

Marshalling Yard Improvements**Saint John Ferry Terminal****Saint John, New Brunswick****Project No. R.090690.001**

General Instructions

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1. Documents Required .1 Maintain at job site, one copy each of following:
- .1 Contract drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed shop drawings/submissions
 - .5 Change orders
 - .6 Other modifications to Contract
 - .7 Field test reports
 - .8 Copy of approved work schedule
 - .9 Manufacturer's installation and application instructions
2. Site Conditions .1 Records of existing structures and geotechnical reports may be available for inspection at the offices of Public Works and Government Services Canada, 1713 Bedford Row, Halifax, N.S. This material is not necessarily up to date and is for information purposes only. It should be complemented by site visits and consultation with appropriate expertise.
3. Work Schedule And Completion Dates .1 Prepare and submit to the *Departmental Representative* within 5 days of notification of Contract award, one copy of the construction schedule in the form of a bar chart showing the dates for commencement and completion of each major activity of the work, including the work of subcontractors; dates for submissions, review and return of shop drawings, etc.; the dates of Substantial and Final Completion; and intended man hours of labour and equipment for each major item of work. If the schedule as submitted is unacceptable in any way, submit without delay a revised schedule satisfactory to the *Departmental Representative*.
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- .2 **No onsite work will be permitted during the period between July 1, 2020 and September 1, 2020.** During this period:
- .1 The marshalling yard must be fully operational.
 - .2 No gravel or temporary asphalt surfaces are permitted.
 - .3 No construction equipment is permitted to remain on the asphalt surface.
- .3 All asphalt rehabilitation Treatment Two Reconstruction areas must be completed by July 1, 2020. This will include:
- .1 Installation of all underground services.
 - .2 Placement of asphalt to the finished grade.
 - .3 Completion of line painting.
- .4 All work must be completed by October 31, 2020
- .5 The *Departmental Representative* is to notify the Contractor in writing of acceptance of the Construction Schedule. Comply with the Construction Schedule at all times. If, for any reason, the Construction Schedule is not followed, immediately notify the *Departmental Representative* of the change and submit a revised schedule for acceptance. Upon written acceptance by the *Departmental Representative*, this schedule will become the Construction Schedule.
- .6 Whenever required, give further written particulars concerning this schedule. The submission to and acceptance by the *Departmental Representative* of the Contractor's Construction Schedule or the furnishing of details and particulars thereto will not relieve the Contractor of any duties and responsibilities under the Contract.
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| | .7 | Prepare and submit a Sequencing Plan to the Departmental Representative within 5 days of notification of Contract award. The Sequencing Plan will include provisions to maintain public access to the Ferry Terminal and vehicle loading ramp throughout the construction project. |
| 4. Measurement
<u>Responsibilities</u> | .1 | Notify <i>Departmental Representative</i> sufficiently in advance of operations to permit required measurements for payment purposes. |
| 5. Contractor's Use
<u>of Site</u> | .1 | Contractor must maintain access to the Ferry Terminal Building at all times. |
| | .2 | Co-operate with users of existing facilities. |
| | .3 | Should interference's occur, take directions from <i>Departmental Representative</i> . |
| | .4 | Do not unreasonably encumber site with materials or equipment. |
| | .5 | Move stored products or equipment which interfere with operations of <i>Departmental Representative</i> or other Contractors. |
| | .6 | Obtain and pay for use of additional storage or work areas needed for operations. |
| | .7 | Comply with all regulations and authorities having jurisdiction over the work, whether on land or on water. |
| | .8 | Ensure no damage occurs to existing structures as a result of operations. Any said damage will be repaired at Contractor's expense. |
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| | .9 | Provide temporary barriers and warning signs in location where work is adjacent to areas used by public. |
| 6. | | |
| Codes and
<u>Standards</u> | .1 | Perform work in accordance with National Building Code of Canada (NBC) and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements will apply. |
| | .2 | Meet or exceed requirements of specified standards, codes and referenced documents. When a standard or code is outdated, the latest edition will supersede the referenced date. |
| | .3 | Observe and enforce construction safety measures by Canadian Construction Safety Code and Construction Safety Code of New Brunswick. In the event of conflict between any provisions of above authorities the most stringent provision will apply. |
| 7. | | |
| <u>Project Meetings</u> | .1 | <i>Departmental Representative</i> will arrange project meetings and assume responsibility for setting times and recording and distributing minutes. |
| 8. | | |
| Setting Out of
<u>Work</u> | .1 | Do all detail surveys necessary for the work, including locating and maintaining working points, and establishing lines and elevations. Perform all layout work, and carefully preserve benchmarks, reference points and stakes. |
| | .2 | Provide such masts, scaffolds, batter boards, lines, straight edges, templates and other devices as may be necessary to facilitate layout, construction and inspection of the work. Whenever necessary, suspend work for such reasonable time as may be necessary to permit the <i>Departmental</i> |
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Representative to check or inspect any portion of the Work. The Contractor will not be allowed any extra compensation or time for completion because of this suspension of work.

.3 Elevations for the various grades and features of the specified works to be referenced and properly related to a benchmark, which will be approved by the *Departmental Representative*.

.4 Verify all grades, lines, levels, and dimensions shown on the drawings and report any errors or inconsistencies to the *Departmental Representative* before commencing work. Provide and maintain well-built batterboards at all points to facilitate the progress of the work. Establish all other grades, lines, levels required to facilitate the work.

9. Existing Services

.1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian and vehicular traffic.

.2 Before commencing work, establish location and extent of service lines in area of work and notify *Departmental Representative* of findings.

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

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

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10. Contract Documents .1

Contract Drawings:

- .1 The drawings for the Work consist of all drawings listed in these "Plans and Specifications" and any additional drawings issued at a later date by the *Departmental Representative*.
- .2 *Departmental Representative* may furnish additional drawings to assist in proper execution of work. These drawings will be issued for clarification only. Such drawings will have same meaning and intent as if they were included with plans referred to in Contract Documents.
- .3 The drawings indicate the extent and general dimensions of the work. Make all necessary measurements to ensure that the result of the work is in accordance with the intent.
- .4 Verify all existing conditions in field prior to proceeding with work.

.2 Contract Specifications:

- .1 The general requirements and technical specifications are written solely for the General Contractor. They are organized into the NMS format of separate divisions and sections.
 - .2 Specification language is of the 'Short Form type' for example, where the word "provide" occurs, interpret it to mean "the Contractor shall furnish all labour, material and equipment necessary to complete the work".
 - .3 This Specification and accompanying drawings are intended to describe and provide for a finished project. They are intended to be complementary, and
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what is called for by either will be as binding as if called for by both. The Contractor shall understand that the work herein described will be complete in every detail, notwithstanding that every item necessarily involved is not particularly mentioned, and Contractor will be held to provide all labour, materials and equipment necessary for the entire completion of the work and will not avail themselves of any errors or omissions.

11. Permits and Regulations

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

12. Cutting, Fitting and Patching

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

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13. Record of Construction
- .1 As work progresses, maintain accurate records to show all deviations from the contract drawings, with particular reference to work which will be concealed. Prior to the inspection of the work for the issuance of the Final Certificate of Completion, provide the *Departmental Representative* with one set of white prints of the drawings with all deviations shown neatly thereon.
 - .2 Provide "as built" cross sections of any excavation, dredging or fill work.
14. Payment
- .1 Payment for all work under this contract to be according to the Contract.
 - .2 No separate payment will be made for work specified under any sections of Specification under Division 01. The cost of this work is to be considered as overhead and to be included in the lump sum of the Contract.
 - .3 Dimensional changes as directed by the *Departmental Representative* to suit existing conditions, but not resulting in additional work or materials, will not be considered as extra to the Contract.
15. Site Examination
- .1 All parties tendering should visit the site of the work prior to submission of tenders and make themselves thoroughly acquainted with site conditions, conditions of existing objects to be removed, tides, degree of exposure and all information necessary for the proper carrying out of the work covered by the drawings and this Specification. Submission of Tender will be deemed that Contractor is conversant with site conditions.
 - .2 The *Departmental Representative* will give no consideration whatsoever to any claim by the Contractor resulting from failure to have
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- made all the necessary investigations prior to tendering.
16. Maintenance of Shipping .1 Liaise with the local port officials to coordinate activities such that any interference is minimized.
17. Cooperation & Assistance to Departmental Representative .1 Co-operate with *Departmental Representative* on inspection of work.
- .2 Provide assistance when requested.
18. Datum .1 The datum referred to in this Specification is Chart Datum. Chart Datum is, by International Agreement a plane below which the tide will seldom fall. The Canadian Hydrographic Service has adopted the plane of the lowest normal tide (L.N.T.) as Chart Datum. As the rise, fall, and range of tides varies daily, the Canadian Tide and Current Tables, as issued by the Canadian Hydrographic Service, should be consulted for tidal predictions and other tidal information relating to the work.
19. Contractor's Representative .1 Continuously maintain on the site an authorized representative to whom communication may be addressed and who will be competent to speak for the Contractor in discussing work methods.
20. Workers Compensation .1 Contractor and all sub-contractors must be registered under the Workers Compensation Act and provide evidence of good standing.
- .2 At completion of Contract and before final payment is made, the Contractor will present to the *Departmental Representative* a Letter of Certification from the Workers Compensation Board, showing that all
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- required assessments are paid in connection with all trades.
21. Laws, Standards
Taxes and Fees .1 Comply with all laws and standards governing all or any part of the work, pay all applicable taxes and pay for all permits and certificates required in respect of the execution of the work. Where variances exist between the requirements of agencies governing all or any part of the work, the most restrictive will govern, but in no instance will the standards established by the drawings and this Specification, which exceed such requirements, be reduced.
22. Protection and
Repair .1 Repair any damage resulting from operations under this contract.
23. Location of
Equipment and
Fixtures .1 Location of equipment, fixtures or any appurtenances indicated are to be considered approximate.
24. Inspection and
Testing .1 The *Departmental Representative* may employ an Inspector and/or Testing Company to ensure work conforms with contract.
25. Disposal of
Debris .1 Debris, including construction materials not incorporated in the work, oil products and containers, and other materials of this nature will be disposed of in suitable locations off the site. This includes costs of disposing of contaminated materials such as creosote treated timber. Disposal is the responsibility of the Contractor.
- .2 Material from the work will not be permitted to go adrift or otherwise become a menace to navigation.
26. Existing Soils
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<u>Conditions</u>	.1	Any information pertaining to soils and all boreholes logs are furnished by the <i>Departmental Representative</i> as a matter of general information only and borehole descriptions or logs are not to be interpreted as descriptive of conditions at locations other than those described by the boreholes themselves.
27. Relics And <u>Antiquities</u>	.1	Protect relics, antiquities, items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during course of work.
	.2	Give immediate notice to <i>Departmental Representative</i> and await written instructions before proceeding with work in this area.
	.3	Relics, antiquities and items of historical

