and equipment.

PART 1 - GENERAL

- | | | |
|---|----|---|
| <u>1.1 SECTION INCLUDES</u> | .1 | Inspecting and testing by inspecting firms or testing laboratories designated by Departmental Representative. |
| <u>1.2 RELATED REQUIREMENTS SPECIFIED ELSEWHERE</u> | .1 | Particular requirements for inspection and testing to be carried out by testing laboratory designated by Departmental Representative are specified under various sections. |
| <u>1.3 APPOINTMENT AND PAYMENT</u> | .1 | Departmental Representative will appoint and pay for services of testing laboratory except for the following:
.1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
.2 Inspection and testing performed exclusively for Contractor's convenience.
.3 Mill tests and certificates of compliance.
.4 Tests specified to be carried out by Contractor under the supervision of Departmental Representative.
.5 Tests requested by Departmental representative to confirm material specifications when the applicable manufacturer's documentation or test results are unavailable.
.6 Additional tests specified in the following paragraph. |
| | .2 | Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, pay costs for additional tests or inspections as required by Departmental Representative to verify acceptability of corrected work. |
| <u>1.4 CONTRACTOR'S RESPONSIBILITIES</u> | .1 | Provide labour, equipment and facilities to: |
| | .1 | Provide access to Work to be inspected and tested. |
| | .2 | Facilitate inspections and tests. |
| | .3 | Make good Work disturbed by inspection and test. |

PWGSC
Harbour Improvements
Stuarttown Wavebreaks
Installations
Stuarttown Wharf
Deer Island, N. B.
Project No. R.064466.001

Payment Procedures for Section 01 29 83
Testing Laboratory Services Page 2

- .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.

PART 1 - GENERAL

1.1 SECTION INCLUDES

- .1 Shop drawings and product data.
- .2 Samples.
- .3 Certificates.

1.2 SUBMITTAL GENERAL REQUIREMENTS

- .1 Submit to Departmental Representative for review submittals listed, including shop drawings, samples, certificates and other data, as specified in other sections of the Specifications.
- .2 Submit with reasonable promptness and in orderly sequence so as to allow for Departmental Representative's review and not cause delay in Work. Failure to submit in ample time will not be considered sufficient reason for an extension of Contract time and no claim for extension by reason of such default will be allowed.
- .3 Do not proceed with work until relevant submissions are reviewed by Departmental Representative.
- .4 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .5 Where items or information is not produced in SI Metric units, provide soft converted values.
- .6 Review submittals prior to submission to Departmental Representative. Ensure during review that necessary requirements have been determined and verified, required field measurements or data have been taken, and that each submittal has been checked and co-ordinate with requirements of Work and Contract Documents.
 - .1 Submittals not stamped, signed, dated and identified as to specific project will be returned unexamined by Departmental Representative and considered rejected.
- .7 Notify Departmental Representative, in writing at time of submission, identifying deviations from

requirements of Contract Documents stating reasons for deviations.

- .8 Verify field measurements and affected adjacent work and coordinate.
- .9 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .10 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative's review.
- .11 Submittal format: paper originals, or alternatively clear and fully legible photocopies of originals. Facsimiles are not acceptable, except in special circumstances pre-approved by Departmental Representative. Poorly printed non-legible photocopies or facsimiles will not be accepted and be returned for resubmission.
- .12 Make changes or revision to submissions which Departmental Representative may require, consistent with Contract Documents and resubmit as directed by Departmental Representative. When resubmitting, notify Departmental Representative in writing of any revisions other than those requested.
- .13 Keep one reviewed copy of each submittal document on site for duration of Work.

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, product data, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Number of Shop Drawings: submit sufficient copies of shop drawings which are required by the General Contractor and sub-contractors plus 4 copies which will be retained by Departmental Representative. Ensure sufficient numbers are submitted to enable one complete set to be included in each of the maintenance manuals specified, if applicable.
- .3 Shop Drawings Content and Format:
 - .1 Indicate materials, methods of construction and attachment or anchorage, erection diagrams,

connections, explanatory notes and other information necessary for completion of Work. Where items or equipment attach or connect to other items or equipment, confirm that all interrelated work have been coordinated, regardless of section or trade from which the adjacent work is being supplied and installed.

