



Department of Fisheries and Oceans

Service Area Paving

Structure 407
Glace Bay, Cape Breton County, NS
Project No. C2-00380

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<u>SECTION</u>	<u>TITLE</u>	<u>PAGES</u>
<u>DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS</u>		
00 01 11	List of Contents	03
<u>DIVISION 01 – GENERAL REQUIREMENTS</u>		
01 10 10	General Instructions	09
01 14 00	Work Restrictions	01
01 14 10	Scheduling and Management of Work	03
01 29 10	Measurement and Payment	02
01 29 83	Payment Procedures for Testing Laboratory Services	01
01 31 19	Project Meetings	02
01 33 00	Submittal Procedures	05
01 35 29.06	Health and Safety	08
01 35 44	Environmental Procedures	06
01 45 00	Quality Control	03
01 50 00	Temporary Facilities	03
01 52 00	Construction Facilities	03
01 71 00	Examination and Preparation	01
01 74 11	Cleaning	02
01 74 21	Construction/Demolition Waste Management and Disposal	03
01 77 00	Closeout Procedures	02
<u>DIVISION 32 – EXTERIOR IMPROVMENTS</u>		
32 01 16	Removal of Existing Asphalt	2
32 12 16	Asphalt Paving	5
<u>APPENDICES</u>		
Appendix 1 – Combined Price Form		02

Part 1 General

1.1 PROJECT LOCATION

- .1 This project is located at the Glace Bay wharf (Structure 407) in Cape Breton County, Nova Scotia.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Fisheries and Oceans, Small Craft Harbours Branch is preparing the service area paving on the Structure 407 wharf.
- .2 The work includes but is not limited to:
 - .1 Mobilization to site;
 - .2 Installation and maintenance of environmental controls required to complete the work;
 - .3 Removal and stockpiling of existing gravels to achieve final subgrades;
 - .4 Supply, placing and compaction of new asphalt pavement;
 - .5 Final grading and site cleanup;
 - .6 Removal of all environmental controls;
 - .7 Demobilization from the site.
- .3 The above listed work is subject to the following constraints during construction:
 - .1 Construction activities shall not detrimentally impact the surrounding environment or waterway, shall respect allowable windows for in-water work, and shall respect the requirements of cultural resources.
- .4 The Contractor is responsible for the delineation of the construction zones.
- .5 All work to be carried out in accordance with applicable federal, provincial regulations for those agencies having jurisdiction for the work.
- .6 The Contractor must be aware that other construction work or on-going fishery activity may potentially be underway at other locations near the project site during the time frame of this contract. No claims shall be accepted due to failure to co-ordinate this work with other construction or fishery efforts in the area.

1.3 CONTRACT METHOD

- .1 Construct Work under Unit Price and Lump Sum items contract.

1.4 CODES AND STANDARDS

- .1 Perform work in accordance with any code of federal, provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Materials and workmanship must conform to or exceed applicable standards of Canadian General Standards Board (CGSB), Canadian Standards Association (CSA), American Society for Testing and Materials (ASTM), National Building Code - FCS Standard 373 (Piers and Wharves) and other standards organizations.

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- .3 Conform to latest revision at the date of Tender of any referenced standard as re-affirmed or revised to date of specification. Standards or codes not dated shall be deemed editions in force on date of tender advertisement.

1.5 SITE CONDITIONS

- .1 The Contractor will be responsible to visit the site and review existing site conditions.
- .2 Before submitting a bid, it is recommended that bidders visit the site to review and verify the form, nature and extent of the work, materials needed, the means of access and the temporary facilities required to perform the Work.
- .3 Obtain prior permission from the Departmental Representative before carrying out such site inspection.
- .4 Contractors, bidders or those they invite to site are to review specification Section 01 35 29.06 – Health and Safety Requirements before visiting site. Take all appropriate safety measures for any visit to site, either before or after acceptance of bid.
- .5 Details of the existing structure are for the Contractor to determine in considering use with over-weight and non-conforming vehicles in carrying out work on this project and in the demolition of the structure.
- .6 For geotechnical and borehole information, refer to Drawings and Appendices.

1.6 INTERPRETATION OF DOCUMENTS

- .1 Supplementary to the Order of Precedence article of the General Conditions of the Contract, the Division 01 Sections take precedence over the technical specification sections in other Divisions of the Specifications Manual.

1.7 TERM ENGINEER

- .1 Unless specifically stated otherwise, the term Engineer where used in the Specifications and on the Drawings shall mean the Departmental Representative as defined in the General Conditions of the Contract.

1.8 SITE SURVEY AND SETTING OUT WORK

- .1 Contractor to carry out all layout. The Contractor is responsible for the layout of the new structures as per the contract drawings. For vertical geometry, a project specific datum is available and is defined on the contract drawings. Refer to the contract drawings for more details.
- .2 The Contractor shall assume full responsibility for and execute complete layout of work locations, lines and elevations indicated.
- .3 The Contractor shall supply such devices as straight edges and templates required to facilitate Departmental Representative's inspection of work.
- .4 The Contractor shall provide coordinates, elevations and dimensions in the field, as required by the Departmental Representative.

1.9 WORK WITHIN SITE BOUNDARIES

- .1 The project is within a working fishing harbour. It is essential that DFO lands and adjacent residential properties remain as undisturbed as possible. The Contractor will be

expected to use standards and methods beyond those for normal construction in order to protect the environment and ensure minimal residential impact from the work. Contract limits shall be strictly adhered to and every precaution shall be taken to minimize environmental damage and disruption to vegetation, wildlife habitat, adjacent residential areas and properties, structures or existing services, on construction and storage sites and on access routes/roads to the worksite.

- .1 If any damage occurs during construction, the Contractor is responsible to bear the expense to immediately restore such damaged areas to the satisfaction of Departmental Representative.
- .2 If Contractor fails to repair damage to the satisfaction of the Departmental Representative, the Departmental Representative may have repairs completed by others at the Contractor's expense.
- .3 The Contractor shall ensure that contracted work meets the standards outlined in the contract specification and drawings.
- .4 The Contractor shall ensure that no damage will be done to any existing utilities.
- .5 All sources of aggregate must be submitted to the Departmental Representative for approval at least two weeks prior to the start of any work.
- .6 The Contractor will make arrangements with authorities or owners of private properties for quarrying and transporting materials and machinery over their properties and be responsible for obtaining and paying of fees as required.
- .7 Special move permits for any over-weight and over-dimensional vehicles required to travel provincial highways must be secured by the Contractor and submitted to the Departmental Representative for review and approval prior to movement within Site boundaries.

1.10 MEASUREMENT FOR PAYMENT

- .1 Notify Departmental Representative sufficiently in advance of operations to permit required measurements for payment.
- .2 Items included under "Measurement for payment". All lump sum and all unit price items shall include all materials, labour, equipment and all other items necessary to complete the work. See also Section 01 29 10.

Item 1: Mobilization and Demobilization:

- .1 Mobilization and demobilization shall constitute a lump sum for measurement purposes. Final payment for this item will only be made when all work is complete and all materials, equipment and other facilities are removed, the site cleaned and left in a condition satisfactory to the Departmental Representative.

Item 2: Fine Grading:

- .1 Fine Grading shall constitute a price per square metre for measurement purposes. All site work and disposals required to complete the work shall be included in this item. Layout and survey control, installation and maintenance of environmental controls and the grading of the existing gravel surface in preparation for asphalt placement.

Item 3: Asphalt Removal:

- .1 Asphalt Removal shall constitute a price per square metre for measurement purposes. This item includes, cold-plane, cut, excavate, load, transport and dispose of

asphalt concrete to the lines and elevations indicated on the drawings or as directed by the Departmental Representative.

Item 4: Asphalt Paving:

.1 Asphalt Paving shall constitute a price per square metre for measurement purposes. This item includes supply, transportation of all materials including asphalt tack coat and asphalt binder; production, handling, preparation of surface, placing (including material transfer device), rolling and compaction of asphalt concrete.