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Weigh Scales

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1. Requirements of Regulatory Agencies
 - .1 Prior to use, have weigh scales certified as meeting requirements of Statutes of Canada, Chapter 36, Weights and Measures Act, 1971 and subsequent amendments. Display certificate in a prominent position. No payment will be made for materials weighed on non-certified scales.
 2. Measurement for Payment
 - .1 Supply, installation, inspection, certification, maintenance and removal of scales to be considered incidental to the work.
 3. Equipment
 - .1 Weigh Scales: of sufficient capacity to weigh loaded vehicles in a single operation.
 - .2 Scale House:
 - .1 To enclose mass indicator and in which *Departmental Representative's* representative can perform work and maintain records.
 - .2 To be weatherproof and have minimum 750 lx of illumination, one sliding window facing scale platform, one other window for cross ventilation, shelf desk at least 0.6 x 1.8 m, and heat to maintain inside temperature at 20°C. Entrance door not to face onto scale platform.
 - .3 Provide sufficient number of approved weigh tickets, in triplicate, with consecutive serial numbers.
 - .4 Existing commercial scales may be utilized if available.
 4. Installation
 - .1 Provide, install and maintain scales and scale house convenient to project site at location approved by *Departmental*
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Weigh Scales

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Representative. Ramps to be level for one truck length each side of scale.

- .2 Remove ramps, scales and scale house when no longer required.

5. Maintenance

- .1 Maintain scale platform and scale mechanism clean and free from gravel, asphalt, snow, ice, and debris.
- .2 Maintain approach ramps in good condition free from sags and ruts.
- .3 Have scales retested and recertified if requested by *Departmental Representative*.
- .4 Level approach and exit ramps and regrade to approval of Department Representative.
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Project Particulars and Measurement

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PROJECT PARTICULARS

This project is to reconstruct the asphalt pavement of the Marshalling Yards at the Saint John Ferry Terminal partial with a reconstruction of the storm water management system.

1. Description
of Work

- .1 The work of this contract includes the provision of all materials, labour, equipment, and ancillaries, all as necessary for the completion of the work as indicated on the drawings and as described in the specifications and notes. Work on this project consists generally of, but not limited to, the following:
- .1 Supply, install, and remove all environmental protection measures required, such as silt fences, diversion ditches and check dams.
 - .2 Mill existing asphalt and removal of granulars as indicated.
 - .3 Supply and placement of new granular materials including site grading as indicated.
 - .4 Removal of existing, supply, and install new storm structures and piping as shown on the drawings.
 - .5 Replace existing storm outlet complete with new structure and Armour Stone for protection over the pipe.
 - .6 Install new gravity sanitary pipes from the administration and ferry terminal to the new lift station.
 - .7 Install new sanitary lift station and force main.
 - .8 Remove guardrail and all associated accessories as indicated on drawings.
 - .9 Supply, placing and compacting asphalt as shown on drawings.
 - .10 Supply and install cast-in-place concrete curb and sidewalk.
 - .11 Supply and install new permanent pavement markings.
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Project Particulars and Measurement

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- .12 Supply all necessary temporary road signs and traffic control.
 - .13 Grub and reinstate/re-shape existing drainage swale/ditch, taking utmost care to not impact existing catch basins.
 - .14 Testing & Quality Control of all materials, including but not limited to, concrete, asphalt, granular materials, etc.
 - .15 All other labour, materials and work necessary to complete the project to the Departmental Representative's full satisfaction.

PROJECT MEASUREMENT1. General

- .1 The unit and lump sum prices for all items herein shall be full compensation for the work of the Item and shall include the cost of furnishing all labour, materials, tools, construction utilities and equipment necessary to complete the work in accordance with the Contract, Drawings and Specifications, and shall cover all costs of surety, management, supervision, labour, materials, plant and services, security provisions, and all operations and allowances customary and necessary to complete each item and the Contract as a whole notwithstanding the fact that not every such necessary operation is mentioned or included specifically for measurement.

2. Measurement
For Payment

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

Division 1

Mobilization/Demobilization: All costs associated with mobilization and demobilization will be measure for payment

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Project Particulars and Measurement

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as a Lump Sum. 50% of the Lump Sum Contract Price for mobilization and Demobilization to be paid when mobilization to site is complete. The remainder of the Lump Sum Price for mobilization and demobilization to be paid when work is complete and all materials, equipment, buildings, offices, and other facilities have been removed from site and site is cleaned and left in condition to the satisfaction of the departmental representative and all other Agencies having Jurisdiction.

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

Temporary Washroom Facilities: The contractor shall supply temporary washrooms for staff and visitors while sanitary services are out of service for installation of the new lift station and force main. Facilities shall have a minimum of three male and three female facilities that are wheel chair accessible.

Environmental Procedures: All work associated with the supply, maintenance, and removal of environmental protection measures are to be measured for payment by the lump sum. This item includes all environmental protection, sedimentation and erosion control measures required to complete the project, such as, but not limited to, diversion ditching, silt fences, temporary ground covers and rock flow checks in accordance with the project specifications.

Traffic Regulation: All work associated with the Supply, operation, and maintenance of traffic control, including, but not limited to, temporary barriers, bi-lingual

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construction signage and notices for duration of project.

Testing & Quality Control: Testing & Quality Control of all materials, including but not limited to, concrete, asphalt, granular materials, compaction, etc.

Weigh Scales: Supply, installation, maintenance and removal of weigh scales will be measured for payment by the lump sum.

Division 31

Sitework, Demolition, and Removals: Sitework, demolition, and removals will be considered incidental to other unit items.

Excavation and Backfilling: Excavation and backfilling will be measured for payment by the lump sum.

Rip Rap / Armour Stone: Removal, Salvage, Re-instatement of existing Rip Rap / Armour Stone over existing pipes or where they need to be moved to install new pipes.

Division 32

Pavement Markings: Measurement for payment to re-instate pavement markings, including reflective glass beads, shall be measured for payment by lump sum. Will include centerlines to match existing layout (marshland yard lanes), as well as all intersections, arrows, delineations, special markings and temporary markings, etc. A surveyed line marking drawing will be approved by the departmental representative prior to starting removals of the asphalt.

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Project Particulars and Measurement

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

Division 03

Concrete: Cast-in-place concrete for the curb and sidewalk will be measured for payment by the lineal meter.

Division 32

Asphalt Milling & Removals For
Rehabilitation Treatment #1: pulverization of existing asphalt, including cold planning, cutting, loading, and disposal, will be measured for payment by the square meter.

Asphalt Milling & Removals For
Rehabilitation Treatment #2: pulverization of existing asphalt and removal of underlying layer of granular materials, including cold planning, cutting, loading, and disposal, will be measured for payment by the square meter.

Granular Base: Supply and installation of granular base (Type 1 aggregate), including compaction, will be measured for payment by the tonne.

Granular Sub-Base: Supply and installation of granular sub-base (Type 2 aggregate), including compaction, will be measured for payment by the tonne.

