

PART 1 - GENERAL

1.1 REFERENCES

- .1 Nova Scotia Public Highways Act;
- .2 Nova Scotia Forest Enhancement Act;
- .3 Canada National Parks Act;
- .4 Nova Scotia Environment Act; and
- .5 Canadian Environmental Protection Act.

1.2 DESCRIPTION OF WORK

- .1 Work under this Contract covers the furnishing of all labour, materials and equipment required to provide construction services for the replacement of Neil's Brook Bridge crossing on the Cabot Trail, located near the Buchanan Memorial Hospital at Neil's Harbour, Nova Scotia, in the Cape Breton Highlands National Park (CBHNP). The project includes, but is not limited to:
 - .1 Site erosion and sediment control measures, including check dams, silt fencing, silt curtain, hay/straw bales, vegetative stabilization and other measures as required, maintained for the duration of the project.
 - .2 Maintenance of traffic along travel lanes.
 - .3 Supply and operation of traffic control for duration of the project.
 - .4 Removal and disposal of existing features within limit of contract including tree clearing and grubbing, asphalt pavement and concrete structures and foundations.
 - .5 Excavation of roadway structure.
 - .6 Rock breaking and excavation, as required.
 - .7 Supply and installation of new bridge structure, including but not limited to piles, foundations bridge abutments, wingwalls, deck, reinforcing, girders, waterproofing, asphalt, railings, concrete sealing, waterline supports, and other associated fixtures.
 - .8 Supply, placement and compaction of bedding, surround and backfill/sub-grade and fill against structure materials.

1.2 DESCRIPTION OF WORK	.1	(Cont'd)
(Cont'd)		.9 Supply, placement and compaction of sub-base and base gravels in roadway structure.
		.10 Removal and disposal of existing bridge including lead-based paint abatement. Removal and disposal of bridge foundations to below grade. Removal of approaches.
		.11 Construction of asphalt pavement, including butt joint overlays.
		.12 Supply and installation of finish surfacing, including rip rap and shoulder gravel.
		.13 Pavement markings and signage.
		.14 Supply and installation of guard rail.
		.15 Delivery of materials to site, including permits. Consider transport of girders and piles to site.
		.16 Provide continuous, uninterrupted service for water supply across river (including to Hospital) throughout all phases of work. Supply and install temporary and new service and connect and commission. Provide testing for repressurization and switch-over(s) as required by the Work.

1.3 CODES	.1	Meet or exceed requirements of: Contract documents, Specified standards, codes and referenced documents.
	.2	Conform to the latest revision of any referenced standard as re-affirmed or revised to the date of specification. Standards or codes not dated shall be deemed editions in force on the date of tender advertisement.

1.4 DOCUMENTS REQUIRED	.1	Maintain at job site, one copy of each of the following:
		.1 Contract Drawings;
		.2 Specifications;
		.3 Addenda;
		.4 Reviewed shop drawings;
		.5 Change orders;
		.6 Other modifications to Contract;
		.7 Field test reports;
		.8 Copy of approved work schedule; and
		.9 Manufacturer's installation and application instructions.

1.4 DOCUMENTS REQUIRED (Cont'd)	.1 (Cont'd) .10 All testing results.
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1.5 WORK SCHEDULE	.1 Provide within 5 working days after Contract Award, construction schedule showing anticipated progress stages and final completion of work within time period required by Contract Documents and as specified herein.
	.2 All in-stream work is to be carried out under low flow conditions and during the period of June 1 to September 30.
	.3 Interim reviews of work progress based on work schedule will be conducted as decided by Departmental Representative and schedule updated by Contractor in conjunction with and to approval of the Departmental Representative.

1.6 CONTRACTOR'S USE OF SITE	.1 Contractor's use of site for trailers storage and preparatory work shall be limited to an area within limits of traffic diversion. Any additional areas required shall be approved by the Departmental Representative prior to use.
	.2 Maintain the site in a tidy condition free from the accumulation of waste products and debris. Upon substantial performance of the work, remove surplus products, tools, machinery and equipment from the site. Completion of clean-up is required for total performance of the work.
	.3 Provide any and all traffic control services required for the project.
	.4 Obtain all necessary permits to perform work and to comply with all permit requirements and conditions.
	.5 Maintain work during construction. Undertake continuous maintenance each day. Maintain roadway and structures in a safe and tidy condition.

1.7 PROJECT
MEETINGS

- .1 Departmental Representative will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.
- .2 The Departmental Representative shall make available, with adequate notice, meeting facilities for regular project meetings.
- .3 Attend project meetings as specified. Arrange for and ensure applicable project sub-trades attend meetings as required.

1.8 SETTING OUT OF
WORK

- .1 Employ a certified surveyor to mark out work. All surface modifications are restricted to the identified construction limits.
- .2 Assume full responsibility for and execute complete layout of work to locations, lines and elevations indicated.
- .3 Provide devices needed to lay out and construct work.
- .4 Supply such devices as straight edges and templates required to facilitate Departmental Representative's inspection of work.
- .5 Provide coordinates, elevations and dimensions from site as required by the Departmental Representative.