There will be no payment for extra thickness or extra width of asphalt placed outside of the theoretical lines and grades as indicated on the drawings. Whenever in the opinion of the Departmental Representative there is extra thickness or extra width, the appropriate weight will be deducted .

1.11 MAINTENANCE OF WORK DURING CONSTRUCTION

- .1 Maintain work during construction. Undertake continuous and effective maintenance daily, with adequate equipment and forces so that the roadway or structures are continuously kept in a condition satisfactory to Departmental Representative.

1.12 WORK SCHEDULE

- .1 Provide to the Departmental Representative in writing and within 7 working days after Contract award, a detailed construction schedule. The schedule as a minimum shall show the anticipated start and completion dates for all key work required to complete the project.
- .2 The final completion date shall be September 30th, 2022.
- .3 “Completely Accessible” as noted below shall be defined as providing berthage space for vessels, access to and from the structures (including granular surface behind the structure as a minimum) and also complete decks that are free and clear to use for trap storage.
- .4 Work shall be in accordance with work restrictions and construction ‘blackout’ periods identified and further described as follows (these blackout periods are subject to change depending on fishing season start and end dates in any given year):
 - .1 Construction must be completed within the property boundaries of the facility unless otherwise approved by the Departmental Representative.
 - .2 The Contractor must setup their onsite office and laydown all materials within the laydown area approved by a Departmental Representative.
- .5 All work shall be completed as per the terms and conditions of the environmental permits for the project.
- .6 Interim reviews of work progress based on work schedule will be conducted as decided by Departmental Representative and schedule updated by Contractor in conjunction with and to approval of Departmental Representative.
- .7 No work will begin until the pre-construction and site safety meeting is held.
- .8 Following the pre-construction meeting and approval of the schedule, traffic control plan, environmental protection plan and site specific health and safety plan, the work will be so scheduled to meet the time restraints and have the project completed on time.

1.13 CONTRACTOR'S USE OF SITE

- .1 Use of site: for execution of work within close proximity of the wharf and those areas specified by the Departmental Representative.
- .2 Contractor's use of site is to be coordinated with the Harbour Authority of Glace Bay, attention Herb Nash at (902) 577-2820.

1.14 SANITARY SERVICES

- .1 The Contractor shall provide and maintain sanitary facilities for the use of workers at locations specified by the Departmental Representative. Provision of sanitary facilities shall meet requirements of provincial government and municipal statutes and authorities.

1.15 PROJECT MEETINGS

- .1 A pre-construction meeting and regular progress meetings shall be held by the contractor throughout the project. Refer to Section 01 31 19 Project Meetings for details.

1.16 DEPARTMENTAL REPRESENTATIVE

- .1 Departmental Representative will be assigned after contract award.

1.17 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each of following:
 - .1 Contract drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed drawings.
 - .5 Change orders.
 - .6 Other modifications to Contract.
 - .7 Copy of approved work schedule.
 - .8 Field test reports
 - .9 Manufacturer's installation and application instructions.
 - .10 Site specific Hazard Assessment, Health and Safety Plan and other safety related documents.
 - .11 Other documents as stipulated elsewhere in the Contract Documents.

1.18 ADDITIONAL DRAWINGS

- .1 Departmental Representative may furnish additional drawings for clarification. These additional drawings have same meaning and intent as if they were included with plans referred to in Contract documents.

1.19 CUTTING AND PATCHING

- .1 Cut and patch as required to make work fit.
- .2 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.

1.20 RELICS, ANTIQUITIES AND WILDLIFE HABITAT

- .1 Protect relics, antiquities, wildlife habitat, items of historical or scientific interest such as animal nesting site or similar objects found during course of work.
- .2 Give immediate notice to Departmental Representative and await Departmental Representative's written instructions before proceeding with work in this area.
- .3 Relics, antiquities and items of historical or scientific interest remain her Majesty's property.

1.21 PERMITS/AUTHORITIES

- .1 The Contractor shall obtain, and pay for, permits from authorities as required for all operations and construction. They shall also comply with all pertinent regulations of all authorities having jurisdiction over the work. The Contractor shall provide copies of all permits to the Departmental Representative prior to starting the work. The Contractor shall be responsible for obtaining all applicable permits, inspections and approvals required and shall pay all changes in connection therewith (including all permitting required to upgrade existing electrical services).
- .2 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.

1.22 PROTECTION

- .1 Store all materials and equipment to be incorporated into work to prevent damage by any means.
- .2 Repair and replace all materials or equipment damaged in transit or storage to the satisfaction of the Departmental Representative and at no cost to Crown.
- .3 Contractor will take adequate precautions to protect existing structures when operating tracked equipment. Contractor shall also take care as to not detrimentally surcharge new and existing wharf structures during construction activities.
- .4 Exercise care so as not to obstruct or damage public or private property in the area.
- .5 At completion of work, restore area to its original condition. Damage to ground and property will be repaired by Contractor (this shall include any asphalt damaged as a result of construction activities or storing materials). Remove all construction materials, residue, excess, etc., and leave site in a condition acceptable to Departmental Representative.

1.23 EXISTING SERVICES

- .1 Carry out work at times directed by authorities having jurisdiction, with minimum of disturbance to pedestrian and vehicular traffic.
- .2 Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.

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- .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 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
 - .5 Record locations of maintained, re-routed and abandoned service lines.
 - .6 Verify locations of any underground utilities.
 - .7 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrians, vehicular traffic and user operations.

END OF SECTION

Part 1 General

1.1 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, in accordance with relevant municipal, provincial and other regulations.

1.2 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2 Provide for personnel and vehicle access.
- .3 Where safety and/or security is reduced by the work, provide temporary means to maintain safety and/or security.
- .4 See Section 01 10 10 for schedule restrictions.

1.3 ALTERATIONS, ADDITIONS OR REPAIRS

- .1 Execute work with least possible interference or disturbance to public and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.4 EXISTING SERVICES

- .1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Provide services for personnel, pedestrian and vehicular traffic where such services have been interrupted due to construction.

1.5 SPECIAL REQUIREMENTS

- .1 Maintenance to vehicles and equipment is prohibited on Harbour Authority property.
- .2 Blasting is not permitted.
- .3 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .4 Keep within limits of work and avenues of ingress and egress.

END OF SECTION

Part 1 General

1.1 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 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 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.
- .5 Work schedule must take into consideration and reflect the work phasing, required sequence of work, special conditions and operational restrictions as specified elsewhere and below and indicated on drawings.
- .6 Schedule work in cooperation with the Departmental Representative. Incorporate within Work Schedule, items identified by Departmental Representative during review of 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 when 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.

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- .11 In every instance, change or deviation from the Work Schedule, no matter how minimal the risk or impact on safety or inconvenience to the Harbour Authority or the public might appear, will be subject to prior review and approval by the Departmental Representative.

1.2 PROJECT PHASING

- .1 Refer to 01 10 10 General Instructions for Blackout Periods and the construction completion date.

1.3 OPERATIONAL RESTRICTIONS

- .1 The Contractor must recognize that harbour users will be affected by implementation of this Contract. The Contractor must perform the Work with utmost regard to the safety and convenience of Harbour users. All work activities must be planned and scheduled with this in mind.
- .2 Site access must be restricted to only those approved by Contractor and knowledgeable of the Contractor's Site Specific Safety Plan (SSSP).
- .3 Safety Signage:
- .1 Provide on-site, and erect as required during progress of work, proper signage, mounted on self-supporting stands and/or fencing, warning the public of construction activities progress and alerting need to exercise caution in the area. This shall include signage to notify approaching vessels of construction activities in the harbour.
 - .2 Signage to be professionally printed and mounted on wooden backing, coloured and to express messages as directed by the Departmental Representative.
 - .3 Include costs for the supply and installation of these signs in the bid price.
- .4 Stock pile materials on site in laydown area identified as agreed upon by the Departmental Representative and the local Harbour Authority.
- .5 Dust and Dirt Control:
- .1 See section 01 50 00 and 01 74 11 for dust control and cleaning requirements.
 - .2 Effectively plan and implement dust control measures and cleaning activities as an integral part of all construction activities. Review all measures with the Departmental Representative before undertaking work, especially for major dust generating activities.
 - .3 Do not allow demolition debris and construction waste to accumulate on site and contribute to the propagation of dust.
 - .4 As work progresses, maintain construction areas in a tidy condition at all times.
 - .5 Do not stockpile removed fill material any higher than 3m.