Hot Mix Asphalt Paving (Type B): Supply and placement of hot mix asphalt paving will be measured for payment by the square metre.

Hot Mix Asphalt Paving (Type D): Supply and placement of hot mix asphalt paving will be measured for payment by the square metre.

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Project Particulars and Measurement

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Sanitary Lift Station: Supply and installation of precast concrete wet well, pumps, and fiberglass prefabricated enclosure.

Payment for this item includes:

- .1 Supply and placement of bedding, clearstone, filter fabric, and back-fill material, and disposal of all old fill, as well as any extra excavated material required.
- .2 Supply and placement of new structure.
- .3 Supply and installation of all required mechanical piping and valves.
- .4 Supply and installation of all required controls.
- .5 Supply and installation of required electrical wiring in PVC conduit complete with one redundant conduit for future use.
- .6 Supply of back up parts listed in Section 32 32 13.13.
- .6 Sediment Control Fence.
- .7 All other costs not included with other units in this contract.

Division 33

Pipe Culverts (Various Sizes): Supply and installation of storm sewer piping including excavation and backfilling will be measured for payment by the linear meter for each size and type of culvert as outlined in the project bid form.

Payment for this item includes:

- .1 Supply and placement of bedding, clearstone, filter fabric, and Back-fill material, and disposal of all old fill and culvert material, as well as any extra excavated material required to install new culvert.
 - .2 Supply and placement of new culvert.
 - .3 Sediment Control Fence.
 - .4 Straw Bale Flow Checks.
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- .5 All other costs not included with other units in this contract.
 - .6 Temporary Water Control Works, in accordance with the latest edition of NBDTI Standard Specifications. This includes pumps, sandbags, dewatering, temporary culverts, etc.

Precast Concrete Catch Basins: Supply and installation of precast concrete catch basins will be measured for payment per each.

Payment for this item includes:

- .1 Supply and placement of bedding, clearstone, filter fabric, and Back-fill material, and disposal of all old fill and culvert material, as well as any extra excavated material required to install new culvert.
- .2 Supply and placement of new catch basin.
- .3 Sediment Control Fence.
- .5 All other costs not included with other units in this contract.

Sanitary Pipes (Various Sizes): Supply and installation of sanitary sewer piping including excavation and backfilling will be measured for payment by the linear meter for each size and type of pipe as outlined in the project bid form.

Payment for this item includes:

- .1 Supply and placement of bedding, clear stone, Back-fill material, and disposal of all unusable material, as well as any extra excavated material required to install new culvert.
 - .2 Supply and placement of new pipe.
 - .5 All other costs not included with other units in this contract.
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Division 35

Corestone: Supply and installation of corestone, including placement and compaction, will be measured for payment by the tonne

Filterstone: Supply and installation of filterstone, including placement will be measured for payment by the tonne

Armourstone: Supply and installation of armourstone, including placement will be measured for payment by the tonne

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Submissions / Shop Drawings

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| 1. <u>General</u> | .1 Submit to <i>Departmental Representative</i> , for review, shop drawings, product data, samples and other information specified. |
| | .2 Until submission is reviewed, work involving relevant product may not proceed. |
| 2. <u>Shop Drawings</u> | .1 Drawings to be originals prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate appropriate portion of work; showing fabrication, layout, setting or erection details as specified in appropriate Sections. |
| | .2 Identify details by reference to sheet and detail numbers shown on Contract Drawings. |
| | .3 Maximum sheet size 860 X 1120 mm. |
| | .4 Reproductions for submissions: opaque diazo prints. |
| 3. <u>Product Data</u> | .1 Certain Specification Sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings. |
| 4. <u>Samples</u> | .1 Submit samples in sizes and quantities specified. |
| | .2 Construct field samples and mock-ups at locations acceptable to <i>Departmental Representative</i> . |
| | .3 Accepted samples will become standards of workmanship and material against which, installed work will be checked on project. |
| 5. <u>Miscellaneous Data</u> | .1 Provide certificates, methodologies, designs and test results as required. |
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Submissions / Shop Drawings

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6. Coordination of Submissions

- .1 Review shop drawings, product data, samples and miscellaneous data prior to submission.
- .2 Verify:
 - .1 Field Measurements.
 - .2 Field Construction Criteria.
 - .3 Catalogue numbers and similar data.
- .3 Coordinate each submission with requirements of work and Contract documents. Individual submissions will not be reviewed until all related information is available.
- .4 Contractor's responsibility for errors and omissions in submission is not relieved by *Departmental Representative's* review of submissions.
- .5 Contractor's responsibility for deviations in submission from requirements in Contract documents is not relieved by *Departmental Representative's* review of submission, unless *Departmental Representative* gives written acceptance of specified deviations.
- .6 Notify *Departmental Representative*, in writing at time of submission, of deviations from requirements of Contract documents stating reasons for deviations.
- .7 After *Departmental Representative's* review, distribute copies.

7. Submission Requirements

- .1 Schedule submissions at least 14 days before dates reviewed submissions will be needed.
- .2 Submit number of copies of shop drawings, product data which Contractor requires for distribution, plus 2 copies which will be retained by *Departmental Representative*.

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Submissions / Shop Drawings

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- .3 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample submitted.
 - .5 Other pertinent data.
 - .4 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Contractor
 - .2 Sub-Contractor
 - .3 Supplier
 - .4 Manufacturer
 - .5 Separate detailer when pertinent
 - .4 Identification of product or material.
 - .5 Relation to adjacent structure or materials.
 - .6 Field dimensions, clearly identified as such.
 - .7 Specification Section Number.
 - .8 Applicable standards, such as CSA or CGSB numbers.
 - .9 Contractor's stamp, initialled or signed, certifying review of submission, verification of field measurements and compliance with Contract documents.

8. Shop Drawings
Review

- .1 The review of shop drawings by Public Works and Government Services Canada or its authorized consultant is for the sole purpose of ascertaining conformance with the general concept. This review shall not mean that Public Works and Government Services Canada approves the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or
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Submissions / Shop Drawings

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of responsibility for meeting all requirements of the construction and contract documents. Without restricting the generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of the work of all sub-trades.

9. Other Reviews

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

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1.1 RELATED WORK

- .1 Section 01 35 25: Special Procedures on Lockout Requirements.

1.2 DEFINITIONS

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

1.3 SUBMITTALS

- .1 Make submittals in accordance with Section 01 33 00.
- .2 Submit site-specific Health and Safety Plan prior to commencement of Work.
 - .1 Submit within 10 work days of notification of Bid Acceptance. Provide 2 copies.

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- .2 *Departmental Representative* will review Health and Safety Plan and provide comments.
 - .3 Revise the Plan as appropriate and resubmit within 5 work days after receipt of comments.
 - .4 *Departmental Representative's* review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
 - .5 Submit revisions and updates made to the Plan during the course of Work.

- .3 Submit name of designated Health & Safety Site Representative and support documentation specified in the Safety Plan.
- .4 Submit building permit, compliance certificates and other permits obtained.
- .5 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other department of labour organization.
 - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.
- .6 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .7 Submit copies of incident reports.
- .8 Submit WHMIS 2015 MS Sheets

1.4 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of New Brunswick, and General Regulations made pursuant to the Act.
-

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- .2 Comply with Canada Labour Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
 - .1 The Canada Labour Code can be viewed at: <http://laws-lois.justice.gc.ca/eng/>
 - .2 COSH can be viewed at: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/index.html>
 - .3 A copy may be obtained at: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F)
 - .3 Treasury Board of Canada Secretariat (TBS):
 - .1 Treasury Board, Fire Protection Standard April 1, 2010
www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316§ion=text
 - .4 Canadian Standards Association (CSA):
 - .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.
 - .5 Observe construction safety measures of:
 - .1 Part 8 of National Building Code
 - .2 Municipal by-laws and ordinances.
 - .6 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
 - .7 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.
 - .8 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.
-

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- 1.5 RESPONSIBILITY
- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to Work Site with safety requirements of Contract Documents, applicable federal, provincial, and local by-laws, regulations, and ordinances, and with site-specific Health and Safety Plan.
- 1.6 SITE CONTROL AND ACCESS
- .1 Control the Work and entry points to Work Site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
- .1 *Departmental Representative* will provide names of those persons authorized by *Departmental Representative* to enter onto Work Site and will ensure that such authorized persons have the required knowledge and training on Health and Safety pertinent to their reason for being at the site, however, Contractor remains responsible for the health and safety of authorized persons while at the Work Site.
- .2 Isolate Work Site from other areas of the premises by use of appropriate means.
- .1 Erect fences, hoarding, barricades and temporary lighting as required to effectively delineate the Work Site, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment.
- .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.
-

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- .3 Use professionally made signs with bilingual message in the 2 official languages or international known graphic symbols.
 - .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
 - .4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.
 - .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm. Provide security guard where adequate protection cannot be achieved by other means.
- 1.7 PROTECTION
- .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
 - .2 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise *Departmental Representative* verbally and in writing.
- 1.8 FILING OF NOTICE
- .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
 - .1 *Departmental Representative* will assist in locating address if needed.
- 1.9 PERMITS
- .1 Post permits, licenses and compliance certificates at Work Site.
 - .2 Where a particular permit or compliance certificate cannot be obtained, notify *Departmental Representative* in writing and
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obtain approval to proceed before carrying out applicable portion of work.