.2 Shop Drawings Format:

.1 Opaque white prints or photocopies of original drawings or standard drawings modified to clearly illustrate work specific to project requirements. Maximum sheet size to be 1000 x 707 mm.

.2 Product Data from manufacturer's standard catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products, to be original full colour brochures, clearly marked indicating applicable data and deleting information not applicable to project.

.3 Non or poorly legible drawings, photocopies or facsimiles will not be accepted and returned not reviewed.

.3 Supplement manufacturer's standard drawings and literature with additional information to provide details applicable to project.

.4 Delete information not applicable to project on all submittals.

.4 Allow ten (10) calendar days for Departmental Representative's review of each submission.

.5 Adjustments or corrections made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, advise Departmental Representative in writing prior to proceeding with Work.

.6 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections and comments are made, fabrication and installation may proceed upon receipt of shop drawings. If shop drawings are rejected and noted to be Resubmitted, do not proceed with that portion of work until resubmission and review of corrected shop drawings, through same submission procedures indicated above.

.7 Accompany each submission with transmittal letter, containing:

.1 Date.

.2 Project title and project number.

- .3 Contractor's name and address.
- .4 Identification and quantity of each shop drawing, product data and sample.
- .5 Other pertinent data.
- .8 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and project number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Cross references to particular details of contract drawings and specifications section number for which shop drawing submission addresses.
 - .6 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .9 After Departmental Representative's review, distribute copies.
- .10 The review of shop drawings by the Departmental Representative or their delegated representative is for sole purpose of ascertaining conformance with 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 Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting all requirements of the construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication

PWGSC	Shop Drawings and Other	Section 01 33 00
Harbour Improvements	Submittal Procedures	Page 5
Stuarttown Wavebreaks		
Installations		
Stuarttown Wharf		
Deer Island, N. B.		
Project No. R.064466.001		

processes or to techniques of construction and installation and for co-ordination of Work of all sub-trades.

1.4 SCHEDULES, PERMITS AND CERTIFICATES

- .1 Upon acceptance of bid, submit to Departmental Representative copy of Work Schedule and various other schedules, permits, certification documents and project management plans as specified in other sections of the Specifications.
- .2 Submit copy of permits, notices, compliance Certificates received by Regulatory Agencies having jurisdiction and as applicable to the Work.
- .3 Submission of above documents to be in accordance with Submittal General Requirements procedures specified in this section.

1.1 SECTION
INCLUDES

- .1 Fire Safety Requirements
- .2 Hot Work Permit

1.2 RELATED WORK

- .1 Section 01 35 28 - Health and Safety Requirements.

1.3 REFERENCES

- .1 Fire Protection Standards issued by Fire Protection Services of Human Resources Development Canada as follows:
 - .1 FCC No. 301-June 1982 Standard for Construction Operations.
(<http://www.hrsdc.ga.ca/en/lp/lo/fo/Standards/301.shtml>).
 - .2 FCC No. 302-June 1982 Standard for Welding and Cutting.
(<http://www.hrsdc.ga.ca/en/lp/l/fp/Standards/02.shtml>).
- .2 FCC Standards, may also be viewed at the Regional Fire Protection Service's Office (Previously known as the Fire Commissioner of Canada), located at 99 Wyse Road, 8th Floor, Dartmouth, NS, Tel: (902) 426-6053.

1.4 DEFINITIONS

- .1 Hot Work defined as:
 - .1 Welding work
 - .2 Cutting of materials by use of torch or other open flame devices
 - .3 Grinding with equipment which produces sparks.

1.5 SUBMITTALS

- .1 Submit copy of Hot Work Procedures and sample of Hot Work permit to Departmental Representative for review, within 14 calendar days after notification of acceptance of bid.
- .2 Submit in accordance with the Submittal General Requirements specified 01 33 00.

- .7 Submit copy of letter in Good Standing from Provincial Workers Compensation or other Department of Labour organization.
- .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of work.
- .8 Submit copies of reports or directions issued by Federal or Provincial Health and Safety Inspectors.
- .9 Submit copies of incident reports.
- .10 Submit WHMIS MSDS - Material Safety Data Sheets.