1.4 PROJECT MEETINGS

- .1 Schedule and administer project meetings for entire duration of work and more often when directed by Departmental Representative. Refer to Section 01 31 19 for required project meeting frequency.
- .2 Hold meetings at project site or where approved by Departmental Representative.

1.5 WORK COORDINATION

- .1 The Contractor is responsible for coordinating the work of the various trades and predetermining where the work of such trades interfaces with each other.
 - .1 Designate one person from own employees having overall responsibility to review contract documents and shop drawings, plan and manage such coordination.
- .2 No extra costs to the Contract will be considered by the Departmental Representative as a result of Contractor's failure to effectively coordinate all portions of the 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 of the Contractor to be resolved at own cost.

END OF SECTION

Part 1 General

1.1 GENERAL

- .1 This section covers the measurement of Work done for payment purposes.
- .2 There shall be no measurement or payment for Work carried out beyond the limits defined on the Drawings.
- .3 The Contractor will only be entitled to payment when prior written authorization has been received from the Departmental Representative for utilization and then only to the extent of the work authorized by the Departmental Representative.
- .4 The lump sum prices for all items in the Unit Price and Lump Sum Table shall represent the full compensation for the work of the item and shall include the cost of furnishing all materials, labour, tools, and equipment necessary to complete the work in accordance with the Contract, the Drawings and Specifications, and shall cover all costs of surety. Each item shall include all necessary supervision, plant and services, and all operations and allowances customary and necessary to complete each item and the Contract as a whole, notwithstanding the fact that not every such necessary operation is mentioned or included specifically for measurement.
- .5 Unless specified otherwise, all materials necessary to complete the items listed in the Unit Price and Lump Sum Table and the finished Work, shall be new materials supplied by the Contractor and the cost of such material is to be included in the Contractor's prices.
- .6 All measurements for progress payment purposes shall be taken jointly by the Contractor and the Departmental Representative.
- .7 The following measurement procedures are for the purpose of measuring progress on the lump sum contract:
 - .1 Linear:
 - .1 Items which are measured by the linear meter shall be based on the final installed lengths and measure along the centreline of installation unless otherwise indicated on the plans.
 - .2 Area:
 - .1 Longitudinal and transverse measurements shall be made on the actual flat or sloped surface.
 - .3 Volume:
 - .1 In computing volumes of excavation or for infill quantities, average end area method will be used unless otherwise directed by Departmental Representative.
 - .2 All volume measurements refer to in-place measures unless specified otherwise.
 - .4 Mass:
 - .1 The terms "tonne" or "metric tonne" shall mean 1000 kilograms (kg).
 - .2 Materials which are specified for measurement by mass shall be weighed on scales approved by Departmental Representative. Units used to haul

material being paid for by mass shall bear legible identification numbers plainly visible to scale person as it approaches and leaves scale-house.

- .8 Refer to Section 01 10 10 – General Instructions, “Measurement for Payment” for measurement procedures for all payment items.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

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

1.2 APPOINTMENT AND PAYMENT

- .1 Departmental Representative will appoint and pay for services of testing laboratory except as follows:
 - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - .2 Inspection and testing performed exclusively for Contractor's convenience.
 - .3 Testing, adjustment and balancing of equipment and systems.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by Contractor under supervision of Departmental Representative.
 - .6 Additional tests specified as follows in the following paragraph.
- .2 Where tests or inspections by designated testing laboratory reveal that the Work is not completed in accordance with the contract requirements; the Contractor shall pay the costs for additional tests or inspections as required by Departmental Representative to verify acceptability of corrected work.

1.3 CONTRACTOR'S RESPONSIBILITIES

- .1 Provide labour, equipment and facilities to:
 - .1 Provide access to Work for inspection and testing.
 - .2 Facilitate inspections and tests.
 - .3 Make good Work disturbed by inspection and test.
 - .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
- .2 Notify Departmental Representative a minimum of 48 hours 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

Part 1 General

1.1 PRECONSTRUCTION MEETING

- .1 After receiving the Contractor's schedule, traffic control plan, health and safety hazard assessment, and environmental protection plan, and prior to start of construction, a meeting involving Contractor, Departmental Representative, Engineer, field inspectors and DFO-SCH and end users will be held at a place and time to be determined by the Contractor.
- .2 Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
- .3 Agenda to include:
 - .1 Review of the design and the intentions of the project.
 - .2 Implications of the contract.
 - .3 Health and safety.
 - .4 Methods of construction.
 - .5 Environment protection methods.
 - .6 Traffic control.
 - .7 Appointment of official representative of participants in the Work.
 - .8 Schedule of Work: to be in GANTT Chart format.
 - .9 Schedule of submission of shop drawings, samples, etc. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .10 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.
 - .11 Proposed changes, change orders, procedures, approvals required, and administrative requirements.
 - .12 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.
 - .13 Monthly progress claims, administrative procedures, photographs, hold backs.
 - .14 Appointment of inspection and testing agencies or firms.
 - .15 Insurances, transcript of policies.

1.2 PROGRESS MEETINGS

- .1 Contractor will arrange bi-weekly progress meetings and assume responsibility for setting times and recording and distributing minutes. Minutes shall be distributed within 3 business days of the meeting. Contractor shall notify all attending parties a minimum of 5 days in advance of the meeting.
- .2 Contractor, major Subcontractors involved in Work, field inspector and Departmental Representative are to be in attendance.
- .3 Progress meeting agenda to include the following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.

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- .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Maintenance of quality standards.
 - .11 Review proposed changes for effect on construction schedule and on completion date.
 - .12 Other business.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Refer to Technical Specifications which reference “SUBMITTALS” under PART 1 – GENERAL of each section.

1.2 ADMINISTRATIVE

- .1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples in SI Metric units.
- .4 Where items or information is not produced in SI Metric units, converted values are acceptable.
- .5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10 Keep one reviewed copy of each submission on site.

1.3 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit drawings bearing stamp and signature of qualified Professional Engineer registered or licensed in Province of Nova Scotia, Canada.
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

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- .4 Allow ten (10) business days, unless otherwise noted, for Departmental Representative's review of each submission
 - .5 Adjustments made on shop drawings by the Departmental Representative are not intended to change Contract Price. If adjustments change the original scope of work and therefore the contract value, state such in writing to the Departmental Representative for review prior to proceeding with Work.
 - .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
 - .7 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
 - .8 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and 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 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 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.

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- .11 Submit electronic copy of product data sheets or brochures for requirements requested in specification Sections and as requested by the Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
 - .12 Submit electronic copy of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within 2 years of date of contract award for project.
 - .13 Submit electronic copy of certificates for requirements requested in specification Sections and as directed by Departmental Representative.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
 - .14 Submit electronic copy of manufacturer's instructions for requirements requested in specification Sections unless otherwise directed by Departmental Representative.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
 - .15 Submit electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Documentation of the testing and verification actions by manufacturer's representative to confirm compliance with manufacturer's standards and instructions.
 - .16 Delete information not applicable to project.
 - .17 Supplement standard information to provide details applicable to project.
 - .18 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, electronic copy will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
 - .19 The review of shop drawings by Departmental Representative is for sole purpose of ascertaining conformance with general concept.
 - .1 This review shall not mean that Departmental Representative approves detail design inherent in 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 requirements of construction and Contract Documents.
 - .2 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 processes or to techniques of construction and installation and for co-ordination of Work of sub-trades.

1.4 SAMPLES

- .1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's site office.
- .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.5 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract. No site work to occur until insurance transcript has been received.
- .3 Submit Certificates of Conformance to the Departmental Representative, stating that the component(s) has been installed in conformance with the approved shop drawings. Certificate of Conformance to bear the seal and signature of a Professional Engineer licensed in the province of Nova Scotia.
- .4 Certificates of Conformance required for, but not limited to, the following:
 - .1 All components where shop drawings are required (unless otherwise directed by the Departmental Representative).
 - .2 As specified elsewhere in the Contract Documents.
- .5 If equipment shall be used on top of the existing wharf, please submit a letter signed by a Professional Engineer. See specification 01 10 10 – 1.6.2 and 1.6.3.