1.10 HAZARD ASSESSMENTS

- .1 Perform site specific health and safety hazard assessment of the Work and its site.
- .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site.
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation on site for entire duration of the Work.

1.11 PROJECT/SITE CONDITIONS

- .1 Following are potential health, environmental and safety hazards at the site for which Work may involve contact with:
 - .1 Existing hazardous and controlled products stored on site:
 - .1 Petroleum products and fuels for equipment.
 - .2 Known latent site and environmental conditions:
 - .1 Running water, potentially heavy flows
 - .2 Working adjacent to large tides.
 - .3 buried services
 - .4 Wildlife
 - .5 Slope stability and temporary shoring
 - .6 Heavy equipment
 - .7 Overhead loads
 - .3 Facility on-going operations:
 - .1 Vehicle and pedestrian traffic
 - .2 Ongoing Bay Ferries maintenance operations
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- .2 Above items shall not be construed as being complete and inclusive of potential health and safety hazards encountered during Work.
 - .3 Include above items in the hazard assessment of the Work.
 - .4 MS sheets of pertinent hazardous and controlled products stored on site can be obtained from *Departmental Representative*.

1.12 MEETINGS

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

1.13 HEALTH AND SAFETY PLAN

- .1 Prior to commencement of Work, develop written Health and Safety Plan specific to the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
 - .2 Health and Safety Plan shall include the following components:
 - .1 List of health risks and safety hazards identified by hazard assessment.
 - .2 Control measures used to mitigate risks and hazards identified.
 - .3 On-site Contingency and Emergency Response Plan as specified below.
-

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- .4 On-site Communication Plan as specified below.
 - .5 Name of Contractor's designated Health & Safety Site Representative and information showing proof of his/her competence and reporting relationship in Contractor's company.
 - .6 Names, competence and reporting relationship of other supervisory personnel used in the Work for occupational health and safety purposes.
 - .3 On-site Contingency and Emergency Response Plan shall include:
 - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
 - .2 Evacuation Plan: site and floor plan layouts showing escape routes, marshalling areas. Details on alarm notification methods, fire drills, location of firefighting equipment and other related data.
 - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
 - .4 Emergency Contacts: name and telephone number of officials from:
 - .1 General Contractor and subcontractors.
 - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
 - .3 Local emergency resource organizations.
 - .5 Harmonize Plan with Facility's Emergency Response and Evacuation Plan. *Departmental Representative* will provide pertinent data including name of PWGSC and Facility Management contacts.
 - .4 On-site Communication Plan:
-

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- .1 Procedures for sharing of work related safety information to workers and subcontractors, including emergency and evacuation measures.
 - .2 List of critical work activities to be communicated with Facility Manager which have a risk of endangering health and safety of Facility users.
 - .5 Address all activities of the Work including those of subcontractors.
 - .6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrive at Work Site.
 - .7 *Departmental Representative* will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.
 - .8 Post copy of the Plan, and updates, prominently on Work Site.

1.14 SAFETY
SUPERVISION

- .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.
 - .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
 - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work.
 - .2 Monitor and enforce Contractor's site-specific Health and Safety Plan.
 - .3 Conduct site safety orientation session to persons granted access to Work Site.
-

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- .4 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the Work Site.
 - .5 Stop the Work as deemed necessary for reasons of health and safety.
 - .3 Health & Safety Site Representative must:
 - .1 Be qualified and competent person in occupational health and safety.
 - .2 Have site-related working experience specific to activities of the Work.
 - .3 Be on Work Site at all times during execution of the Work.
 - .4 All supervisory personnel assigned to the Work shall also be competent persons.
 - .5 Inspections:
 - .1 Conduct regularly scheduled safety inspections of the Work on a minimum weekly basis. Record deficiencies and remedial action taken.
 - .2 Conduct Formal Inspections on a minimum monthly basis. Use standardized safety inspection forms. Distribute to subcontractors.
 - .3 Follow-up and ensure corrective measures are taken.
 - .6 Cooperate with Facility's Occupational Health and Safety representative should one be designated by *Departmental Representative*.
 - .7 Keep inspection reports and supervision related documentation on site.

1.15 TRAINING

- .1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.
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- .2 Maintain employee records and evidence of training received. Make data available to *Departmental Representative* upon request.
- .3 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise *Departmental Representative* verbally and in writing.
- 1.16 MINIMUM
SITE SAFETY RULES
- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:
- .1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.
- .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
- .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
- .4 Obey warning signs and safety tags.
- .2 Brief persons of disciplinary protocols to be taken for non-compliance.
- 1.17 CORRECTION OF
NON-COMPLIANCE
- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by *Departmental Representative*.
- .2 Provide *Departmental Representative* with written report of action taken to correct non-compliance of health and safety issues identified.
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|-------------------------------------|--|
| 1.18 <u>INCIDENT REPORTING</u> | <ul style="list-style-type: none">.3 <i>Departmental Representative</i> will stop Work if non-compliance of health and safety regulations is not corrected in a timely manner. |
| 1.19 <u>HAZARDOUS PRODUCTS</u> | <ul style="list-style-type: none">.1 Investigate and report the following incidents to <i>Departmental Representative</i>:<ul style="list-style-type: none">.1 Incidents requiring notification to Provincial Department of Occupational Safety and Health, Workers Compensation Board or to other regulatory Agency..2 Medical aid injuries..3 Property damage in excess of \$10,000.00,.4 Interruptions to Facility operations resulting in an operational lost to a Federal department in excess of \$5,000.00..2 Submit report in writing. |
| 1.20 <u>POWDER ACTUATED DEVICES</u> | <ul style="list-style-type: none">.1 Use powder actuated fastening devices only after receipt of written permission from <i>Departmental Representative</i>. |
| 1.21 <u>CONFINED SPACES</u> | <ul style="list-style-type: none">.1 Abide by occupational health and safety regulations regarding work in confined spaces. |
| 1.22 <u>SITE RECORDS</u> | <ul style="list-style-type: none">.1 Maintain on Work Site copy of safety related documentation and reports stipulated to be produced in compliance with Acts and Regulations of authorities having |
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1.23 POSTING OF
DOCUMENTS

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- jurisdiction and of those documents specified herein.
- .2 Upon request, make available to *Departmental Representative* or authorized Safety Officer for inspection.
- .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
-

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1.1 References

- .1 Canada Shipping Act, Transport Canada, 2001, amended 2018-12-13
- .2 Canadian Coast Guard Regulations, Fisheries and Oceans Canada
- .3 Canadian Environmental Assessment Act, 2012, amended 2013-11-25
- .4 Canadian Environmental Protection Act, 1999, amended on 2014-03-28
- .5 Fisheries Act, 1985, Fisheries and Oceans Canada, amended 2018-06-20
- .7 Migratory Birds Convention Act, 1994, Environment Canada, amended 2017-12-12
- .8 Navigation Protection Act, 1985. Transport Canada, amended 2014-04-01
- .9 New Brunswick - Environmental Impact Assessment Regulation, Clean Environmental Act
- .10 Species at Risk Act, 2002, amended 2019-02-25
- .11 The Federal Policy on Wetland Conservation, 1991, Environment Canada
- .12 Transportation of Dangerous Goods Act, 1992, Transport Canada, amended 2017-01-01
- .13 Workplace Hazardous Materials Information System 2015, Health Canada.

1.2 Definitions

- .1 Archaeological Resources: All tangible evidence of human activity that is of historical, cultural or scientific interest. Examples include features, structures, archaeological objects or remains at or from

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- an archaeological site, or an object recorded as an isolated archaeological find.
- .2 Buffer zone: a vegetated land that protects watercourses from adjacent land uses. It refers to the land adjacent to watercourses, such as streams, rivers, lakes, ponds, oceans, and wetlands, including the floodplain and the transitional lands between the watercourse and the drier upland areas.
- .3 Deleterious substance: (a) any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water.
- .4 Fish habitat: spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.
- .5 Hazardous material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.
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- .6 Invasive or alien species: refers to a species or subspecies introduced outside its normal distribution whose establishment and spread threaten ecosystems, habitats or species with economic or environmental harm.
- .7 Navigable water: a canal and any other body of water created or altered as a result of the construction of any work.
- .8 Surface watercourse: refers to the bed and shore of a river, stream, lake, creek, pond, marsh, estuary or salt-water body that contains water for at least part of each year.
- .9 Wetlands: land where the water table is at, near or above the surface or which is saturated for a long enough period to promote such features as wet-altered soils and water tolerant vegetation. Wetlands include organic wetlands or "peatlands," and mineral wetlands or mineral soil areas that are influenced by excess water but produce little or no peat.