1.4 COMPLIANCE REQUIREMENTS

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

1.5 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety and property on site and for protection of persons and environment adjacent to the site to extent that they may be affected by conduct of work.
- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to work site with safety requirements of Contract

Documents, applicable Federal, Provincial, and local by-laws, regulations, and ordinances, and with site specific Health and Safety Plan.

1.6 SITE CONTROL AND ACCESS

- .1 Control the work and entry points to work site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
- .2 Isolate work site from other areas of the premises by use of appropriate means.
 - .1 Erect fences, hoarding, barricades and temporary lighting as required to effectively delineate the work site, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the work create a safe environment.
 - .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.
 - .3 Provide safety orientation session to persons granted access to work site. Advise of hazards and safety rules to be observed while on site.
 - .4 Ensure persons granted access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.

1.7 PROTECTION

- .1 Provide temporary facilities for protection and safe passage of public pedestrians and vehicular traffic around and adjacent to work site.
- .2 Provide safety barricades, lights and signage on work site as required, providing a safe working environment for workers.
- .3 Carry out work placing emphasis on Health & Safety of the Public, Facility Personnel, Construction Workers 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 Departmental Representative verbally and in writing.

1.8 FILING OF NOTICE

- .1 File notice of project with pertinent provincial health and safety authorities prior to beginning of work.

.1 Departmental Representative will assist in locating address if needed.

1.9 PERMITS

- .1 Post permits, licenses and compliance certificates, specified in Section 01 10 10, at work site.
- .2 Where particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and obtain Departmental Representative's approval to proceed before carrying out application portion of work.
- .3 Obtain permits, licenses and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.

1.10 HAZARD ASSESSMENTS

- .1 Perform site specific health and safety hazard assessment of the work and its site.
- .2 Carryout initial assessment prior to commencement of work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site.
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation onsite for entire duration of the work.
- .5 Implement and carry out a health and safety hazard assessment program as part of the work. Program to include:
 - .1 Initial hazard assessments carried out immediately upon notification of contract award and prior to commencement of work.
 - .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 subtrade 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 hazards or weakness in current health and safety practices are identified by Departmental Representative or by an authorized safety representative.

-
- .6 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.
- 1.11 PROJECT/SITE CONDITIONS
- .1 The following are potential health, environmental and safety hazards at site for which work may involve contact with:
- .1 Working near and on watercourses.
 - .2 Working with heights.
 - .3 Working on slopes.
 - .4 Unstable working conditions.
 - .5 Weather dependent.
- .2 Facility on-going operations:
- .1 The Contractor will co-operate with users of existing facilities. Maintain access to the existing wharf structures during fishing season and consult with the Departmental Representative for site access limitations.
 - .2 Should interferences occur, take directions from Departmental Representative.
 - .3 Do not unreasonably encumber site with materials.
 - .4 Move stored products or equipment which interfere with operations.
 - .5 Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water.
 - .6 Contractor will note that fishing activity in the Harbour includes fishing boats, moorings, etc.
- 1.12 SAFETY MEETINGS
- .1 Prior to commencement of work, attend Health and Safety meeting conducted by Departmental Representative. Have Contractor's Site Superintendent in attendance. Departmental Representative will advise of time and location.
- .2 Provide site safety orientation sessions 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.
 - .3 Keep workers informed of anticipated hazards,

on safety practices and procedures to be followed and of other pertinent safety information related to:

- .4 Progress of work;
- .5 New sub-trades arriving on site and;
- .6 Changes in site and project conditions.
- .7 Record and post minutes of meetings. Make copies available to Departmental Representative upon request.