1.6 PROCEDURES

- .1 Provide procedures required as specified in the Contract documents or as directed by the Departmental Representative.

1.7 AS-BUILT DOCUMENTS

- .1 Provide As-Built documents in accordance with Sections 01 77 00 Closeout Procedures and as directed by the Departmental Representative.

1.8 OTHER SUBMISSIONS

- .1 Provide a construction schedule and cash flow forecasts updated every month as well as any additional interim updates requested by the departmental representative.
- .2 Provide all other submissions as required by law and the Contract documents.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS)
- .2 Government of Canada
 - .1 Canada Labour Code – Part II (entitled Occupational Health and Safety)
 - .2 Canada Occupational Health and Safety Regulations (COHS)
- .3 Province of Nova Scotia
 - .1 Occupational Health and Safety Act
 - .2 Occupational Health and Safety Regulations made pursuant to the Act
- .4 Part 8 of the National Building Code
- .5 Municipal by-laws and ordinances.

1.2 DEFINITIONS

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

1.3 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit site specific Health and Safety Plan (including site specific hazard assessment): within 10 days of notification of Bid Acceptance and prior to commencement of work.
- .3 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments. Revise plan as appropriate and resubmit within ten (10) working days after receipt of comments.
- .4 Submit revisions and updates made to the Contractor's Health and Safety plan during the course of the Work.

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- .5 Submit records of Contractor's Health and Safety meetings when requested.
 - .6 Submit Construction Safety Checklists after completion.
 - .7 Submit copies of reports of directions issued by Federal, Provincial and Territorial health and safety inspectors.
 - .8 Submit copies of incident and accident reports.
 - .9 Submit WHMIS MSDS – Material Safety Data Sheets.
 - .10 Submit proof of Workers' Compensation Coverage through submission of Letter of Good Standing. Contractor must maintain good standing throughout the duration of the contract.
 - .11 Submit Certificate of Recognition or Letter of Good Standing issued jointly by the Workers' Compensation Board of Nova Scotia and an occupational health and safety organization approved by the Workers' Compensation Board of Nova Scotia.
 - .12 Contractor's responsibility for Health and Safety is not relieved in any way by the Department Representative's review or lack of review of these submittals.
 - .13 Building Permit(s), Compliance Certificates and other permits obtained.
 - .14 Name of Contractor's representative designated to perform Health and Safety supervision on site.

1.4 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.
- .3 Observe and enforce construction safety measures required by:
 - .1 2015 National Building Code of Canada, Part 8;
 - .2 Provincial Worker's Compensation Board;
 - .3 Municipal by-laws 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 Maintain Workers Compensation Coverage for duration of Contract. Submit Letter of Good Standing to Departmental Representative upon request.
- .6 Medical Surveillance: Where prescribed by legislation or regulations, obtain and maintain worker medical surveillance documentation.

1.5 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to the extent that they may be affected by the conduct of Work.

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- .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 statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.6 SITE CONTROL AND ACCESS

- .1 Control work site and entry points. Grant and allow entry to only workers and other 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, boarding and temporary lighting as required.
- .4 Erect signage at entry points and at other strategic locations indicating restricted access and conditions of access. Signage must be professionally made in both official languages or by use of well understood graphic symbols.
- .5 Secure work site against entry when inactive or unoccupied and to protect persons against harm. Provide security guard as deemed necessary to protect site against entry.
- .6 Ensure persons granted access is fitted and wear appropriate personnel protective equipment (PPE). Be responsible for the provision of such PPE to persons who require access to conduct work or perform inspections.

1.7 PROTECTION

- .1 Provide temporary facilities for protection and safe passage of 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, site personnel and protection of the environment over cost and schedule consideration for work.
- .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 and other Notices with Provincial authorities prior to commencement of work.

1.9 PERMITS

- .1 Obtain permits, licenses and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.
- .2 Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify Departmental Representative in writing and obtain Departmental Representative's approval to proceed prior to carrying out that portion of work.

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- .3 Post all permits on site. Submit copies to Departmental Representative.

1.10 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.
 - .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.

1.11 PROJECT/SITE CONDITIONS

- .1 The following are known or potential project related safety hazards at site:
 - .1 Tidal water.
 - .2 Working over water.
 - .3 Buried electrical lines.
 - .4 Overhead electrical lines.
 - .5 Harbour user vessel and vehicle and other commercial traffic.
 - .6 Heavy equipment.
 - .7 Stability of existing structures.
 - .8 Working at heights.
 - .9 Working overhead.
 - .10 Demolition.
 - .11 Exposure.
 - .12 Remote site.
 - .13 Possible night-time work under artificial lighting.
- .2 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.
- .3 Include above items into the hazard assessment program specified herein.

1.12 SAFETY MEETINGS

- .1 Prior to commencement of work attend health and safety meeting conducted by Departmental Representative. Departmental Representative will advise of time and location. Ensure attendance of:
 - .1 Superintendent of Work.
 - .2 Designated Health and Safety Site Representative
 - .3 Subcontractors.
- .2 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations.
- .3 Keep documents on site.

1.13 HEALTH AND SAFETY PLAN

- .1 Develop written site-specific Project Health and Safety Plan, based on hazard assessments, prior to commencement of work. Submit plan to Departmental Representative within 10 calendar days of Contract Award date.
- .2 Health and Safety Plan shall contain the following components:
 - .1 List of health risks and safety hazards identified by hazard assessments.
 - .2 Control measures used to mitigate risks and hazards identified.
 - .3 On-site Contingency and Emergency Response Plan as specified below.
 - .4 On-site Communications Plan as specified below.
 - .5 Name of Contractor's designated Health and Safety Site Representative and information showing proof of their 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.
 - .7 On-site Contingency and Emergency Response Plan shall include:
 - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
 - .2 Evacuation plan: site layouts showing escape routes, marshalling areas. Details of alarm notification methods, fire drills, location of firefighting equipment and other related data.
 - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
 - .4 Emergency Contacts: name and telephone number of officials from Contractor, Sub-Contractors, federal and provincial departments having jurisdiction, local emergency resource organization.
 - .5 Harmonize plan with harbour Authority's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of DFO and Harbour Authority contacts.
 - .8 On-site Communications Plan:
 - .1 Procedures for sharing of work related safety information to workers and Sub-Contractors, including emergency and evacuation measures.

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- .2 List of critical work activities shall be communicated with the Harbour Authority which have a risk of endangering health and safety of end users.
 - .9 Address all activities of the Work including those of Sub-Contractors.
 - .10 Review and update Health and Safety Plan regularly during the Work. Update as conditions warrant addressing additional health risks and safety hazards, such as whenever new trade or Sub-Contractors arrive at Work site.
 - .11 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Health and Safety Plan with correction of deficiencies or concerns.
 - .12 Post copy of the Health and Safety Plan, and updates, prominently at Work site.

1.14 SAFETY SUPERVISION AND INSPECTIONS

- .1 Designate Health and Safety Site Representative to be present on site at all times during work, responsible for supervising health and safety and conducting safety inspections of work site.
- .2 Health and Safety Representative shall be recently trained in First Aid.
- .3 Health and Safety Representative shall be assigned the responsibility and authority to:
 - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work.
 - .2 Conduct site safety orientation session to persons granted access to the Work site.
 - .3 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.
 - .4 Authority to stop and start work as deemed necessary for reasons of health and safety.
- .4 Conduct regularly scheduled safety inspections of work site as follows:
 - .1 Informal Inspections: carry out 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.
- .5 Cooperate with harbour Authority's Health and Safety Site Coordinator responsible for the entire site or facility, should one be designated by Departmental Representative.
- .6 Maintain safety inspection documentation on site

1.15 TRAINING

- .1 Ensure that workers, subcontractors and other authorized persons granted access to site are effectively trained in occupational health and safety and practices pertinent to their assigned tasks.
- .2 Maintain employee records and evidence of training received.