1.9 EXISTING
SERVICES

- .1 Where Work involves breaking into or connecting to existing services, carry out work at times directed by authorities having jurisdiction, with minimum of disturbance to pedestrian and vehicular traffic.
 - .2 Before commencing work, establish location and extent of service lines in area of Work and notify Departmental Representative of findings.
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| <u>1.9 EXISTING SERVICES</u>
(Cont'd) | .3 | Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties. |
| | .4 | Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing. |
| | .5 | Record locations of maintained re-routed and abandoned service lines. |
| | .6 | Confirm all inverts and critical elevations in the field prior to construction. |
| | .7 | Maintain existing signs at all times. When it is necessary to temporarily remove a sign, dismantle and re-establish on a temporary post or stand set back from construction area. Sign may require relocation to more than one temporary location. Reinstate to permanent location at end of Work. This item is incidental to the Work and no separate payment will be made for maintaining or moving signs. |
| <u>1.10 ADDITIONAL DRAWINGS</u> | .1 | Departmental Representative may furnish additional drawings for clarification. These additional drawings have same meaning and intent as if they were included with plans referred to in the Contract Documents. |
| <u>1.11 CONSTRUCTION SAFETY MEASURES</u> | .1 | The Contractor must submit a Safety Plan prior to the pre-construction meeting. |
| <u>1.12 EXCAVATION</u> | .1 | Prior to commencing any excavation, check for and become aware of all buried utilities and submit findings for review and approval by Departmental Representative. |
| <u>1.13 STANDARD HOURS</u> | .1 | Work that involves temporary disruption of services will be scheduled through the Departmental Representative. |

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| <u>1.14 SITE
CONDITIONS</u> | .1 | For geotechnical and borehole information, refer to report prepared by EnGlobe, dated , December 14, 2015, (Ref. No. 20335), attached in Appendix A. |
| | .2 | Promptly notify Departmental Representative if subsurface conditions differ materially from those indicated in Contract Documents or a reasonable assumption of probable conditions based thereon. |
| | .3 | Visit the roadway and review existing site conditions prior to starting the Work. |
| <u>1.15 EXISTING
SURVEY</u> | .1 | Topographic survey used in the preparation of these contract documents was performed by SNC Lavalin in June 2015, File No. 627102. |
| <u>1.16 WORK WITHIN
PARK BOUNDARIES</u> | .1 | The Work is within a National Park. It is essential that all lands remain as undisturbed as possible. Use standards and methods beyond those for normal construction in order to protect the environment and ensure aesthetics of the Work. Strictly adhere to contract limits and take every precaution to minimize environmental damage and disruption to vegetation, wildlife habitat, and structures or existing services, both on construction and storage sites. |
| | .1 | If damage occurs during construction, bear the expense to immediately restore such damaged areas to the satisfaction of the Departmental Representative. |
| | .2 | If restoration fails to satisfy specified requirements, the Departmental Representative may complete repairs at the Contractor's expense. |
| | .3 | Ensure no damage will be done to aerial or underground electrical/communications cables. |
| | .4 | Submit all sources of aggregate and asphalt cement to Departmental Representative at least two weeks prior to start of the Work. |

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| 1.16 WORK WITHIN
PARK BOUNDARIES
(Cont'd) | .1 | (Cont'd) |
| | .5 | Follow Provincial requirements regarding: Pit and Quarry guidelines; and Environmental Construction Practice Specifications. |
| | .6 | Make arrangements with authorities or owners of private properties for quarrying and transporting materials and machinery over properties and roads. Obtain associated permits and pay associated fees. |
| 1.17 NOISE | .1 | Fit all construction equipment with standard noise suppression devices. Maintain devices in accordance with manufacturer's requirements. Use smaller, less-disturbing equipment where possible. |
| | .2 | Limit scheduling of Work activities on site in accordance with Section 01 14 10, Scheduling and Management of Work. |
| 1.18 AIR QUALITY | .1 | Implement an anti-idling policy for trucks and machinery. |
| | .2 | Submit dust control measures to Departmental Representative prior to starting Work. Apply dust control measures during periods of dust generation. |
| 1.19 RELICS
ANTIQUES AND
WILDLIFE HABITAT | .1 | Protect relics, antiquities, wildlife habitat, items of historical or scientific interest such as cornerstones and contents, animal nesting sites, commemorative plaques, inscribed tablets, and similar objects found during course of work. |
| | .2 | Give immediate notice to Departmental Representative and await Departmental Representative's written instructions before proceeding with work in this area. |
| | .3 | Relics, antiquities and items of historical or scientific interest remain her Majesty's property. |

<u>1.20 NATIONAL PARKS ACT</u>	.1	For projects within boundaries of National Park, perform work in accordance with National Parks Act.
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<u>1.21 PERMITS/ AUTHORITIES</u>	.1	Obtain and pay for permits from authorities as required for the Work. Comply with pertinent regulations of authorities having jurisdiction over the Work. Provide copies of permits to Departmental Representative prior to starting the Work.
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PART 2 - PRODUCTS