1.13 HEALTH AND
SAFETY PLAN

- .1 Prior to commencement of work, develop written Health and Safety Plan specific to the work. Implement, maintain, and enforce Plan for entire duration of work and until final demobilization.
- .2 Health and Safety Plan shall include the following components:
 - .1 List of health risks and safety hazards identified by hazard assessment.
 - .2 Control measures used to mitigate risks and hazards identified.
 - .3 On-site Contingency and Emergency Response Plan as specified below.
 - .4 On-site Communication Plan as specified below.
 - .5 Name of Contractor's designated Health & Safety Representative and information showing proof of his/her competence and reporting relationship in Contractor's company.
 - .6 Names, competence and reporting relationship of other supervisory personnel used in the work for Occupational Health and Safety purposes.
- .3 On-site Contingency and Emergency Response Plan shall include:
 - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
 - .2 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
 - .3 Emergency Contacts: name and telephone number of officials from:
 - .1 General Contractor and Subcontractors.
 - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
 - .3 Local emergency resource organizations.
 - .4 On-site Communication Plan:
 - .1 Procedures for sharing of work related safety information to workers and subcontractors, including emergency and evacuation measures.
 - .5 Address all activities of the work including those of subcontractors.

.6 Review Health & Safety Plan regularly during the work. Upgrade as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrives at work site.

.7 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.

.8 Post copy of the Plan, and updates, prominently on work site.

1.14 SAFETY SUPERVISION

.1 Employ Health and Safety Site Representative responsible for daily supervision of health and safety of the work.

.2 Health & Safety Site Representative may be the Superintendent of the work or other person designated by Contractor and shall be assigned the responsibility and authority to:

.1 Implement, monitor and enforce daily compliance with Health and Safety requirements of the work.

.2 Monitor and enforce Contractor's site-specific Health and Safety Plan.

.3 Conduct site safety orientation session to persons granted access to work site.

.4 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the work site.

.5 Stop the work as deemed necessary for reasons of health and safety.

.3 Health & Safety Site Representative must:

.1 Be qualified and competent person in occupational health and safety.

.2 Have site-related working experience specific to activities of the work.

.3 Be on work site at all times during execution of the work.

.4 All supervisory personnel assigned to the work shall also be competent persons.

.5 Inspections:

.1 Conduct regularly scheduled safety inspections of the work on a minimum bi-weekly basis. Record deficiencies and remedial action taken.

1.15 TRAINING

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

1.16 MINIMUM
SITE SAFETY RULES

- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations, ensure the following safety rules are obeyed by persons granted access to work site:
 - .1 Wear appropriate PPE pertinent to the work or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.
 - .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
 - .3 Maintain site and storage areas in tidy condition free of hazards causing injury.
 - .4 Obey warning signs and safety tags.
- .2 Brief persons of disciplinary protocols to be taken for non compliance.

1.17 CORRECTION OF
NON-COMPLIANCE

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

- | | | |
|---------------------------|----|--|
| 1.18 INCIDENT REPORTING | .1 | Investigate and report the following incidents to Departmental Representative:
.1 Incidents requiring notification to Provincial Department of Occupational Health and Safety, Workers' Compensation Board or to other regulatory Agency.
.2 Medical Aid injuries.
.3 Property damage in excess of \$10,000.00.
.4 Interruption to Facility operations resulting in an operational lost to a Federal department in excess of \$5,000.00. |
| | .2 | Submit report in writing. |
| 1.19 HAZARDOUS PRODUCTS | .1 | Comply with requirements of Workplace Hazardous Materials Information System (WHMIS). |
| | .2 | Keep MSDS data sheets for all products delivered to site.
.1 Post on site.
.2 Submit copy to Departmental Representative. |
| 1.20 CONFINED SPACES | .1 | Abide by Occupational Health and Safety Regulations regarding work in confined spaces. |
| 1.21 SITE RECORDS | .1 | Maintain on work site a copy of safety related documentation and reports stipulated to be produced in compliance with Acts and Regulations of authorities having jurisdiction and of those documents specified herein. |
| | .2 | Upon request, make available to Departmental Representative, or authorized Safety Officer for inspection. |
| 1.22 POSTING OF DOCUMENTS | .1 | Ensure applicable items, articles, notices and orders are posted in conspicuous location on work site in accordance with Acts and Regulations of Province having jurisdiction. |
| | .2 | Post other documents as specified herein, including:
.1 Site Specific Health and Safety Plan.
.2 WHMIS data sheets. |

1.1 RELATED WORK

- .1 Construction/Demolition Waste Management and Disposal: Section 01 74 21.