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- .3 Make training records readily available for review by Departmental Representative upon request.
 - .4 Should any unforeseen or peculiar safety-related factor, hazard or condition become evident during performance of Work immediately stop work and advise Department Representative verbally and in writing.
 - .5 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.

1.16 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:
 - .1 Wear personal protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat, reflective vest, personal flotation device if working near or over water, safety footwear and eye protection where appropriate.
 - .2 Immediately report unsafe activities, conditions, near-miss accidents, injuries and damages.
 - .3 Maintain site and storage areas in tidy condition free of hazards causing injury.
 - .4 Obey warning signs and safety tags.
- .2 Brief workers on site safety rules, and on the disciplinary measures to be taken for violation or non-compliance of such rules. Post such information on site.

1.17 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction of by the 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 immediately report to Departmental Representative incidents that:
 - .1 Are Near Misses.
 - .2 Require reporting to Provincial Department of Occupational Safety and Health, Workers' Compensation Board or to other regulatory agency.
 - .3 Medical aid injuries.
 - .4 Cause property damage,
 - .5 Cause interruption to Facility operations that were unforeseen and were not planned for,
 - .6 Required notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable regulations.

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- .2 Submit report in writing.

1.19 HAZARDOUS PRODUCTS

- .1 Comply with requirements of Workplace Hazardous Materials Information Systems (WHMIS).
- .2 Keep MSDS data sheets on site. Provide copies of all data sheets to Departmental Representative upon receipt of materials on site.
- .3 Post all MSDS data sheets on site, in a common area, visible to workers.

1.20 BLASTING

- .1 Blasting or other use of explosives is not permitted.

1.21 POWDER ACTUATED DEVICES

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

1.22 CONFINED SPACES

- .1 Abide by occupational health and safety regulations regarding work in confined spaces.
- .2 Safety for Inspectors:
 - .1 Provide PPE and training to Departmental Representative and other persons who require entry into confined spaces to perform inspections.
 - .2 Be responsible for efficacy of equipment and safety of persons during their entry and occupancy in the confined space.

1.23 POSTING OF DOCUMENTS

- .1 Post documents indicated herein and as required by Authority having jurisdiction.

1.24 RECORDS ON SITE

- .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.
 - .3 Incident reports.
 - .4 Tool box and safety meeting minutes.
- .3 Make available to Departmental Representative, or authorized safety representative, for inspection upon request.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 None

1.2 REFERENCES

- .1 WHMIS: Workplace Hazardous Materials Information System, Health Canada.
- .2 Transportation of Dangerous Goods Act. Transport Canada, amended 2011-11-09.
- .3 Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters, Department of Fisheries and Oceans Canada, 1998.
- .4 MBCA: Migratory Birds Convention Act, Environment Canada, 1994.
- .5 Canadian Coast Guard Regulations, Department of Fisheries and Oceans Canada.
- .6 Canadian Shipping Act, Transport Canada, 2001.
- .7 AWWPA: American Wood Preserver Association

1.3 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.
- .2 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.
- .3 Alien species: refers to a species or subspecies introduced outside its normal distribution whose establishment and spread threaten ecosystems, habitats or species with economic or environmental harm.

1.4 TRANSPORTATION

- .1 Transport hazardous materials and hazardous waste in compliance with Federal Transportation of Dangerous Goods Act.
- .2 Do not overload trucks when hauling material. Secure contents against spillage.
- .3 Maintain trucks clean and free of mud, dirt and other foreign matter.
- .4 Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the Work. Take extra care when hauling materials. Immediately clean any spillage and soils.
- .5 Before commencement of work, advise a Departmental Representative of the existing roads and temporary routes proposed to be used to access work areas and to haul material to and from the site.
- .6 Machinery is not allowed in water. Refer to 1.6 for equipment requirements that may come in contact with water.

1.5 HAZARDOUS MATERIAL HANDLING

- .1 Handle and store hazardous materials on site in accordance with WHMIS procedures and requirements.
- .2 Store all hazardous liquids in location and manner to prevent their spillage into the environment.
- .3 Maintain written inventory of all hazardous materials kept on site. List product name, quantity and storage date.
- .4 Keep MSDS data sheets on site for all items.

1.6 PETROLEUM, OIL, AND LUBRICANTS

- .1 Comply with Federal and Provincial laws, regulations, codes and guidelines for the storage of fuel and petroleum products on site.
- .2 Do not place fuel storage tanks and store fuel or other petroleum products within a 30 meter buffer zone of watercourses and wetlands. Do not fuel or lubricate equipment within this 30 meter buffer zone. Obtain approval from Departmental Representative of acceptable location on site for fuel storage and equipment service.
- .3 Do not dump petroleum products or any other deleterious substances on ground or in the water.
- .4 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.
- .5 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.
- .6 Maintain vehicles and equipment in good working order to prevent leaks on site.
- .7 In the event of a petroleum spill, immediately notify the Departmental Representative and the Canadian Coast Guard (CCG) at 1-800-565-1633 (24 hour report line). Perform clean-up in accordance with all regulations and procedures stipulated by authority having jurisdiction.

1.7 DISPOSAL OF WASTES

- .1 Do not bury rubbish, demolition debris and waste materials on site.
- .2 Dispose and recycle demolition debris and waste materials in accordance with project waste management requirements specified in section 01 74 21.
- .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints, thinners etc.) and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.
- .4 Dispose of hazardous waste in accordance with applicable federal and provincial laws, regulations, codes and guidelines.

1.8 EXCAVATED MATERIAL

- .1 All stockpiled soil must be dyked (complete with silt fencing) to prevent erosion and release of sediment laden water.

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- .2 If any material is excavated during the proposed project activities then the Departmental Representative must be consulted to identify an appropriate stockpile location for the excavated material to ensure the material, or any part of the material, does not re-enter any waterbody.
 - .3 Excavated material shall be tested if it is to leave DFO-SCH property. If testing of material is required the cost will be the responsibility of the Crown.

1.9 WATER QUALITY

- .1 Visually monitor the water turbidity of the surrounding areas adjacent to the work and up to 200 meters.
 - .1 Should excessive change occur in the turbidity beyond the 200 meters which differs from existing conditions of the surrounding water bodies, such as a distinct colour difference; stop the work and notify the Departmental Representative to obtain appropriate mitigation measures to be followed.
- .2 Any construction debris entering the marine environment will be immediately retrieved when it is safe to do so.
- .3 The construction material used must be clean and non-toxic (free of fuel, oil, grease, and/or any contaminants).
- .4 The Contractor shall develop, submit for review and implement an Erosion and Sediment Control Plan.

1.10 SOCIOECONOMIC RESTRICTIONS

- .1 Must 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 Equip equipment and machinery with purposely designed mufflers to reduce noise on site to lowest possible level. Maintain mufflers in good operating condition at all times.
- .4 Adequate signage and safety measures must be supplied during transportation of materials and equipment to the harbour.

1.11 BIRD AND BIRD HABITAT

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

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- .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 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.
 - .7 Ensure that food scraps and garbage are not left at the work site.
 - .8 Project vehicles will keep to designated project transportation routes and stay within DFO-SCH property boundaries.
 - .9 No staging of vehicles or equipment/material storage will take place on any beaches, wetlands or dunes, unless otherwise advised, via permit, by Departmental Representative. The project footprint will not encroach/impact these abovementioned areas.

1.12 AIR QUALITY

- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
- .2 Apply dust control measures to roads, parking lots and work areas.
- .3 Spray surfaces with water or other environmentally approved product. Use purposely suited equipment or machinery and apply in sufficient quantity and frequency to provide effective result and continued dust control during the entire course of the work.
- .4 Do not use oil or any other petroleum products for dust control.

1.13 FIRES

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

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 77 00 – Closeout Procedures

1.2 DEFINITIONS

- .1 Quality Control (QC): The process of checking specific product or services to determine if they comply with relevant quality standards and identify ways to eliminate causes of unsatisfactory product or service performed.
- .2 Quality Assurance (QA): The process of ensuring that the Contractor's Quality Management Plan (QMP) (QC, non-conformances, etc.) is being followed. The results of the QA are provided as feedback to both the Contractor and the Departmental Representative. Where required, the Contractor shall implement changes to the project based on the feedback received from the QA process.