1.3 Transportation

- .1 Transport hazardous materials and hazardous waste in compliance with the Transportation of Dangerous Goods Act.
- .2 Eliminate free board spillage when excavating, loading and hauling dredged material.
- .3 Trucks transporting dredged material will have watertight boxes.
- .4 Do not overload trucks when hauling dredged material.
- .5 Maintain trucks clean and free of mud, dirt and other foreign matter.

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- .6 Secure contents against spillage. Avoid potential release of contents and of any foreign matter onto highways, roads and access routes used for the work. Immediately clean any ground spills and soils to extent as directed by authority having jurisdiction.
 - .7 Prior to commencement of work, advise and seek approval from the *Departmental Representative* of the existing roads and temporary routes / roads proposed to be used to access work areas and to haul material to and from the site, including roads to the dredge material disposal site.
 - .8 Construction material and debris is not to become waterborne.
 - .9 Any tools, equipment, vehicles, temporary structures or parts thereof used or maintained for the purpose of building or placing a work in navigable water are not to remain in place after the completion of the project.
 - .10 Vessels are to be permitted safe access through the worksite at all times, and assisted as necessary.
 - .11 All materials and equipment used in construction must be marked in accordance with the Collision Regulations of the *Canada Shipping Act, 2001* when located on the waterway.
 - .12 Advise the Canadian Coast Guard, Marine Communication and Traffic Services (MCTS) at (902)564-7751 or toll free at 1-800-686-8676 sufficiently in advance of commencement of work or when deploying or removing site markings in order to allow for appropriate Notices to Shipping/Mariners action.

1.4 Operation of

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<u>Machinery</u>	.1	Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
	.2	Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the water body.
	.3	Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.
1.5 <u>Containment and Spill Management</u>	.1	Comply with Federal (CEPA <i>Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations</i>) and Provincial regulations, codes, standards and guidelines for the storage of fuel and allied petroleum products on site.
	.2	Do not dump petroleum products or any other deleterious substances on ground or in the water.
	.3	Be diligent and take all necessary precautions to avoid spills and contaminate the soil and water (both surface and subsurface) when handling petroleum products on site and during fueling and servicing of vehicles and equipment.
	.4	Maintain on site appropriate emergency spill response equipment consisting of at least one 250-litre (55 gallon) overpack spill kit for containment and cleanup of spills.
	.5	Maintain vehicles and equipment in good working order to prevent leaks on site.
	.6	In the event of a petroleum spill, immediately notify the <i>Departmental</i>

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Representative and the Canadian Coast Guard (CCG) at 1-800-565-1633 (24 hour report line). Perform cleanup in accordance with all regulations and procedures stipulated by authority having jurisdiction.

- .7 Materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals are not to enter the watercourse.
- .8 Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance.

1.6 Hazardous

Material handling

- .1 Store and handle hazardous materials in accordance with applicable federal and provincial regulations, codes, standards and guidelines. Store in location that will prevent spillage into the environment.
- .2 Label containers to WHMIS requirements and keep MSDS data sheets on site for all hazardous materials.
- .3 Maintain inventory of hazardous materials and hazardous waste stored on site. List items by product name, quantity and date when stored.
- .4 Store and handle flammable and combustible materials in accordance with National Fire Code.

1.7 Disposal of Wastes

- .1 Do not bury rubbish, construction and demolition debris (i.e., concrete, creosote timbers, steel, impacted soil materials etc.) and waste materials on site.
- .2 Dispose and recycle construction and demolition debris and waste materials in accordance with Provincial Waste Management

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Regulations and the project waste management requirements specified in sections 01 78 00.

- .3 Do not dispose of hazardous waste, volatile materials (such as mineral spirits, paints, thinners etc.) and petroleum products into waterways, storm or sanitary sewers or in waste landfill sites.
- .4 Dispose of hazardous waste in accordance with applicable federal and provincial, regulations, codes, standards and guidelines.
- .5 Concrete waste:
 - .1 Do not discharge residual of rejected concrete on site.
 - .2 Immediately clean any accidental release of concrete on site prior to solidification.
 - .3 Do not wash and clean concrete vehicles on site.
 - .4 Perform dumping of residual material and truck cleaning operations only at the concrete plant. Follow environmental regulations and good practices as approved by the Provincial Department of the Environment and other authorities having jurisdiction.

1.8 Water Quality

- .1 Where work may affect the water quality adjacent to water intake lines used by lobster holding facilities, fish processing facilities and other harbour users, schedule work in cooperation with the Harbour Authority as directed by *Departmental Representative* to minimize interference and impact to harbour users.
- .2 Do not wash down equipment within a 30 meter buffer zone of a wetland, watercourse or other identified environmentally sensitive area.

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- .3 Where required, install effective sediment control measures before starting work to prevent the entry or re-suspension of sediment in the water body. Inspect sediment control measures regularly to ensure they are functioning properly, and make all necessary repairs if any damage occurs. Upon completion of use, remove these control measures in a way that prevents the escape of settled sediment.
- .4 Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the water body during all phases of the work. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the water body or settling basin and runoff water is clear. The plan should, where applicable, include:
- a) Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering the water body.
 - b) Measures for managing water flowing onto the site, as well as water being pumped / diverted from the site such that sediment is filtered out prior to the water entering a water body. For example, pumping / diversion of water to a vegetated area, construction of a settling basin or other filtration system.
 - c) Site isolation measures (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., dredging, underwater cable installation).
 - d) Measures for containing and stabilizing waste material (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris)
-

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above the high water mark of nearby water bodies to prevent re-entry.

- e) Regular inspection and maintenance of erosion and sediment control measures and structures during the course of the work.
- f) Repairs to erosion and sediment control measures and structures if damage occurs.
- g) Removal of non-biodegradable erosion and sediment control materials once site is stabilized.

1.9 Socioeconomic
Restrictions

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

1.10 Bird and Bird
Habitat

- .1 Become knowledgeable with and abide by the Migratory Birds Convention Act (MBCA) in regards to the protection of migratory birds, their eggs, nests and their young encountered on site and in the vicinity.
 - .2 Minimize disturbance to all birds on site and adjacent areas during the entire course of the Work.
 - .3 Do not approach concentrations of seabirds, waterfowl and shorebirds when anchoring equipment, accessing wharves or ferrying supplies.
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- .4 During night time work, position flood lights in opposite direction of nearby bird nesting habitat.
 - .5 Do not use beaches, dunes and other natural previously undisturbed areas of the site to conduct work unless specifically approved by the *Departmental Representative*.
 - .6 Should nests of migratory birds in wetlands be encountered during work, immediately notify *Departmental Representative* for directives to be followed.
 - .1 Do not disturb nest site and neighbouring vegetation until nesting is completed.
 - .2 Minimize work immediately adjacent to such areas until nesting is completed.
 - .3 Protect these areas by following recommendations of Canadian Wildlife Service.
- 1.11 Fish Protection
- .1 Avoid wet, windy and rainy periods that may increase erosion and sedimentation.
 - .2 Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.
 - .3 Screen any water intakes or outlet pipes to prevent entrainment or impingement of fish. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when an entrapped fish is held in contact with the intake screen and is unable to free itself.
 - .4 Be aware of the risk for contamination of the fish habitat at the site as a result of alien species being introduced in the water.
 - .5 To minimize the possibility of fish habitat contamination and the spread of aquatic

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invasive (alien species), all construction equipment which will be immersed into the water of a watercourse, or has the possibility of coming into contact with such water during the course of the work, must be cleaned and washed to ensure that they are free of marine growth and alien species.

- .1 Equipment shall include boats, barges, cranes, excavators, haul trucks, pumps, pipe lines and other all miscellaneous tools and equipment previously used in a marine environment.
 - .6 Cleaning and washing of equipment shall be performed immediately upon their arrival at the site and before use in or over the body of water.
 - .7 Conduct cleaning and washing operations as follows:
 - .1 Scrape and remove heavy accumulation of mud and dispose appropriately.
 - .2 Wash all surfaces of equipment by use of a pressurized fresh water supply.
 - .3 Immediately follow with application of a heavy sprayed coating of undiluted vinegar or other environmentally approved cleaning agent to thoroughly remove all plant matter, animals and sediments.
 - .4 Check and remove all plant, animal and sediment matter from the all bilges and filters.
 - .5 Drain standing water from equipment and let fully dry before use.
 - .6 Upon removal from the water, drain standing water from equipment and let fully dry before removal off the site.
 - .8 Do not perform cleaning and washdown within a 30 metre buffer zone of a wetland, watercourse or other identified environmentally sensitive area.
-

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.9 Record of Assurance Logbook:

- .1 Maintain an on-going log of past and present usage and washdowns of all equipment to illustrate mitigation measures undertaken against fish habitat contamination by alien species.
- .2 Write data in a hard cover bound logbook to include the following:
 - .1 Date and location where equipment was previously used in a watercourse or wetland;
 - .2 Type of work performed.
 - .3 Dates of wash down for each piece of equipment;
 - .4 Cleaning method and cleaning agent(s) used.