1.2 DEFINITIONS

- .1 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.

1.3 FIRES

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

1.4 HAZARDOUS
MATERIAL HANDLING

- .1 Store and handle hazardous materials in accordance with applicable federal and provincial laws, regulations, codes 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 storage began.
- .4 Store and handle flammable and combustible materials in accordance with National Fire Code.
- .5 Transport hazardous materials in accordance with federal Transportation of Dangerous Goods Regulations and applicable Provincial regulations.

1.5 DISPOSAL OF
WASTES

- .1 Do not bury rubbish and waste materials on site. Dispose in accordance with project waste management requirements specified in Section 01 75 21.
- .2 Do not dispose of hazardous waste or volatile materials, such as mineral spirits, paints, thinners, oil or fuel into waterways, storm or sanitary sewers or waste landfill sites.

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

1.6 DRAINAGE

- .1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with governing regulations and requirements.
- .4 Provide control devices such as filter fabrics, sediment traps and settling ponds to control drainage and prevent erosion of adjacent lands. Maintain in good order for duration of work.

1.7 WORK ADJACENT TO WATERWAYS

- .1 Do not operate construction equipment in waterways.
- .2 Do not use waterway beds for borrow material.
- .3 Do not dump excavated fill, waste material or debris in waterways.
- .4 At borrow sites, design and construct temporary crossings to minimize erosion to waterways in strict conformance with provincial and federal environmental regulations.
- .5 Do not skid logs or construction materials across waterways.
- .6 Avoid indicated spawning beds when constructing temporary crossings of waterways.
- .7 Do not blast under water or 100 m of spawning beds.
- .8 Do not refuel any type of equipment within 100 meters of a water body. Maintain equipment in good working condition with no fluid leaks, loose hoses or fittings.

1.8 POLLUTION
CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this contract.
- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads and around entire construction site.
- .5 Have appropriate emergency spill response equipment and rapid clean-up kit on site located adjacent to hazardous materials storage area. Provide personal protective equipment required for clean-up.
- .6 Report, spills of petroleum and other hazardous materials as well as accidents having potential of polluting the environment to Federal and Provincial Department of the Environment.
 - .1 Notify Departmental Representative and submit a written spill report to Departmental Representative within 24 hours of occurrence.

1.9 WILDLIFE
PROTECTION

- .1 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 neighboring 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.

PART 1 - GENERAL

1.1 INSPECTION

- .1 Allow Departmental Representative access to work. If part of work is in preparation at locations other than place of work, allow access to such work whenever it is in progress.
- .2 Give timely notice requesting inspection of work designated for special tests, inspections or approvals by Departmental Representative or law of place of work.
- .3 If Contractor covers or permits to be covered work that has been designated for special tests, inspections or approvals before such is made, uncover such work, have inspections or tests satisfactorily completed and make good such work.
- .4 Departmental Representative will order part of work to be examined if work is suspected to be not in accordance with contract documents. If, upon examination such work is found not in accordance with contract documents, correct such work and pay costs of examination and correction. If such work is found in accordance with contract documents, Departmental Representative shall pay cost of examination and replacement.

1.2 INDEPENDENT
INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will engage Departmental Representative for purpose of inspecting and/or testing portions of work. Cost of such services will be borne by Departmental Representative.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of inspections/testing agencies does not relax responsibility to perform work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised

by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and re-inspection.

1.3 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.

1.4 PROCEDURES

- .1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.5 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with contract documents.
- .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .3 If in opinion of Departmental Representative it is not expedient to correct defective work or work not performed in accordance with contract documents, owner will deduct from contract price difference in value between work performed and that called for by contract documents, amount of which will be determined by Departmental Representative.

1.6 REPORTS

- .1 Submit 4 copies of inspection and test reports to Departmental Representative.

- .2 Provide copies to subcontractor of work being inspected or tested manufacturer or fabricator of material being inspected or tested.

1.7 TESTS AND MIX
DESIGNS

- .1 Furnish test results and mix designs as requested.
- .2 Costs of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of place of work will be appraised by Departmental Representative and may be authorized as recoverable.