1.3 INSPECTION

- .1 Allow Departmental Representative adequate time and access to Work. If part of Work is in preparation at locations other than Place of Work, allow time and access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, 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, until particular inspections or tests have been fully and satisfactorily completed and until such time as Departmental Representative gives permission to proceed. Pay costs to uncover 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 cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.
- .5 The Departmental Representative shall participate in the taking of survey of all quantities with the Contractor responsible to complete the surveys in the presence of the Departmental Representative.

1.4 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will be engaged and coordinated by Departmental Representative for purpose of inspecting and/or testing portions of Work. These agencies include, but are not limited to, concrete testing, coating testing and inspection, aggregate tests, compaction tests. Cost of such services will be borne by Departmental Representative. The Contractor remains responsible for:

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- .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 as specified within various sections designated to be carried out by Contractor under the supervision of Departmental Representative.
- .2 Provide equipment and materials required for executing inspection and testing by appointed agencies.
 - .3 Employment of inspection/testing agencies does not relax responsibility of Contractor 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 additional cost to Contract. Contractor shall pay costs for retesting and re-inspection.

1.5 ACCESS TO WORK

- .1 Allow inspection/testing agencies access and required time to Work, off site manufacturing and fabrication plants.
- .2 Co-operate to provide reasonable facilities for such access.
- .3 Make good work disturbed by inspections and tests.

1.6 PROCEDURES

- .1 Notify appropriate agency and Departmental Representative sufficiently in advance of when work is ready for tests, in order for Departmental Representative to make attendance arrangements with Testing Agency. When directed by Departmental Representative, notify such agency directly.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Deliver in required quantities to Testing Agency. Submit with reasonable promptness and in an 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 on site for Testing Agency's exclusive use to store equipment and cure test samples.

1.7 REJECTED WORK

- .1 Remove defective Work, whether result of poor workmanship, use of defective or damaged products 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 damages to existing or new work, including work of other Contracts, resulting from removal or replacement of defective work.
- .3 If in opinion of Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Departmental Representative 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.

1.8 TESTING BY CONTRACTOR

- .1 Provide all necessary instruments, equipment and qualified personnel to perform tests designated as Contractor's responsibilities herein or elsewhere in the Contract Documents. Contractor is responsible for recording pile driving data. Data will be reviewed by Departmental Representative.

1.9 REPORTS

- .1 Submit the original and electronic copy of inspection and test reports to Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested and manufacturer or fabricator of material being inspected or tested.

1.10 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as requested and as specified in relevant Technical Specification section.
- .2 Cost 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.

1.11 MILL TESTS

- .1 Submit mill test certificates as required of specification Sections or as requested by Departmental Representative.

END OF SECTION

Part 1 General

1.1 SITE ACCESS AND PARKING

- .1 Contractor's access to project site as well as parking facilities for equipment and workers will be by arrangement with the Harbour Authority.
- .2 The Contractor is advised that while parking facilities for workers and subcontractors will be on DFO-SCH property, such parking facilities may be removed from the actual site of the work. In any case, follow all instructions from the Harbour Authority in regards to parking facilities.
- .3 Parking facilities at site are limited. Make arrangements elsewhere for Contractor's vehicles including those of subcontractors and workers by consultation with the Harbour Authority.
- .4 Build and maintain temporary access roads and provide snow removal and dust control during period of work.
- .5 Maintain existing roads and parking areas at site, where used by Contractor, for duration of contract.
 - .1 Keep clean and free of mud and dirt by washing on a regular basis.
 - .2 Provide snow removal in areas located within construction site or enclosed by work.
 - .3 Make good and repair damage resulting from Contractor's use of existing roads, asphalted areas and lawns on site. This will be strictly enforced.

1.2 CONTRACTOR'S SITE OFFICE

- .1 Be responsible for and provide own site office, if required, including electricity, heat, lights and telephone. A laydown area has not been identified on the tender drawings. The laydown area shall be negotiated with the Harbour Authority of Glace Bay, attention Herb Nash (902) 577-2820.

1.3 MATERIAL STORAGE

- .1 Material storage space on site is limited. Coordinate delivery to minimize storage period on site before being needed for incorporation into work.

1.4 SITE ENCLOSURES

- .1 Provide temporary fence to enclose various construction areas of work site.
- .2 Erect plastic mesh fence constructed as follows:
 - .1 1200 mm height, constructed of high-density polyethylene mesh fence fabric, orange in color.
 - .2 Supported by steel T-bar posts or other similar framing, of sufficient quantity, adequate spacing and set firmly in ground to secure fence against sags.
 - .3 Inspect fence regularly, repairing sags and damaged sections.
 - .4 Incorporate within fence one operable truck gate and one pedestrian gate.

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- .3 Make all gates lockable and provide keyed padlocks.
 - .4 Obtain Departmental Representative's approval beforehand of location and layout of all temporary fence enclosures.
 - .5 Provide battery powered lanterns around the perimeter of the site enclosure to clearly mark its location at night.
 - .6 Provide warning signs affixed to all fenced areas, identifying those enclosed areas as "Construction Zones" with access restricted to only those persons so authorized by General Contractor.

1.5 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.

1.6 ENCLOSURE OF STRUCTURE

- .1 Design enclosures to withstand wind pressure, tides, ice and snow loading.

1.7 POWER AND LIGHTING

- .1 Power supply may be available and may be provided for construction usage, pending negotiation for same with the Harbour Authority.
 - .1 Make arrangements for the use of such services through the Harbour Authority and negotiate fee to use the service prior to commencing the work.
 - .2 DFO/SCH and the Harbour Authority will designate and approve each location of existing power source to which connections can be made to obtain temporary power service.
 - .3 Connect to existing power supply in accordance with Canadian Electrical Code.
- .2 Provide and maintain temporary lighting to conduct work and to provide temporary lighting for the structures between April 1st and November 1st of any year (between 4:00 AM and 9:00 PM) during the construction period between the time whenever the current lighting system is disconnected and the new lighting system is connected. This may include areas outside of work areas if the lighting in those areas has been compromised. Ensure illumination level is not less than 162 lx in all locations. Temporary lighting shall be considered incidental to the work.
- .3 Power used for heating and hoarding will require self-contained power supply units supplied by the contractor. No connection will be available from Harbour Authority services for this power requirement.

1.8 WATER SUPPLY

- .1 Water supply may be available on site and may be provided for construction usage, pending negotiation with the Harbour Authority. Make arrangements for the use and transportation of such services to work area through the Harbour Authority.

1.9 CONSTRUCTION SIGNS AND NOTICES

- .1 Contractor or subcontractor advertisement signboards are not permitted on site.
- .2 Safety and Instruction Signs and Notices:
 - .1 Signs and notices for safety and instruction shall be in both official languages or commonly understood graphic symbols conforming to CAN3-Z321-96(R2006).
- .3 Maintenance and Disposal of Site Signs:
 - .1 Maintain approved signs and notices in good condition for duration of project and dispose of offsite upon completion of project or earlier if directed by Departmental Representative.

1.10 REMOVAL OF TEMPORARY FACILITIES

- .1 Remove temporary facilities from site when directed by Departmental Representative.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 35 29.06 – Health and Safety
- .3 Section 01 35 43 – Environmental Procedures

1.2 REFERENCES

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB 1.189-00, Exterior Alkyd Primer for Wood.
 - .2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA-0121-M1978 (R2003), Douglas Fir Plywood.
 - .3 CAN/CSA-S269.2-M1987 (R2003), Access Scaffolding for Construction Purposes.
 - .4 CAN/CSA-Z321-96 (R2001), Signs and Symbols for the Occupational Environment.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit shop drawings for all temporary structures which are required to be engineered. Shop drawings submitted to bear signature and stamp of qualified professional engineer registered or licensed in Province of Nova Scotia, Canada.