.10 Keep Record of Assurance Logbook updated from project to project. Upon request, submit logbook to *Departmental Representative* for review.

.11 Abide by requirements and recommendations from Fisheries and Oceans Canada - Fisheries Protection Program in cleaning and wash down of equipment.

1.12 Air Quality

- .1 Keep airborne dust and dirt resulting from the work on site to an absolute minimum.
 - .2 Dust suppression by the application of water must be employed, when required. Apply dust control measures to roads, parking lots and work areas. The *Departmental Representative* shall determine locations where water is to be applied, the amount of water to be applied, and the times at which it shall be applied. Waste oil must not to be used for dust control under any circumstances.
 - .3 Spray surfaces with water or other environmentally approved product. Use
-

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- 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.
- 1.14 Archaeological .1 All construction personnel are responsible for reporting any unusual materials unearthed during construction to the construction supervisor. If the find is believed to be an archaeological resource, the Construction Supervisor will immediately stop work in the vicinity of the find and notify the PWGSC Project Manager.
- .2 If an archaeological and / or historically significant item is discovered during the work activities, work in the area will be stopped immediately and the *Departmental Representative* will be contacted as well as the provincial Archaeological Services unit.
- New Brunswick - NB Department of Tourism, Heritage and Culture, telephone: (506) 453-2756
- .3 Work can only resume in the vicinity of the find when authorized by the PWGSC Project Manager and Construction Supervisor, after approval has been granted by the New Brunswick Department of Communities, Culture and Heritage.
- .4 In the event of the discovery of human remains of evidence of burials, excavation work will immediately cease and nearest law enforcement agency will be contacted immediately by the PWGSC Project Manager and/or the Construction Supervisor.
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Special Procedures on Lockout Requirements

Page 1

PART 1 - GENERAL

- | | | |
|-----------------------------|----|---|
| <u>1.1 Section Includes</u> | .1 | Procedures to isolate and lockout electrical facility or other equipment from energy source. |
| <u>1.2 Related Work</u> | .1 | Section 01 35 29: Health and Safety |
| <u>1.3 References</u> | .1 | CSA C22.1-18 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations. |
| | .2 | CSA C22.3 No. 1-15 - Overhead Systems. |
| | .3 | CSA C22.3 No. 7-15 - Underground Systems. |
| | .4 | COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code. |
| <u>1.4 Definitions</u> | .1 | Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons. |
| | .2 | Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment is isolated. |
| | .3 | De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD). |
| | .4 | Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, inaccessible by location, or otherwise protected in a manner that, to the extent |

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that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.

.5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.

.6 Live/alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

1.5 Compliance Requirements

- .1 Perform lockouts in compliance with:
- .1 Canadian Electrical Code
 - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in section 01 35 29.
 - .3 Regulations and code of practice as applicable to mechanical equipment or other machinery being de-energized.
 - .4 Procedures specified herein.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, *Departmental Representative* will advise on the course of action to be followed.

1.6 Submittals

- .1 Submit copy of proposed Lockout Procedures and sample form of lockout tags for review.
- .2 Submit documentation within 14 calendar days of contract award. Do not proceed with work until submittal has been reviewed by *Departmental Representative*.
-

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Special Procedures on Lockout Requirements

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- .3 Submit above documents in accordance with the submittal - general requirements specified in section 01 33 00.
- .4 Resubmit Lockout Procedures with noted revisions as may result from *Departmental Representative's* review.

1.7 Isolation of Existing Services

- .1 Obtain *Departmental Representative's* written authorization prior to conducting work on an existing active, energized service or facility required as part of the work and before proceeding with lockout of such services or facility.
- .2 To obtain authorization, submit to *Departmental Representative* following documentation:
 - .1 Written Request for Isolation of the service or facility and;
 - .2 Copy of Contractor's Lockout Procedures.
- .3 Make a Request for Isolation for each event, unless directed otherwise by *Departmental Representative*, and as follows:
 - .1 Fill-out standard forms in current use at the Facility when so directed by *Departmental Representative* or;
 - .2 Where no form exist at Facility, make request in writing identifying:
 - .1 Identification of system or equipment to be isolated, including its location;
 - .2 Time duration, indicating Start time & date and Completion time & date when isolation will be in effect.
 - .3 Voltage of service feed to system or equipment being isolated.
 - .4 Name of person making the request.
 - .3 Document to be in typewritten format.

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- .4 Do not proceed until receipt of written notification from *Departmental Representative* granting the Isolation Request and authorizing to proceed with the isolation of designated equipment or facility. *Departmental Representative* may designate other individual at the Facility as the person authorized to grant the Isolation Request.
 - .5 Conduct safe, orderly shut down of equipment or facilities, de-energize and isolate power and other sources of energy and lockout items in accordance with requirement of clause 1.8 below.
 - .6 Plan and schedule shut down of existing services in consultation with the *Departmental Representative* and the Facility Manager. Minimize impact and downtime of facility operations.
 - .7 Determine in advance, as much as possible, in cooperation with the *Departmental Representative*, the type and frequency of situations which will require a Request for Isolation. Follow *Departmental Representative's* directives in this regard.
 - .8 Conduct hazard assessment as part of the planning process of isolating existing equipment and facilities. Hazard Assessments to conform with requirements of Health and Safety Section 01 35 29.

1.8 Lockouts

- .1 Isolate and lockout electrical facilities, mechanical equipment and machinery from all potential energy sources prior to starting work on such items.
 - .2 Develop and implement lockout procedures to be followed on site as an integral part of the Work.
 - .3 Use energy isolation lockout devices
-

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specifically designed and appropriate for type of facility or equipment being locked out.

- .4 Use industry standard lockout tags.
 - .5 Provide appropriate safety grounding and guards as required.
 - .6 Prepare Lockout Procedures in writing. Describe safe work practices, work functions and sequence of activities to be followed on site to safely isolate all potential energy sources and lockout/tagout facilities and equipment.
 - .7 Include within procedures a system of worker request and issuance of individual lockout permit by a person, employed by Contractor, designated to be "in-charge" and being responsible for:
 - .1 Controlling issuance of permits or tags to workers.
 - .2 Determining permit duration.
 - .3 Maintaining record of permits and tags issued.
 - .4 Submitting a Request for Isolation to *Departmental Representative* when required in accordance with Clause 1.7 above.
 - .5 Designating a Safety Watcher, when one is required based on type of work.
 - .6 Ensuring equipment or facility has been properly isolated, providing a Guarantee of Isolation to worker(s) prior to proceeding with work.
 - .7 Collecting and safekeeping lockout tags, returned by workers, as a record of the event.
 - .8 Clearly establish, describe and allocate, within procedures, the responsibilities of:
 - .1 Workers.
 - .2 Designated person controlling issuance of lockout tags/permits.
-

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Special Procedures on Lockout Requirements

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- .3 Safety Watcher.
 - .4 Subcontractors and General Contractor.

.9 Procedures shall meet the requirements of Codes and Regulations specified in clause 1.5 above.

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

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

.11 Procedures to be in typewritten format.

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

1.9 Conformance

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

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

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

1.10 Documents

.1 Post Lockout Procedures on site in common

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on Site

location for viewing by workers.

- .2 Keep copies of Request for Isolation submitted to *Departmental Representative* and lockout permits or tags issued to workers during the course of work for full project duration.
- .3 Upon request, make such data available to *Departmental Representative* or to authorized safety representative for inspection.

PART 2 - PRODUCTS2.1 Not Used

- .1 Not Used.

PART 3 - EXECUTION3.1 Not Used

- .1 Not Used.

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Testing and Quality Control

Page 1

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1. Related Requirements
 - .1 Particular requirements for inspection and testing to be carried out by Contractor's testing laboratory are specified under various sections.
 2. Appointment and Payment
 - .1 *Departmental Representative* will appoint and pay for services of testing laboratory as part of their own Quality Assurance program. However, The Contractor is responsible for the payment and coordination of all Quality Control Testing, including:
 - .1 All field quality control testing and inspection items relating to The Contractor's work, the Contractor representative will be in charge of Quality Control and all testing deemed necessary by the Departmental Representative. This includes, but is not limited to, concrete testing, asphalt testing, granular material compaction, sub-grade inspections, etc. All results must be forwarded to the Departmental Representative for review.
 - .2 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - .3 Inspection and testing performed exclusively for Contractor's convenience.
 - .4 Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
 - .5 Mill tests and certificates of compliance.
 - .6 Tests specified to be carried out by Contractor under the supervision of *Departmental Representative*.
 - .2 Where tests or inspections by The Contractor or by the departmental representative's designated testing laboratory reveal work not in accordance with contract
-

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Testing and Quality Control

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- requirements, Contractor shall pay costs for additional tests or inspections as *Departmental Representative* may require to verify acceptability of corrected work.
3. Other Contractor Responsibilities
- .1 Furnish labour and facilities to:
 - .1 Provide access to work to be inspected and tested as part of the *Departmental Representative's* Quality Assurance 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 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
 - .3 Pay costs for uncovering and making good work that is covered before required inspection or testing is completed and approved by *Departmental Representative*.
-