1.8 MOCK-UPS

- .1 Prepare mock-ups for work specifically requested in specifications. Include for work sections required to provide mock-ups.
- .2 Construct in locations acceptable to Departmental Representative as specified in specific section.
- .3 Prepare mock-ups for Departmental Representative's review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 If requested, Departmental Representative will assist in preparing a schedule fixing dates for preparation.
- .6 Remove mock-ups at conclusion of work or when acceptable to Departmental Representative.
- .7 Specification section identifies whether mock-up may remain as part of work or if it is to be removed and when.

1.9 MILL TESTS

- .1 Submit adjustment and balancing reports for mechanical, electrical and building equipment systems.
- .2 Refer to sections for definitive requirements.

- | | | |
|--|----|--|
| <u>1.1 ACCESS</u> | .1 | Provide and maintain adequate access to project site. |
| | .2 | Maintain access roads for duration of contract and make good damage resulting from Contractors' use of roads. |
| <u>1.2 CONTRACTOR'S SITE OFFICE</u> | .1 | Be responsible for and provide own site office, if required, including electricity, heat, lights and telephone. Locate site office as directed by Departmental Representative. |
| | .2 | The Contractor shall retain a qualified electrician to perform the electrical hook-up to conform to the requirements of the Canadian Electrical Code. |
| <u>1.3 SANITARY FACILITIES</u> | .1 | Provide sanitary facilities for work force in accordance with governing regulations and ordinances. |
| | .2 | Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition. |
| <u>1.4 POWER</u> | .1 | Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances. |
| | .2 | Supply and install all temporary facilities for power such as pole lines and underground cables to approval of local power supply authority. |
| <u>1.5 WATER SUPPLY</u> | .1 | Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances. |
| <u>1.6 CONSTRUCTION SIGN AND NOTICES</u> | .1 | Contractor or subcontractor advertisement signboards are not permitted on site. |

- .2 Only notices of safety or instructions are permitted on site.
 - .3 Safety and Instruction Signs and Notices:
 - .1 Signs and notices for safety and instruction shall be in both official languages. Graphic symbols shall conform to CAN/CSA-Z321-96 (R2006).
 - .4 Maintenance and Disposal of Site Signs:
 - .1 Maintain approved signs and notices in good condition for duration of project and dispose of off site on completion of project or earlier if directed by Departmental Representative.
-
- .1 Remove temporary facilities from site when directed by Departmental Representative.

1.7 REMOVAL OF
TEMPORARY
FACILITIES

PART 1 - GENERAL

<u>1.1 SECTION INCLUDES</u>	.1	Barriers.
	.2	Traffic Controls.
<u>1.2 INSTALLATION AND REMOVAL</u>	.1	Provide temporary controls in order to execute work expeditiously.
	.2	Remove from site all such work after use.
<u>1.3 HOARDING</u>	.1	Erect temporary site enclosure using new 1.2 m high snow fence wired to rolled steel "T" bar fence posts spaced at 2.4 m centers. Provide one lockable truck gate. Maintain fence in good repair.
<u>1.4 GUARD RAILS AND BARRICADES</u>	.1	Provide secure, rigid guard rails and barricades around open excavations.
	.2	Provide barricades along wharf structure when wheelguard is removed.
	.3	Provide as required by governing authorities.
<u>1.5 ACCESS TO SITE</u>	.1	Provide and maintain access to adjacent harbour facilities.
<u>1.6 PUBLIC TRAFFIC FLOW</u>	.1	Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform work and protect the public.
<u>1.7 FIRE ROUTES</u>	.1	Maintain access to property including overhead clearances for use by emergency response vehicles.