1.4 INSTALLATION AND REMOVAL

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .2 Identify areas which have to be gravelled to prevent tracking of mud.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

1.5 SCAFFOLDING

- .1 Scaffolding in accordance with CAN/CSA-S269.2.
- .2 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms and temporary stairs as required.

1.6 HOISTING

- .1 Provide, operate and maintain hoists required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2 Hoists and cranes to be operated by qualified operator. Cranes must be certified and inspected on a regular basis.

1.7 SITE STORAGE/LOADING

- .1 Confine work and operations of employees to an area agreed to by the Departmental Representative. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load existing structures or any part of Work with weight or force that will endanger existing structures or the new Work.
- .3 The capacity of existing structures is unknown.

1.8 CONSTRUCTION PARKING

- .1 Parking will be permitted in the identified Lay-Down area (as indicated by Departmental Representative) only.
- .2 Provide and maintain adequate access to project site.
- .3 Keep parking areas clean and maintain during period of Contract.

1.9 SECURITY

- .1 If deemed necessary by the contractor, provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays.

1.10 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.11 CLEAN-UP

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Make good any road surfaces as good or better than their original condition upon completion of the work.
- .4 Store materials resulting from demolition activities that are salvageable.
- .5 Stack stored new or salvaged material not in construction facilities.

Part 2 Products

Not Used.

Part 3 Execution

3.1 GENERAL

- .1 Construct and maintain construction facilities in accordance with applicable Sections contained in these specifications.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties, watercourses, and walkways, according to requirements of authorities having jurisdiction.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 None

1.2 REFERENCES

- .1 Owner's identification of existing survey control points and property limits.

1.3 SURVEY REFERENCE POINTS

- .1 Locate, confirm and protect working/datum points prior to starting site work.
- .2 Make no changes or relocations without prior written notice to Departmental Representative.
- .3 Report to Departmental Representative when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

1.4 SURVEY REQUIREMENTS

- .1 Establish lines and levels, locate and lay out, by instrumentation.

1.5 EXISTING SERVICES

- .1 Before commencing work, establish location and extent of active (or previously abandoned) service lines in area of Work and notify Departmental Representative of findings.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit name and address of Surveyor to Departmental Representative for approval.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

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

1.2 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Harbour Authority or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .3 Clear snow and ice from access to site, bank/pile snow in designated areas only.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Provide and use marked separate bins for recycling. Refer to Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .7 Dispose of waste materials and debris off site.
- .8 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .9 Provide adequate ventilation during use of volatile or noxious substances.

1.3 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .3 Remove waste products and debris including that caused by other Contractors, and leave Work clean and suitable for occupancy.
- .4 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .5 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .6 Inspect finishes and ensure specified workmanship and operation.
- .7 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .8 Remove dirt and other disfiguration from exterior surfaces.
- .9 Sweep and wash clean finished paved and concreted areas within the work site.
- .10 Clean downspouts and drainage systems.

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- .11 Remove debris and surplus materials from site.
 - .12 Remove snow and ice from access to site.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

END OF SECTION

Part 1 General

1.1 WASTE MANAGEMENT GOALS

- .1 Prior to start of Work conduct meeting with Departmental Representative to review and discuss DFO-SCH Waste Management Plan and Goals.
- .2 Accomplish maximum control of solid construction waste.
- .3 Preserve environment and prevent pollution and environmental damage.

1.2 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures

1.3 REFERENCES

- .1 Nova Scotia Environment Act
- .2 NSTAT Standard Specifications

1.4 DEFINITIONS

- .1 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .2 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .3 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .4 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .5 Salvage: removal of structural and non-structural structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .6 Separate Condition: refers to waste sorted into individual types.
- .7 Source Separation: act of keeping different types of waste materials separate beginning from the point they became waste.
- .8 Waste Audit (WA): detailed inventory of estimated quantities of waste materials that will be generated during construction, demolition, deconstruction and/or renovation. Involves quantifying by volume/weight amounts of materials and wastes that will be reused, recycled or landfilled.

1.5 STORAGE, HANDLING AND PROTECTION

- .1 Store, materials to be reused, recycled and salvaged.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .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.
- .5 Provide on-site facilities and containers for collection and storage of reusable and recyclable materials.
- .6 Separate and store materials produced during project in designated areas.
- .7 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated processing facilities.
 - .1 On-site source separation is required.
 - .2 Remove co-mingled materials to off-site processing facility for separation.
 - .3 Obtain waybills, receipts and/or scale tickets for separated materials removed from site.

1.6 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil, paint thinner and the like into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
 - .1 Number and size of bins.
 - .2 Waste type of each bin.
 - .3 Total tonnage generated.
 - .4 Tonnage reused or recycled.
 - .5 Reused or recycled waste destination.
- .4 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in the waste audit.
- .6 All creosote or other treated timbers removed from the work to be disposed of in a Provincial approved manner.
- .7 The Contractor shall develop, submit for review and implement a Waste Management Plan and Certification of Material Diversion.

1.7 USE OF SITE FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain security measures established by DFO-SCH and The Harbour Authority

1.8 SCHEDULING

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

Part 2 Products

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 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Clean up Work area as work progresses.
- .2 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
- .3 Source separate materials to be reused/ recycled into specified sort areas.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 78 00 - Closeout Submittals.

1.2 INSPECTION AND DECLARATION

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection:
 - .1 Coordinate and perform, in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
 - .2 Notify Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .3 Request Departmental Representative's Inspection.
 - .2 Departmental Representative's Inspection:
 - .1 Accompany Departmental Representative during all substantial and final inspections of the Work.
 - .2 Contractor to correct Work accordingly.
 - .3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:
 - .1 Work: completed and inspected for compliance with Contract Documents.
 - .2 Defects: corrected and deficiencies completed.
 - .3 Work: complete and ready for final inspection.
 - .4 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Departmental Representative and Contractor.
 - .2 When Work is incomplete according to Departmental Representative, complete outstanding items and request re-inspection.
 - .5 Declaration of Substantial Performance:
 - .1 When Departmental Representative considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
 - .2 Note that Departmental Representative will not issue a Certificate of Substantial Performance of the work until such time that Contractor performs following work and turns over the specified documents:
 - .1 Project record as-built documents;
 - .2 Reports resulting from designated tests;
 - .3 Commissioning reports;

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- .6 Final Payment:
 - .1 When Departmental Representative considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .2 When Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.
 - .7 Payment of Holdback:
 - .1 After issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.
 - .8 Notify 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.
 - .9 Address defects, faults and outstanding items of work identified by such inspections.
 - .10 Advise Departmental Representative when all deficiencies identified have been rectified.

1.3 FINAL CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Remove surplus materials, excess materials, rubbish, tools and equipment. Remove waste and surplus materials, rubbish and construction facilities from the site in accordance with applicable sections of these specifications.
- .2 Waste Management: separate waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

END OF SECTION

Part 1 General

- .1 This section covers the removal of existing asphalt concrete pavement.

Part 2 Products

Not Used.

Part 3 Execution

3.1 PREPARATION

- .1 Prior to commencing removal operation, inspect and verify with Departmental Representative areas, depths and lines of asphalt concrete pavement to be removed.