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Temporary Facilities

Page 1

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1. Access
 - .1 Provide and maintain adequate access to project site.
 - .2 If authorized to use existing roads or structures for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads.
 - .3 Parking facilities at site are limited and cannot be used by Contractor. Make arrangements elsewhere as required for Contractor's vehicles including those of subcontractors and workers.
 2. Contractor's Site Office
 - .1 Establish on the site of the work and keep open at all times during the execution of the work an office where all letters, orders, notices and other communications may be received or acknowledged either by the Contractor or his authorized agent or representative. Provide a telephone in the office.
 - .2 Keep one up-to-date copy of contract documents, bulletins and other materials as specified under **Section 01 10 10**.
 3. Departmental Representative's Site Office
 - .1 Provide separate temporary office trailer for Departmental Representative.
 - .2 Trailer to be minimum 6.1 m in length, with floor 0.3 m above grade, complete with 4 50% opening windows and one lockable door.
 - .3 Trailer to be insulated and provide heating system to maintain 22 degrees C inside temperature at -20 degrees C outside temperature and air conditioned to maintain inside temperature below 24 degrees C during summer months.
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Temporary Facilities

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- .4 Finish inside walls and ceiling with plywood, hardboard or wallboard and paint in selected colours. Finish floor with 19 mm thick plywood.
 - .5 Install electrical lighting system to provide min 750 lx using surface mounted, shielded commercial fixtures with 10 % upward light component.
 - .6 Provide communications hook-up for telephone, fax and internet. Capacity of internet to be suitable for business application
 - .7 Provide private washroom facilities adjacent to office complete with flush or chemical type toilet, lavatory, mirror and hand wash facility (chemical or potable water and soap) and maintain supply of paper towels and toilet tissue.
 - .8 Equip office with 1 x 2 m table, 4 chairs, 6 m of shelving 300 mm wide, one 3 drawer filing cabinet, one plan rack and one coat rack and shelf.
 - .9 Equip office with water cooler / filter and maintain supply of bottled water.
 - .10 Maintain in clean condition.

4. Storage Sheds

- .1 Provide adequate weather tight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.
 - .2 Contractor to make his own arrangements for on-site storage areas.
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Temporary Facilities

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| 5. | <u>Sanitary Facilities</u> | .1 | Provide sanitary facilities for work force in accordance with governing regulations and ordinances. |
| | | .2 | Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition. |
| 6. | <u>Temporary Washroom Facilities</u> | .1 | Contractor to provide temporary washroom facilities for use by the staff and visitors during the shutdown needed for the installation of the new upgrades |
| | | .2 | Temporary systems are to include three male and three female facilities that are wheelchair accessible. |
| 7. | <u>Parking</u> | .1 | Contractor to make own arrangements to provide parking space for work force. |
| 8. | <u>Power</u> | .1 | Arrange, pay for and maintain temporary electrical power supply in accordance with governing regulations and ordinances. |
| | | .2 | Install temporary facilities for power such as pole lines and cables to approval of local power supply authority. |
| 9. | <u>Water Supply</u> | .1 | Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances. |
| 10. | <u>Barricades</u> | .1 | Provide and maintain sufficient barricades, fencing, notices, warning signs, light signals, etc. for the protection of adjoining property and to warn others and workmen engaged on the job of the dangers caused by the work. |
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Temporary Facilities

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| | .2 | Types and location of barricades, etc. to be in accordance with local regulations and to the satisfaction of <i>Departmental Representative</i> . |
| | .3 | The presence of such barricades, lights, etc. shall not relieve the Contractor of the responsibility for any damages. |
| 11. <u>Security</u> | .1 | Contractor to make his own arrangements for security of his equipment, materials, damages resulting from fire and theft. |
| 12. <u>Site Signs and Notices</u> | .1 | Only Project Identification and Consultant/ Contractor signboards and notices for safety or instruction are permitted on site. |
| | .2 | Format, location and quantity of site signs and notices to be accepted by <i>Departmental Representative</i> . |
| | .3 | Signs and notices for safety or instruction to be in English and French languages, or commonly understood graphic symbols. |
| 13. <u>Removal of Temporary Facilities</u> | .1 | Remove temporary facilities from site when directed by <i>Departmental Representative</i> . |
| | .2 | When project is closed down for a period of time, keep temporary facilities operational until no longer required by <i>Departmental Representative</i> . |
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Traffic Regulation

Page 1

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|---|----|--|
| 1.1 <u>Description</u> | .1 | This section is to provide traffic control pursuant to Section 6 of the Provincial Roads Act as stipulated in the New Brunswick Workplace Area Traffic Control Manual (WATCM). |
| 1.2 <u>Related Work</u> | .1 | Section 01 10 10 - General Instructions |
| | .2 | Section 01 35 28 - Health and Safety Requirements |
| 1.3 <u>Reference Standard</u> | .1 | Regulate traffic in accordance with the Roads Act of New Brunswick as stipulated in the WATCM distributed by NBDTI regulations. |
| | .2 | The Department Representative reserves the right to direct the contractor to reduce either the number or length of traffic control work areas during peak traffic volumes or when cumulative delays exceed the specified maximum. |
| 1.4 <u>Measurement for Payment</u> | .1 | See Section 01 29 00 - Project Particulars and Measurement. |
| 1.5 <u>Protection of Public Traffic</u> | .1 | Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out work or haul materials or equipment. |
| | .2 | When working on travelled way:
.1 Place equipment in position to present minimum of interference and hazard to traveling public.
.2 Keep equipment units as close together as working conditions will permit and preferably on same side of travelled way. |
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Traffic Regulation

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- .3 Do not leave equipment on travelled way overnight.
- .3 Do not close any lanes of roadway without approval of Department Representative. Before re-routing traffic, erect suitable signs and devices in accordance with instructions contained in the WATCM. Provide sufficient crushed gravel to ensure a smooth riding surface during work.
- .4 Keep travelled way well graded, free of pot holes and of sufficient width that required number of lanes of traffic may pass.
- .5 Limit construction to maintain at least one lane of traffic at all times.
- .6 When directed by the Department Representative, provide well graded, detours or temporary roads to facilitate passage of traffic around restricted construction area. Provide and maintain signs and lights and maintain roadway.
- .7 Provide and maintain reasonable road access and egress to property fronting along or in vicinity of work under Contract unless approved otherwise by Department Representative.
- 1.6 Informational and Warning Devices
- .1 Provide and maintain signs and other devices required to indicate construction activities or other temporary and unusual conditions resulting from project work which may require road user response.
- .2 All traffic signs are to be bilingual or symbolic and shall be Level 1 reflectivity.
- .3 Supply and erect signs, declinators, barricades and miscellaneous warning devices as specified in NBDTI WATCM.
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Traffic Regulation

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- .4 Place signs and other devices in locations recommended in the NBDTI WATCM.
 - .5 The contractor shall provide an Accredited Sign Supervisor, who has successfully completed the Temporary Workplace Traffic Control Training Course, to be on site at all times when active construction is taking place. The Accredited Traffic Control Sign Supervisor will be responsible to supervise the placement and dismantling of all temporary condition signs and devices that indicate to the road user that highway construction activity exist and also to ensure that proper traffic control procedures are carried out in accordance with the WATCM. The Accredited Sign Supervisor is considered part of the contractor's supervision and administration staff and compensation the provision this individual is considered incidental to the work.
 - .6 A traffic control plan must be approved by the engineer prior to commencing any work.
 - .7 Continually maintain traffic control devices in use by:
 - .1 Checking signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
 - .2 Removing or covering signs which do not apply to conditions existing from day to day.

1.7 Control of
Public Traffic

- .1 Provide traffic control personnel who have a valid provincial license and trained in accordance with and properly equipped as specified in the WATCM, in following situations:
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Traffic Regulation

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- .1 When public traffic is required to pass working vehicles or equipment which may block all or part of traveled roadway.
 - .2 When it is necessary to institute one way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
 - .3 When workers or equipment are employed on traveled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
 - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
 - .5 For emergency protection when other traffic control devices are not readily available.
 - .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.

.2 All Traffic Control Personnel shall be equipped with portable radios of sufficient range to ensure continuous communication within the traffic control zone.

.3 All construction vehicles shall operate in accordance with and are subject to traffic control restrictions and operations in place on the project.

1.8 Traffic Management
Plan Requirements

.1 Contractor to provide a detailed traffic management plan, prior to construction.

.2 In general, asphalt will be maintained on the north side for single lane controlled traffic while constructing roadway, then reverse traffic to the south side while constructing pathway.