- | | | |
|---|----|--|
| 1.8 PROTECTION FOR
OFF-SITE AND PUBLIC
PROPERTY | .1 | Protect surrounding private and public property from
damage during performance of work. |
| | .2 | Be responsible for damage incurred. |

PART 1 - GENERAL

- | | | |
|---|----|--|
| <u>1.1 General</u> | .1 | Use new material and equipment unless otherwise specified. |
| | .2 | Within 7 days of written request by Departmental Representative, submit following information for any materials and products proposed for supply: <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..6 evidence of manufacturer delivery problems or unforeseen delays. |
| | .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. |
| | .5 | Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms. |
| <u>1.2 Product Quality & Referenced Standards</u> | .1 | Contractor shall be solely responsible for submitting relevant technical data and independent test reports to confirm whether a product or system proposed for use meets contract requirements and specified standards. |
| | .2 | Final decision as to whether a product or system meets contract requirements rest solely with the Departmental Representative in accordance with the General Conditions. |

1.3 Acceptable Materials and Alternatives

- .1 Where materials are specified by trade names or trade marks or manufacturers, when so listed in the various sections of the Specifications or added into the Contract Documents by addendum, select one of the names listed for use on project.
- .2 In accordance with Clause 15 of the General Instructions to Bidders, Document No. R2710T, submission of alternative materials to those trade names or manufacturers listed in the contract documents as acceptable materials, must be done during the bidding period following procedures indicated therein.
- .3 Note that Document R2710T is incorporated by reference into, and forms part of the Bid and Contract Documents.

1.4 Manufacturers Instructions

- .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods to be used. Do not rely on labels or enclosure provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing of any conflict between these specifications and manufacturer's instructions, so that Departmental Representative will designate which document is to be followed.

1.5 Availability

- .1 Immediately notify Departmental Representative in writing of unforeseen or unanticipated material delivery problems by manufacturer. Provide support documentation as per Clause 1.1.2.6 above.

1.6 Workmanship

- .1 Ensure quality of work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed.
- .2 Remove unsuitable or incompetent workers from site as stipulated in General Conditions.
- .3 Ensure cooperation of workers in laying out work. Maintain efficient and continuous supervision on site at all times.
- .4 Coordinate work between trades and subcontractors. See Section 01 10 10 in this regard.

- .5 Coordinate placement of openings, sleeves and accessories.

1.7 Fastenings - General

- .1 Provide metal fastenings and accessories in same texture, colour and finish as base metal in which they occur. Prevent electrolytic action between dissimilar metals. Use non- corrosive fasteners, anchors and spacers for securing exterior work and in humid areas.
- .2 Keep exposed fastenings to minimum, space evenly and lay out neatly.
- .3 Fastenings which cause spalling or cracking of material to which anchorage is made, are not acceptable.

1.8 Fastenings - Equipment

- .1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur and, use resilient washers with stainless steel.

1.9 Storage, Handling and Protection

- .1 Deliver, handle and store materials in manner to prevent deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled materials in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in work. Provide additional cover where manufacturer's packaging is insufficient to provide adequate protection.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete

floors, and away from walls.

- .5 Store materials on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .6 Immediately remove damaged or rejected materials from site.
- .7 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.10 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. Prevent oil and other contaminant leaks. Should any contaminant leak onto ground or into water, take immediate and appropriate measures to contain, cleanup and dispose in an environmentally responsible manner.

1 General

- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti- pollution laws.
- .2 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .3 Prevent accumulation of waste which creates hazardous conditions.

2 Cleaning During Construction

- .1 Maintain the work, at least on a daily basis free from accumulations of waste material and debris.
- .2 Provide on-site containers for collection of waste materials, and debris.
- .3 Remove waste materials, and debris from site.
- .4 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces.

3 Final Cleaning

- .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 interior and exterior finished surfaces.

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 02 41 16 - Sitework, Demolition and Removal.

1.2 DISPOSAL OF WASTE

- .1 Separate and recycle waste materials designated for disposal.
- .2 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard, and packaging material in appropriate on-site bins for recycling.
- .3 Place materials defined as hazardous or toxic in designated containers.
- .4 Divert unused metal materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Fold up metal banding, flatten and place in designated area for recycling.
- .6 Unused paint or coating material must be disposed of at an official hazardous material collections site as approved by Departmental Representative.
- .7 Do not dispose of unused paint material into sewer system, streams, lakes, onto ground, or in any other location where it will pose a health or environmental hazard.
- .8 Disposal of waste volatile materials, mineral spirits, oil, and paint thinner into waterways, storm, or sanitary sewers is strictly prohibited.
- .9 Do not dispose of preservative treated wood through incineration.
- .10 Do not dispose of preservative treated wood with other materials destined for recycling or reuse.
- .11 Dispose of treated wood, end pieces, wood scraps and sawdust at a sanitary landfill.