<u>2.1 NOT USED</u>	.1	Not used.
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PART 3 - EXECUTION

<u>3.1 NOT USED</u>	.1	Not used.
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PART 1 - GENERAL

- 1.1 SUBMITTALS
- .1 Upon acceptance of bid and prior to commencement of work, submit to Departmental Representative the following work management documents:
 - .1 Work Schedule as specified herein.
 - .2 Health and Safety Plan as specified in Section 01 35 29 - Health and Safety Requirements.
 - .3 Environmental Protection Plan as specified in Section 01 35 43 - Environmental Procedures.
 - .4 Traffic Control Plan as specified in Section 01 55 26 - Traffic Regulation.
- 1.2 WORK SCHEDULE
- .1 Upon acceptance of bid submit:
 - .1 Preliminary work schedule within 5 calendar days of contract award.
 - .2 Comply with the following work schedule limitations:
 - .1 Complete the Work of this project, including full demobilization from site prior to end of day November 24th, 2016.
 - .2 All in-stream work shall take place only under low flow conditions and during the period as indicated in Section 01 35 43, Environmental Procedures.
 - .3 Prior to commencing demolition of the existing bridge crossing, ensure the two traffic lanes are open and operational on the new bridge structure.
 - .4 Limit on site construction to between 7:30am and 6:30pm.
 - .5 Pile driving operations shall be limited as above, but in addition shall be limited to between 7:30am and 6:30pm for all months.
 - .3 Schedule to indicate all calendar dates from commencement to completion of all work within the time stated in the accepted bid.
 - .4 Provide sufficient details in schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
 - .5 Work schedule content to include as a minimum the following:
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- .1 Bar (GANTT) Charts, indicating all work activities, tasks and other project elements, their anticipated durations, planned dates for achieving key activities and major project milestones supported with;
- .2 Written narrative on key elements of work illustrated in bar chart, providing sufficient details to demonstrate a reasonable implementation plan for completion of project within designated time.
- .3 Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .6 Work schedule must take into consideration and reflect the work phasing.
- .7 Schedule work in cooperation with the Departmental Representative.
- .8 Completed schedule shall be approved by Departmental Representative. When approved, take necessary measures to complete work within scheduled time. Do not change schedule without Departmental Representative's approval.
- .9 Ensure that all subtrades and subcontractors are made aware of the work restraints and operational restrictions specified.
- .10 Schedule Updates:
 - .1 Submit when requested by Departmental Representative.
 - .2 Provide information and pertinent details explaining reasons for necessary changes to implementation plan.
 - .3 Identify problem areas, anticipated delays, impact on schedule and proposed corrective measures to be taken.
- .11 Departmental Representative will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by Departmental Representative. Address and take corrective measures on items identified by reviews and as directed by Departmental Representative. Update schedule

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accordingly.

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

END SECTION

PART 1 - GENERAL

1.1 GENERAL
REQUIREMENTS

- .1 The Form of Tender includes one lump sum priced item and several unit priced items.
 - .2 The total tendered price shall be the sum of the lump sum item plus the amounts calculated from the unit priced items based on the approximate quantities identified for each of the unit priced items.
 - .3 The Contractor in submitting their Tender for the project understand that they will only be entitled to payment under the unit priced items when prior written authorization has been received from the Departmental Representative for utilization and then only to the extent of the work authorized by the Departmental Representative.
 - .4 The estimated quantities shown in the Unit Price Table are provided for the purpose of comparing proposals, and are not guaranteed to be final, accurate or complete. Actual quantities may vary from those initially estimated and will not be grounds for renegotiations of proposal unit prices. The unit prices shall be applicable to greater or lesser quantities. Payment shall be at the unit prices in the proposal.
 - .5 Additional instructions for measurement and/or payment for items of the work may be contained in specific sections of the Technical Specifications. In the case of a conflict between the instructions for measurement and payment contained in this section with that of any other section, the requirement of this section shall apply.
 - .6 The submitted tender prices will be inclusive of all costs for the complete supply and installation of all materials, labour and equipment required to complete the work. No separate payment will be made for any testing, inspections and approvals required by Contractor.
 - .7 All measurement shall be along a horizontal plane unless otherwise indicated.
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- .8 Lengths refer to measurements along centreline of installation unless otherwise indicated.
- .9 Materials specified for measurement by mass shall be weighed on scales approved by Departmental Representative. Units used to haul material being paid for by mass shall bear legible identification numbers plainly visible to scale person as it approaches and leaves scale-house.