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Traffic Regulation

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- .4 Traffic control measures are summarized as follows:
 - .1 Single lane traffic will be maintained at all times and will be a contract obligation.
 - .2 Complete road closures will not be permitted, unless some exceptional circumstances arise.
 - .3 Escort vehicles will be used through construction during the summer season. Radio communications and one-way traffic controls will be used during the shoulder seasons.
 - .5 The required traffic measures will be included in the construction contract. A detailed construction sequencing and Traffic Management Plan will be required prior to construction. On-going information and communications will be maintained throughout the construction period.
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Material and Equipment

Page 1

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| 1. <u>General</u> | .1 Use new material and equipment unless otherwise specified. |
| | .2 Submit following information for any or all materials and products proposed for supply within 7 days of request by <i>Departmental Representative</i> :
.1 name and address of manufacturer
.2 trade name, model and catalogue number
.3 performance, descriptive and test data
.4 manufacturer's installation or application instructions
.5 evidence of arrangements to procure. |
| | .3 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available. |
| | .4 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified. |
| 2. <u>Manufacturers Instructions</u> | .1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods. |
| | .2 Notify <i>Departmental Representative</i> in writing of any conflict between these specifications and manufacturers instructions. <i>Departmental Representative</i> will designate which document is to be followed. |
| 3. <u>Fastenings-General</u> | .1 All fastenings are to be the sizes indicated on the contract plans and are to be hot dipped galvanized to CSA-G164 Latest Edition unless otherwise noted. |
| 4. <u>Delivery and Storage</u> | .1 Deliver, store and maintain packaged material and equipment with manufacturer's seal and labels intact. |
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Material and Equipment

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| | .2 | Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site. |
| | .3 | Store material and equipment in accordance with supplier's instructions. |
| 5. | <u>Conformance</u> | .1 When material or equipment is specified by standard or performance specifications, upon request of <i>Departmental Representative</i> , obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements. |
| 6. | <u>Substitution</u> | .1 Proposals for substitution may be submitted only after award of Contract. Such requests must include statements of respective costs of items originally specified and proposed substitutions. |
| | .2 | Proposals will be considered by <i>Departmental Representative</i> if: <ul style="list-style-type: none">.1 Products selected by tenderer from those specified, are not available, or.2 Delivery date of products from those specified would unduly delay completion of Contract, or.3 Alternative products to those specified, which are brought to attention of, and considered by <i>Departmental Representative</i> as equivalent to those specified and will result in a credit to Contract amount. |
| | .3 | Should proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on project. Pay for design or drawing changes required as result of substitution. |
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Material and Equipment

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- .4 Amounts of all credits arising from approval of substitutions will be determined by *Departmental Representative* and Contract price will be reduced accordingly. No substitutions will be permitted without prior written approval of *Departmental Representative*.
- .5 Owner reserves the right for acceptance or rejection of substitution of materials.
7. Construction
Equipment and Plant
- .1 On request, prove to the satisfaction of *Departmental Representative* that the construction equipment and plant are adequate to manufacture, transport, place and finish work to quality and production rates specified. If inadequate, replace or provide additional equipment or plant as directed.
- .2 Maintain construction equipment and plant in good operating order.
8. Damaged and
Rejected Materials
- .1 Immediately replace, repair or otherwise make good any material damaged, broken or defaced during construction to the satisfaction of *Departmental Representative*.
- .2 Remove rejected materials from site.
-

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Project Record Documents

Page 1

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

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Cleaning

Page 1

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

Page 1

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|------|-------------------------|----|--|
| 1. | <u>Definitions</u> | .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. | <u>Waste Management</u> | .1 | Provide waste management plan. Incorporate environmental and sustainable practices in managing waste resulting from work. |
| | | .2 | Divert as much waste as possible from landfill. |
| | | .3 | Coordinate work of subtrades and subcontractors to ensure all possible waste reduction and recycling opportunities are taken. Follow waste management requirements specified in trade sections of the Specifications. |
| | | .4 | Reduce waste during installation of new materials. Undertake practices which will optimize full use of materials and minimize waste. |
| | | .5 | Provide on-site facilities to collect, handle and store anticipated quantities of reusable, salvageable and recyclable materials. |
| | | .6 | Establish methods whereby hazardous and toxic materials, and their containers used on site are properly handled, stored and disposed in accordance with applicable federal, provincial and municipal laws and regulations. |
|
 | | | |
| 3. | Disposal Requirements | .1 | Burying or burning of rubbish and waste materials is prohibited. |
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Construction Demolition, Waste Management, and Disposal

Page 2

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- .2 Disposal of volatile materials, mineral spirits, oil, paint, and other hazardous materials into waterways, storm, or sanitary sewers is prohibited.
 - .3 Dispose of waste only at approved waste processing facility or landfill sites approved by authority having jurisdiction.
-

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Closeout Submittals

Page 1

PART 1 GENERAL1.1 Administrative
Requirements

- .1 Pre-warranty Meeting:
 - .1 Convene meeting one week prior to contract completion with contractor's representative and Departmental Representative, in accordance with Section 01 10 10 - General Instructions to:
 - .1 Verify Project requirements.
 - .2 Review warranty requirements and manufacturer's installation instructions.
- .2 Departmental Representative to establish communication procedures for:
 - .1 Notifying construction warranty defects.
 - .2 Determine priorities for type of defects.
 - .3 Determine reasonable response time.
- .3 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.
- .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.2 Action and
Informational
Submittals

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide evidence, if requested, for type, source and quality of products supplied.

1.3 Format

- .1 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
 - .2 When multiple binders are used correlate data into related consistent groupings.
 - .1 Identify contents of each binder on spine.
-

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Closeout Submittals

Page 2

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- .3 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
 - .4 Arrange content by systems, under Section numbers and sequence of Table of Contents.
 - .5 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
 - .6 Text: manufacturer's printed data, or typewritten data.
 - .7 Drawings: provide with reinforced punched binder tab.
 - .1 Bind in with text; fold larger drawings to size of text pages.

1.4 Contents - Project Record Documents

- .1 Table of Contents for Each Volume: provide title of project;
 - .1 Date of submission; names.
 - .2 Addresses and telephone numbers of Consultant and Contractor with name of responsible parties.
 - .3 Schedule of products and systems, indexed to content of volume.
 - .2 For each product or system:
 - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
 - .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
 - .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
 - .5 Typewritten Text: as required to supplement product data.
 - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's
-

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Closeout Submittals

Page 3

instructions specified in Section 01 45 00 -
Testing and Quality Control.

1.5 As -Built
Documents and
Samples

- .1 Maintain, in addition to requirements in General Conditions, at site for Departmental Representative one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction.
 - .1 Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
 - .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.
 - .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.

1.6 Recording
Information on
Project Record
Documents

- .1 Record information on set of black line opaque drawings, provided by Departmental Representative.
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Closeout Submittals

Page 4

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- .2 Use felt tip marking pens, maintaining separate colours for each major system, for recording information.
 - .3 Record information concurrently with construction progress.
 - .1 Do not conceal Work until required information is recorded.
 - .4 Contract Drawings and shop drawings: mark each item to record actual construction, including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not on original Contract Drawings.
 - .7 References to related shop drawings and modifications.
 - .5 Specifications: mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
 - .6 Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections.
 - .7 Provide digital photos, if requested, for site records.

1.7 Equipment and Systems

- .1 For each item of equipment and each system include description of unit or system, and component parts.
-

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Closeout Submittals

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- .1 Give function, normal operation characteristics and limiting conditions.
 - .2 Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
 - .2 Operating Procedures: include start-up, break-in, and routine normal operating instructions and sequences.
 - .1 Include regulation, control, stopping, shut-down, and emergency instructions
 - .2 Include summer, winter, and any special operating instructions.
 - .3 Maintenance Requirements: include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
 - .4 Provide servicing and lubrication schedule, and list of lubricants required.
 - .5 Include manufacturer's printed operation and maintenance instructions.
 - .6 Include sequence of operation by controls manufacturer.
 - .7 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - .8 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
 - .9 Include test and balancing reports as specified in Section 01 45 00 - Testing and Quality Control.
 - .10 Additional requirements: as specified in individual specification sections.

1.8 Materials and Finishes

- .1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
-

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Closeout Submittals

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.1 Provide information for re-ordering custom manufactured products.

.2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

.3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

1.9 Final Survey

.1 Submit final site as-built survey plan in both electronic and paper format. Electronic format to be CAD and Pdf copy of paper format. Paper format to be stamped and signed by qualified registered land surveyor, licensed to practice in Nova Scotia. Survey information to include all features within the extents of the site and extend to existing ground prior to construction. Streambed within the site is also surveyed. Maximum spacing between survey points not to exceed 10 metres.

.2 Submit final site survey certificate, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

1.10 Warranties and Bonds

.1 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten (10) days after completion of applicable item of work.
- .4 Verify that documents are in proper form, contain full information, and are notarized.

-
- .5 Co-execute submittals when required.
 - .6 Retain warranties and bonds until time specified for submittal.

 - .2 Except for items put into use with Departmental Representative's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.

PART 2 PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 EXECUTION

3.1 NOT USED

.1 Not Used.

END