3.2 REMOVAL

- .1 Remove existing asphalt pavement to lines and grades as indicated.
- .2 Use equipment and methods of removal and hauling which do not tear, gouge, break or otherwise damage or disturb underlying pavement.
- .3 Prevent contamination of removed asphalt concrete pavement and granular base by topsoil, underlying gravel or other materials.
- .4 Provide for suppression of dust generated by removal process.
- .5 Compact underlying material in areas of complete removal of asphalt concrete.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 33 00 – Submittal Procedures
- .2 Section 01 74 21 – Construction/Demolition Waste Management and Disposal
- .3 Section 32 01 16 – Removal of Existing Asphalt

1.2 REFERENCES

- .1 American Association of State Highway and Transportation Officials (AASHTO)
 - .1 AASHTO M320-10, Standard Specification for Performance Graded Asphalt Binder.
 - .2 AASHTO R29-02, Standard Specification for Grading or Verifying the Performance Graded of an Asphalt Binder.
 - .3 AASHTO T245-97(2004), Standard Method of Test for Resistance to Plastic flow of Bituminous Mixtures Using Marshall Apparatus.
 - .4 AASHTO M157, Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
 - .5 AASHTO T283, Resistance of Compacted Bituminous Mixture to Moisture Induced Damage.
- .2 Asphalt Institute (AI)
 - .1 AI MS-2-1994 Sixth Edition, Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types.
- .3 ASTM International
 - .1 ASTM C88-05, Standard Test Method for Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate.
 - .2 ASTM C117-04, Standard Test Method for Material Finer Than 0.075mm (No.200) Sieve in Mineral Aggregates by Washing.
 - .3 ASTM C123-04, Standard Test Method for Lightweight Particles in Aggregate.
 - .4 ASTM C127-07, Standard Test Method for Specific Gravity and Absorption of Coarse Aggregate.
 - .5 ASTM C128-07a, Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate.
 - .6 ASTM C131-06, Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
 - .7 ASTM C136-06, Standard Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .8 ASTM C207-2006, Standard Specification for Hydrated Lime for Masonry Purposes.
 - .9 ASTM D75, Practices for Sampling Aggregates.
 - .10 ASTM D140, Practice for Sampling Bituminous Materials.

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- .11 ASTM D546, Test Method for Sieve Analysis of Mineral Filler for Road and Paving Materials.
 - .12 ASTM D1559, Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus.
 - .13 ASTM D2041, Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.
 - .14 ASTM D2419-09, Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
 - .15 ASTM D2726, Test Method for Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens.
 - .16 ASTM D2950, Test Method for Density of Bituminous Concrete in Place by Nuclear Method.
 - .17 ASTM D3203-94(2005), Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures.
 - .18 ASTM D3515, Specification for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
 - .19 ASTM D4469, Method for Calculating Percent Asphalt Absorption by the Aggregate in an Asphalt Paving Mixture.
 - .20 ASTM D4791-05e1, Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate.
 - .4 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-8.1-88, Sieves Testing, Woven Wire, Inch Series.
 - .2 CAN/CGSB-8.2-M88, Sieves Testing, Woven Wire, Metric.
 - .5 Nova Scotia Department of Transportation and Active Transit (NSTAT)
 - .1 Standard Specifications Highway Construction and Maintenance.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00.
- .2 Submit with tender:
 - .1 Source of supply of PGAB. Supplier must be on NSTAT's list of approved suppliers.
- .3 Certificates of Approval:
 - .1 Submit certificate of approval for the Asphalt Concrete Plant from the Nova Scotia Department of the Environment prior to the commencement of work.
 - .2 Submit written approval for the Material Transfer Vehicle from the NSTAT.
- .4 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for asphalt mixes and aggregate and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit current test result data and certification that PGAB meets the requirements of this section.

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- .3 Submit manufacturer's test data and certification that hydrated lime meets requirements of this Section.
 - .4 Submit asphalt concrete mix design and trial mix test results to Departmental Representative for review at least 4 weeks prior to beginning work.
 - .5 Samples:
 - .1 Submit samples in accordance with Section 01 33 00.
 - .2 Inform Departmental Representative of proposed source of aggregates and provide access for sampling at least 4 weeks prior to beginning Work.
 - .3 Submit samples of following materials proposed for use at least 4 weeks prior to beginning Work.
 - .1 One 1 L container of PGAB.
 - .2 90 kg of hydrated lime.

1.4 WASTE MANGEMENT AND DISPOSAL

- .1 Separate waste materials for disposal in accordance with Section 01 74 21.
- .2 Divert unused asphalt concrete from landfill to facility capable of recycling materials.

1.5 DEILVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with NSTAT Standard Specification, Division 4 Section 2 - Performance Graded Asphalt Binder (PGAB) and Division 4 Section 4 - Asphalt Concrete Hot Mixed - Hot Placed (Method Specification).

Part 2 Products

2.1 MATERIALS

- .1 Asphalt Tack Coat: Rapid Setting Emulsified Asphalt RS-1 in accordance with Section 32 12 13.16 - Asphalt Tack Coat
- .2 Asphalt Binder: Performance Graded Asphalt Binder PG58-28, in accordance with NSTAT Standard Specification, Division 4 Section 2 - Performance Graded Asphalt Binder (PGAB).
- .3 Asphalt Concrete: hot mixed, hot-placed combination of mineral aggregates, uniformly coated and mixed with an asphaltic binder in a suitable mixing plant. Asphalt materials and aggregates shall meet the requirements of NSTAT Standard Specification, Division 4 Section 4 - Asphalt Concrete Hot Mixed - Hot Placed (Method Specification).
- .4 Composition of Asphalt Concrete: to grading and asphalt content to meet requirements of NSTAT Standard Specification, Division 4 Section 4 - Asphalt Concrete Hot Mixed - Hot Placed (Method Specification), Asphalt Mix Type B-HF and Asphalt Mix Type D-HF, as indicated.

2.2 EQUIPMENT

- .1 General: All equipment involved in the manufacture, transporting, placing, compaction, finishing and measurement shall be capable of producing a carefully controlled mixture thoroughly mixed to be free from segregation and contamination and then placed and

compacted to a uniform density and smooth finish. Equipment shall be in accordance with NSTAT Standard Specification, Division 4 Section 4 - Asphalt Concrete Hot Mixed – Hot Placed (Method Specification).

- .2 Material Transfer Vehicle (MTV) shall be used in the placement of all asphalt concrete on this project.

Part 3 Execution

3.1 PREPARATION

- .1 Temporary Erosion and Sedimentation Control:
 - .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control plan.
 - .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
 - .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- .2 Reshape granular subbase as required.
- .3 When paving over existing asphalt surface, clean pavement surface to approval of Departmental Representative.
 - .1 When levelling course is not required, patch and correct depressions and other irregularities to approval of Departmental Representative before beginning paving operations.
- .4 Prior to placing mix, prepared surface shall be free from standing water and cleaned of all loose and foreign material.
- .5 Construct transverse keyed joints in existing asphalt concrete surface at each end of construction. Keyed joints shall be cut at a 45 degree transverse angle at a depth of 50 mm and tapered over 10 m.
- .6 Paving after October 31st and before May 15th requires approval by the Departmental Representative.

3.2 TRANSPORTATION OF MIX

- .1 Loading, Transporting and Unloading: in accordance with Clause 5. 2 of NSTAT Standard Specification, Division 4 Section 4 - Asphalt Concrete Hot Mixed – Hot Placed (Method Specification).

3.3 PLACING

- .1 Obtain Departmental Representative's approval of base prior to placing asphalt.
- .2 Place asphalt concrete to thicknesses, grades and lines as indicated in accordance with Contract Drawings.
- .3 Place asphalt concrete in accordance with NSTAT Standard Specification, Division 4 Section 4 - Asphalt Concrete Hot Mixed – Hot Placed (Method Specification).

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- .1 Material Transfer Vehicle (MTV) shall be used in the placement of all asphalt concrete on this project.

3.4 COMPACTING

- .1 Compact asphalt concrete in accordance with NSTAT Standard Specification, Division 4 Section 4 - Asphalt Concrete Hot Mixed – Hot Placed (Method Specification).

3.5 FINISH TOLERANCES

- .1 Finished asphalt surface to be within 5 mm of design elevation but not uniformly high or low.
- .2 Finished asphalt surface not to have irregularities exceeding 6 mm when checked with 3 m straight edge placed in any direction.

3.6 DEFECTIVE WORK

- .1 Correct irregularities which develop before completion of rolling by loosening surface mix and removing or adding material as required.
 - .1 If irregularities or defects remain after final compaction, remove surface course promptly and lay new material to form true and even surface and compact immediately to specified density.
- .2 Repair areas showing checking, rippling, or segregation.
 - .1 Segregated areas shall be removed by cold milling the full width of the lane and full depth of the lift in which the work is being performed. The asphalt concrete mix used to replace the segregated material shall be the same mix type and thickness as that removed.
- .3 Adjust roller operation and screed settings on paver to prevent further defects such as rippling and checking of pavement.

END OF SECTION