1.2 LUMP SUM ITEM

- .1 No separate measurement for payment shall be made for any work completed under this item.
- .2 Any and all items not specifically included in the unit price items are considered incidental to the work and are to be included in the lump sum portion of the work. The work of the lump sum item shall include, all works which are required for completion of the project, exclusive of those covered by the unit price items. This includes, but is not limited to the following:
 - 1. Mobilization, including complete mobilization to site.
 - 2. Demobilization, including removal of all materials, equipment, buildings, shops, offices, and other facilities after Work is complete and site is cleaned and left in condition to the satisfaction of the Departmental Representative and all other Agencies having Jurisdiction.
 - 3. Structure Demolition, including demolition and removal of existing bridge superstructure, including but not limited to: deck, curbs, railings, asphalt and girders. This item also includes complete demolition and removal of existing foundations for existing bridge and for former abandoned bridge. This item also includes excavation of all material of whatever nature encountered, to access existing foundations for demolition and water control.
 - 4. Reinforcing Steel, including but not limited to supply, transportation, and placing as indicated and necessary for this Work. Waste materials, chairs, bolsters, bracing and ties are considered incidental to this item. For information only, the approximate reinforcing steel quantity is in the order of 20,000kg. For information only, approximate reinforcing steel quantities are provided solely

for information purposes. The Departmental Representative makes no claim with respect to quantity accuracy. Review design drawings and prepare own quantities.

5. GFRP Reinforcing, including supply, transportation, and placing as indicated and necessary for this Work. Waste materials, chairs, bolsters, bracing and ties are considered incidental to this item. For information only, the approximate GFRP reinforcing quantity is in the order of 11,500m of 15 diameter bars, 5000m of 20 diameter bars and 100m of 25 diameter bars. For information only, approximate GFRP reinforcing quantities are provided solely for information purposes. The Departmental Representative makes no claim with respect to quantity accuracy. Review design drawings and prepare own quantities.

6. Prestressed Concrete Bridge Girders, including shop drawings, erection drawings, pretensioning, concrete, manufacture, curing, supply, delivery and installation. This item also includes temporary shoring and protection of girders as required until completion of the work.

7. Silane concrete sealer, including preparation of surfaces, supply and installation, including all materials and tools. Overspray, waste materials and overlap are incidental to this item.

8. Acrylic concrete sealer, including preparation of surfaces, supply and installation, including all materials and tools. Overspray, waste materials and overlap are incidental to this item.

9. Painted traffic lines and markings, including line painting, including reflective glass beads, of centerlines to match existing layout (double solid, solid/dash or single dash lines), two shoulder lines, as well as all intersections, arrows, delineation, special markings, etc., for the full length of the work area. Traffic control associated with the application of pavement markings is considered incidental to this item. This item also includes all temporary striping required during the course of construction. All pavement markings shall be in accordance with the Manual of Uniform Traffic Devices for Canada (MUTDC), latest edition.

10. Pipe, including supply and install pipe and pre-insulated pipe, complete with all fittings and thrust restraints, testing, chlorination and

de-chlorination, bedding and pipe protection gravels, polyethylene encasement, common excavation, backfilling, environmental protection and reinstatement as specified. Electrical Work is incidental to this item, including: heat tracing, wiring, trenching, power cable installation and all other items required to complete this item. Pipe bracket supports onto the bridge structure are not included in this item and are included in the unit price items below.

11. Direct Buried Valve, including supply and install direct buried valve complete with valve box, appurtenances, polyethylene encasement, anodes, common excavation, backfilling and finish grade adjustment.

12. Temporary water service, including supply of all labour, material and equipment required for installing, maintaining and removing service laterals complete with valves, pipe, backflow prevention device (sized to match temporary main line diameter), meter and vacuum breakers at the connection to Hospital. All pipe must be disinfected in accordance with specifications. Coordinate connection with PWGSC, the hospital and municipality. Limits of temporary water service may extend outside the limits of construction. Larger temporary lines may be required to ensure that an adequate supply of water is provided to Hospital. Submit a proposed plan 2 weeks prior to installation for review by the municipality.

13. Pipe Culverts, including excavation, bedding and backfilling, supply and placement of pipe complete with all fittings.

14. All other items, including: all works that are required for completion of the project, exclusive of those covered by the unit priced items and those listed above. This includes, but is not limited to: project layout and surveying; construction facilities; weigh scales; permits; temporary structures; construction engineering; cold weather protection and curing of materials; water control; traffic control; environmental protection measures; silt curtains; coffer structures; temporary shoring structures; coordination and payment of external utilities for work performed in the Park; site demolition; asphalt removal; guiderail removal; relocations; saw-cutting; deck removal; removal of existing

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reinforcing from demolished concrete and all other items required to complete the Work.

1.3 UNIT PRICE ITEMS

Cast In Place High Performance Concrete:

.1 Unit of Measurement: cubic meter (m³)
.2 Method of Measurement: Volume of consolidated concrete installed in completed structures including wingwalls, pilasters, approach slabs and sidewalks and curbs on the approaches. Waste materials are not included.