- .12 Dispose of unused preservative material at an official hazardous material collections site. Do not dispose of unused preservative material into the sewer system, streams, lakes, on ground or in any other location where they will pose a health or environmental hazard.
- .13 Burying of rubbish and waste materials is prohibited.
- .14 All waste material not designated for recycle to be disposed of at an approved waste disposal site in accordance with appropriate environmental guidelines.

1.3 STORAGE AND HANDLING OF WASTE

- .1 Store materials to be reused, recycled and salvaged in locations as directed by Departmental Representative.
- .2 Unless specified otherwise, materials for removal become property of Contractor.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 APPLICATION

- .1 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

3.2 CLEANING

- .1 Remove tools and waste materials on completion of work and leave work area in clean and orderly condition.
- .2 Clean-up work area as work progresses.
- .3 Source separate materials to be reused or recycled into specified sort areas.

3.3 DIVERSION OF MATERIALS

- .1 Separate materials from general waste and stockpile in separate piles or containers, to approval of Departmental Representative, and consistent with applicable fire regulations. Mark containers or stockpile areas. Provide instruction on disposal practices.
- .2 On-site sale of salvaged, recovered, reusable, or recyclable materials is not permitted.

1.1 INSPECTION AND
DECLARATION

- .1 Contractor's Inspection: Contractor and Subcontractors: conduct inspection of work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
 - .2 Request Departmental Representative's Inspection.
- .2 Departmental Representative's Inspection: Departmental Representative and Contractor will perform inspection of work to identify obvious defects or deficiencies. Contractor to correct work accordingly.
- .3 Completion: submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Equipment and systems have been tested, adjusted and balanced and are fully operational.
 - .4 Operation of systems have been demonstrated to Owner's Personnel.
 - .5 Work is complete and ready for final inspection.
- .4 Final Inspection: When items noted above are completed, request final inspection of work by Departmental Representative and Contractor. If work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.
- .5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.
- .6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.

- .7 Final Payment: when Departmental Representative
onsides final deficiencies and defects have been
corrected and it appears requirements of Contract have
been totally performed, make application for final
payment. If work is deemed incomplete by Departmental
Representative, complete outstanding items and request
re-inspection.
- .8 Payment of Holdback: after issuance of certificate
of Substantial Performance of Work, submit an
application for payment of holdback amount.

1.2 CLEANING

- .1 In accordance with Section 01 74 11 - Cleaning.
- .2 Remove waste and surplus materials, rubbish and
construction facilities from the site in accordance
with Section 01 74 21 - Construction/Demolition Waste
Management and Disposal.

PART 1 - GENERAL

1.1 SECTION
INCLUDES

- .1 Project Record Documents as follows:
- .1 As-built drawings;
- .2 As-built specifications;
- .3 Reviewed shop drawings.

1.2 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 at any time during construction.
- .4 As-Built Drawings:
 - .1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of project and prior to final inspection, neatly transfer notations to second set (also by use of red ink). Submit both sets to Departmental Representative. All drawings of both sets shall be stamped "As-Built Drawings" and be signed and dated by Contractor.
 - .2 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
 - .3 Record following information:
 - .1 Horizontal and vertical location of various elements in relation to Geodetic Datum.
 - .2 Field changes of dimension and detail.
 - .3 All design elevations, sections, and details dimensioned and marked-up to consistently report finished installation conditions.
 - .4 Any details produced in the course of the contract by the Departmental Representative to supplement or to change existing design drawings

must also be marked-up and dimensioned to reflect final as-built conditions and appended to the as-built drawing document.

.5 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. Frequency of reviews will be subject to Departmental Representative's discretion. Failure to maintain as-builts current and complete to satisfaction of the Departmental Representative shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.

1.3 REVIEWED
SHOP DRAWINGS

.1 Compile 2 full sets of all reviewed shop drawings.

1.4 OPERATIONS
AND MAINTENANCE
MANUALS

.1 Provide three (3) copies of operations and maintenance manuals for all equipment installed in the works as applicable.