.3 This item includes: furnishing of all materials, aggregates, cement, supplementary cementing materials, concrete mixes, admixtures, tools, equipment, falsework, forms, bracing, labour, placing, compacting, finishing, curing, surface finishing, and all other items required to compete this work. Supply and installation of decorative Parks Canada emblems are incidental to this item. Date stamps and architectural insets are incidental to this item. Supply and installation of precast concrete post caps are considered incidental to this item, including anchorages and grout.

.2 Concrete for Bridge Decks:

.1 Unit of Measurement: cubic meter (m³)
.2 Method of Measurement: Volume of consolidated concrete installed in completed structures. Waste materials are not included.

.3 This item includes: furnishing of all materials, aggregates, cement, supplementary cementing materials, concrete mixes, admixtures, tools, equipment, falsework, forms, bracing, labour, placing, compacting, finishing, curing, surface finishing, and all other items required to compete this work for: bridge deck, haunches, curbs and sidewalk along each side of the deck. Measured as all concrete above the top flange of the girders, across the entire width of the deck and longitudinally between the bridge-end of each approach slab (back face of abutments).

.3 Miscellaneous Concrete (not on bridge):

.1 Unit of Measurement: cubic meter (m³)
.2 Method of Measurement: Volume of consolidated concrete installed in completed structures. Waste materials are not included.

.3 This item includes: furnishing of all materials, aggregates, cement, supplementary cementing

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materials, concrete mixes, admixtures, tools, equipment, falsework, forms, bracing, labour, placing, compacting, finishing, curing, surface finishing, and all other items required to compete this work, including but not limited to concrete for: sidewalks beyond approaches, curb and gutter beyond approaches; sign bases, baffle drains, and other site related concrete.

- .4 Miscellaneous Steel Fabrications (Steel):
 - .1 Unit of Measurement: kilogram (kg)
 - .2 This item includes: shop drawings, supply, transportation and installation of galvanized steel items required to complete the work, including but not limited to: the armour angle assembly at approach ends of approach slabs; underslab drainage and supports and all other items required for this work. Anchorage or casting-in of components are incidental to this item. Hot dip galvanizing and required zinc-solder touch-up are incidental to this item.
- .5 Miscellaneous Steel Fabrications (Stainless Steel):
 - .1 Unit of Measurement: kilogram (kg)
 - .2 This item includes: shop drawings, supply, transportation and installation of all stainless steel components required to complete the work, including: supports for waterline, their anchorages and all other items required for this work. Stainless steel anchorages, including anchors, nuts, washers, drilling preparation and epoxy, are incidental to this item.
- .6 Galvanized TL-2 Metal Fabricated Barrier:
 - .1 Unit of Measurement: meter (m)
 - .2 Method of Measurement: Length from end of horizontal rail to end of horizontal rail. Where curved, length shall be taken as arc length along centreline of top horizontal rail.
 - .3 This item includes: shop drawings, supply, transportation, placing as indicated and necessary for this work. Hot dip galvanizing, drain and vent holes, and zinc solder touch-up are incidental to this item.
- .7 Waterproofing Bridge Decks:
 - .1 Unit of Measurement: square meter (m²)

- .2 Method of Measurement: area of concrete bridge deck and approach slab surfaces waterproofed, including turn up at curbs and sidewalks. Overspray, waste materials and overlap are not included in this item.
- .3 This item includes: preparation of surfaces, supply and installation of waterproofing membrane system on bridge decks and approach slabs, extending vertically on each curb/sidewalk inside face.
- .8 Concrete Joint Sealant:
- .1 Unit of Measurement: meter (m)
- .2 This item includes: preparation of surfaces, supply and installation of complete silicone joint sealing.
- .9 Bridge Bearings:
- .1 Unit of Measurement: each (ea)
- .2 This item includes: shop drawings, supply, delivery and placement of pre-manufactured items.
- .10 Clearing:
- .1 Unit of measurement: hectare (ha).
- .2 Method of Measurement: horizontal area.
- .3 This item includes: clearing and disposal of all roadside vegetation, including trees (standing and felled), shrub vegetation, underbrush, and embedded logs, to limits as indicated and as directed by Departmental Representative.
- .11 Grubbing and Soil Stripping:
- .1 Unit of measurement: hectare (ha).
- .2 Method of Measurement: horizontal area.
- .3 This item includes: removal and disposal of roots, rootmat, humus, stumps, boulders and rock fragments to limits as indicated and as directed by Departmental Representative.
- .4 This item also includes excavation of topsoil, stockpiling on site, placement and compaction to lines and elevations indicated, and disposal of surplus or unsuitable material off-site.
- .12 Common Excavation and Embankment:
- .1 Unit of Measurement: cubic meter (m³).
- .2 Method of Measurement: average end area method between cross sections taken after removal to

- lines and elevations indicated.
- .3 This item includes: excavation, placement and compaction to lines and elevations indicated, and disposal of surplus or unsuitable material off-site.
- .4 This item also includes common excavation for structure foundations.
- .13 Rock Excavation and Embankment:
- .1 Unit of Measurement: cubic meter (m³).
- .2 Method of Measurement: average end area method between cross sections taken after removal to lines and elevations indicated.
- .3 This item includes: excavation, placement and compaction to lines and elevations indicated, and disposal of surplus or unsuitable material off-site.
- .4 This item also includes rock excavation for structure foundations.
- .14 Rip Rap:
- .1 Unit of Measurement: Metric Tonne (1000 kg)
- .2 Method of Measurement: Scale tickets signed by Departmental Representative, except as provided below.
- .3 This item includes: supply, placement, hauling and compaction.
- .4 There shall be no payment for extra thickness of materials placed outside of limits. Whenever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.
- .5 This item also includes geotextile at the locations of rip rap dispersion aprons.
- .15 Abutment Piles:
- .1 Unit of Measurement: meter (m).
- .2 Method of Measurement: measure length of pile supplied and driven, minus the segment of pile cut off above specified top-of-pile elevation. Cut-off segments are not included in the length. Length of welded pile cap plates and driving shoes is not included in the length.
- .3 This item includes: shop drawings; erection drawings; welding procedures; supply, delivery and installation into the finished work, including all handling and storing, falsework, placing, erection, driving, and cutting;

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supply, fabrication and fastening of splice plates, reinforcing plates, pile cap plates and driving shoes. This item also includes allowing and accommodating Departmental Representative to complete pile testing. Account for time required for testing.

- .16 Asphalt Milling:
 - .1 Unit of measurement: square meter (m²).
 - .2 Method of Measurement: horizontal surface area subject to cold planning to required depth, rounded to one decimal place.
 - .3 This item includes: labour, materials and equipment to: carry out the cold planing to the required depth, sweep the planed surface and load and haul milled material from the site and off the Park for disposal or recycling.
- .17 Full Depth Asphalt Removal:
 - .1 Unit of Measurement: square meter (m²)
 - .2 Method of Measurement: horizontal surface area.
 - .3 This item includes: labour, materials and equipment to remove existing asphalt full thickness and removal of material from the side and off the Park for disposal or recycling.
- .18 Granular Sub-base:
 - .1 Unit of Measurement: metric tonne (1000 kg).
 - .2 Method of Measurement: Scale tickets signed by Departmental Representative, except as provided below.
 - .3 This item includes: supply, placement, hauling and compaction of materials as indicated on the drawings. This item also includes scarification and compaction of existing sub-grade below materials.
 - .4 There shall be no payment for extra thickness of materials placed outside of limits. Whenever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.
- .19 Granular Base:
 - .1 Unit of Measurement: metric tonne (1000 kg).
 - .2 Method of Measurement: Scale tickets signed by Departmental Representative, except as provided below.
 - .3 This item includes: supply, placement, hauling

and compaction of materials as indicated on the drawings. This item also includes scarification and compaction of existing sub-grade below materials.

.4 There shall be no payment for extra thickness of materials placed outside of limits. Whenever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.

.20 Fill Against Structure:

.1 Unit of Measurement: metric tonne (1000 kg).

.2 Method of Measurement: Scale tickets signed by Departmental Representative, except as provided below.

.3 This item includes: supply, placement, hauling and compaction of materials as indicated on the drawings. This item also includes scarification and compaction of existing sub-grade below materials.

.4 There shall be no payment for extra thickness of materials placed outside of limits. Whenever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.

.21 Asphalt Tack Coat:

.1 Unit of measurement: square meter (m2).

.2 Method of Measurement: horizontal surface area, rounded to one decimal place.

.3 This item includes: labour, materials and equipment used to clean the existing surface, supply and apply tack coat, together with the provision of portable traffic lights, if required. This item also includes tack coat application on any vertical joints at limits of surface areas.

.22 Hot Mix Asphalt HMA Base Course:

.1 Unit of Measurement: metric tonne (1000 kg)

.2 Method of Measurement: Scale tickets signed by Departmental Representative, except as provided below.

.3 This item includes: supply, placement and compaction of asphaltic concrete, including asphalt binder, as indicated.

.4 There shall be no payment for extra thickness or extra width of asphalt placed. Wherever in the

opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.

- .23 Hot Mix Asphalt HMA Surface Course:
 - .1 Unit of Measurement: metric tonne (1000 kg)
 - .2 Method of Measurement: Scale tickets signed by Departmental Representative, except as provided below.
 - .3 This item includes: supply, placement and compaction of asphaltic concrete, including asphalt binder, as indicated.
 - .4 There shall be no payment for extra thickness or extra width of asphalt placed. Wherever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.
- .24 Paving for Bridge Decks:
 - .1 Unit of Measurement: metric tonne (1000 kg)
 - .2 Method of Measurement: Scale tickets signed by Departmental Representative, except as provided below.
 - .3 This item includes: supply, transportation of all materials including emulsified asphalt tack coat; handline, preparation of surface, placing, rolling; supply of all material and application of pavement marking and all other incidentals.
 - .4 There shall be no payment for extra thickness or extra width of asphalt placed. Wherever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.
- .25 Hydraulic Seeding:
 - .1 Unit of Measurement: square meter (m2).
 - .2 Method of Measurement: Along plane of Surface.
 - .3 This item includes: preparation of surfaces, topsoil and finish grading, preparation of slurry, application of seed mixture and maintenance during established and warranty period.
- .26 Topsoil and Sod:
 - .1 Unit of Measurement: square meter (m2).
 - .2 Method of Measurement: slope measure.
 - .3 This item includes: excavation, topsoil, lime and fertilizer, sod, required accessories, and maintenance.

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- .27 Guiderail:
 - .1 Unit of Measurement: meter (m).
 - .2 Method of Measurement: along the top of rail through posts.
 - .3 This item includes: excavation, supply and placing posts, rail, end treatments, accessories, and surface reinstatement.
- .28 Guiderail Removal:
 - .1 Unit of Measurement: meter (m).
 - .2 Method of Measurement: along the top of rail through posts, regardless of the number of rails between individual posts.
 - .3 This item includes: removal of existing, salvage of designated components, transporting, backfilling, compaction and reinstatement of disturbed surfaces and disposal of all materials.
- .29 Rock Lined Ditch:
 - .1 Square meter (m2).
 - .2 This item includes: all materials and labour required for supply and installation of rock lined ditches, including excavation, grading and granular materials.
- .30 Sign and Signpost Installation:
 - .1 Unit of Measurement: each (ea).
 - .2 This item includes: all labour and materials required for supply and installation of sign posts. Removal of existing signs being replaced is incidental to this item, including removal of posts, backfilling, and reinstatement of disturbed surfaces.
- .31 Asphalt Gutters:
 - .1 Unit of Measurement: meter (m).
 - .2 Method of measurement: along centreline of asphalt concrete gutter.
 - .3 This item includes: all materials and labour required to supply and install asphalt concrete gutter, including but not limited to bedding and asphalt to total length indicated on drawings.

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PART 2 - PRODUCTS

2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

END OF SECTION

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PART 1 - GENERAL

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|-----------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE</u> | .1 | Particular requirements for inspection and testing to be carried out by testing laboratory designated by Departmental Representative are specified under various sections. |
| <u>1.2 APPOINTMENT AND PAYMENT</u> | .1 | <p>Departmental Representative will appoint and pay for services of testing laboratory except as follows:</p> <ul style="list-style-type: none"> .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities. .2 Inspection and testing performed exclusively for Contractor's convenience. .3 Testing, adjustment and balancing of equipment and systems. .4 Mill tests and certificates of compliance. .5 Tests specified to be carried out by Contractor under the supervision of Departmental Representative. .6 Additional tests specified in the following paragraph. |
| | .2 | Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, pay costs for additional tests or inspections as required by Departmental Representative to verify acceptability of corrected work. |
| <u>1.3 CONTRACTOR'S RESPONSIBILITIES</u> | .1 | <p>Provide labour, equipment and facilities to:</p> <ul style="list-style-type: none"> .1 Provide access to Work to be inspected and tested. .2 Facilitate inspections and tests. .3 Make good Work disturbed by inspection and test. .4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples. |
| | .2 | Notify Departmental Representative sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test. |

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1.3 CONTRACTOR'S
RESPONSIBILITIES
(Cont'd)

- .3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
- .4 Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by Departmental Representative.

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

- 3.1 NOT USED .1 Not Used.

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PART 1 - GENERAL

1.1 DEFINITIONS

- .1 Activity: An element of Work performed during course of Project. An activity normally has an expected duration, an expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2 Bar Chart (GANTT Chart). A graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.
- .3 Baseline: Original approved plan (for Project, work package, or activity), plus or minus approved scope changes.
- .4 Construction Work Week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.
- .5 Duration: Number of work periods (not including holidays or other nonworking periods) required to complete an activity or other Project element. Usually expressed as workdays or workweeks.
- .6 Master Plan: A summary-level schedule that identifies major activities and key milestones.
- .7 Milestone: A significant event in Project, usually completion of major deliverable.
- .8 Project Schedule: The planned dates for performing activities and the planned dates for meeting milestones. A dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

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1.1 DEFINITIONS (Cont'd)

- .9 Project Planning, Monitoring and Control System: Overall system operated by Departmental Representative to enable monitoring of project work in relation to established milestones.

1.2 REQUIREMENTS

- .1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.
- .2 Plan to complete Work in accordance with prescribed milestones and time frame.
- .3 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.3 SUBMITTALS

- .1 Submit to Departmental Representative within 5 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.
- .2 Submit Project Schedule to Departmental Representative within 5 working days of receipt of acceptance of Master Plan.

1.4 PROJECT MILESTONES

- .1 Project milestones form targets for Project Schedule.
 - .1 Work to achieve substantial completion within 18 weeks of Contract Award.

1.5 MASTER PLAN

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 Departmental Representative will review and return revised schedules within 5 working days.
- .3 Revise impractical schedule and resubmit within 5 working days.

1.5 MASTER PLAN
(Cont'd)

- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.6 PROJECT
SCHEDULE

- .1 Develop detailed Project Schedule derived from Master Plan.
- .2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
 - .1 Award.
 - .2 Shop Drawings, Samples.
 - .3 Permits.
 - .4 Mobilization.
 - .5 Excavation.

1.7 PROJECT
SCHEDULE REPORTING

- .1 Update Project Schedule every 2 weeks reflecting activity changes and completions, as well as activities in progress.
- .2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.8 PROJECT
MEETINGS

- .1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not used.

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PART 3 - EXECUTION

3.1 NOT USED .1 Not used.

PART 1 - GENERAL

- | | | |
|-------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1 RELATED
SECTIONS | .1 | Section 01 11 00 -General Instructions. |
| | .2 | Section 01 45 00 - Quality Control. |
| | .3 | Section 01 78 00 - Closeout Submittals. |
| 1.2 ADMINISTRATIVE | .1 | Submit to Departmental Representative submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed. |
| | .2 | Do not proceed with Work affected by submittal until review is complete. |
| | .3 | Present shop drawings, product data, samples and mock-ups in SI Metric units. |
| | .4 | Where items or information is not produced in SI Metric units converted values are acceptable. |
| | .5 | Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and shall be considered rejected. |
| | .6 | Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations. |
| | .7 | Verify field measurements and affected adjacent Work are coordinated. |
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1.2 ADMINISTRATIVE
(Cont'd)

- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10 Keep one reviewed copy of each submission on site.
- .11 Make any changes in submissions which Departmental Representative may require consistent with Contract Documents and resubmit as directed by Departmental Representative.
- .12 Notify Departmental Representative, in writing, when resubmitting of any revisions other than those requested by Departmental Representative.

1.3 SHOP DRAWINGS
AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work that are specific to project requirements.
- .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .3 Allow 5 working days for Departmental Representative's review of each submission.

1.3 SHOP DRAWINGS
AND PRODUCT DATA
(Cont'd)

- .4 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .5 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of any revisions other than those requested.
- .6 Accompany submissions with transmittal letter, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .7 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication;
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances;
 - .3 Setting or erection details;
 - .4 Capacities;
 - .5 Performance characteristics;
 - .6 Standards;
 - .7 Operating weight;
 - .8 Relationship to adjacent work.
- .8 After Departmental Representative's review, distribute copies.

1.3 SHOP DRAWINGS
AND PRODUCT DATA
(Cont'd)

- .9 Submit 1 PDF digital file or 6 prints of shop drawings for each requirement requested in the Specification sections and as Departmental Representative may reasonably request.
- .10 Submit 1 PDF digital file or 6 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .11 Delete information not applicable to project.
- .12 Supplement standard information to provide details applicable to project.
- .13 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.4 SAMPLES

- .1 Samples: examples of materials, equipment quality, finishes, workmanship.
- .2 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.
- .3 Deliver samples prepaid to Departmental Representative's business address.
- .4 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.

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|---------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.4 SAMPLES
(Cont'd)</u> | .5 | Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work. |
| | .6 | Make changes in samples which Departmental Representative may require, consistent with Contract Documents. |
| | .7 | Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified. |
| <u>1.5 PROGRESS
PHOTOGRAPHS</u> | .1 | Submit electronic and hard copy of colour digital photographs in "jpg" format. |
| | .2 | Identification: name and number of project and date of exposure indicated. |
| | .3 | Number of view points: locations of view points determined by Departmental Representative. |
| | .4 | Frequency: monthly and at completion excavation and services before concealment. |
| <u>1.6 CERTIFICATES
AND TRANSCRIPTS</u> | .1 | Immediately after award of Contract, submit Workers' Compensation Board status. |
| | .2 | Submit transcription of insurance immediately after award of Contract. |
| <u>1.7 WORK SCHEDULE</u> | .1 | Provide within 5 working days after contract award, schedule showing anticipated progress stages and final completion of work within time period required by Contract Documents. |
| | .2 | Interim reviews of work progress based on work schedule will be conducted as decided by Departmental Representative and schedule updated by Contractor in conjunction with and to approval of Departmental |
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PART 2 - PRODUCTS Representative.

2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

- | | | |
|-----------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.1 RELATED SECTIONS</u> | .1 | Section 01 33 00 - Submittal procedures. |
| <u>1.2 REFERENCES</u> | .1 | Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations. |
| | .2 | Province of Nova Scotia |
| | .1 | Occupational Health and Safety Act, S.N.S. 1996. |
| <u>1.3 SUBMITTALS</u> | .1 | Make submittals in accordance with Section 01 33 00 - Submittal Procedures. |
| | .2 | Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include: |
| | .1 | Results of site specific safety hazard assessment. |
| | .2 | Results of safety and health risk or hazard analysis for site tasks and operation found in work plan. |
| | .3 | Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative weekly. |
| | .4 | Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors. |
| | .5 | Submit copies of incident and accident reports. |
| | .6 | Submit Material Safety Data Sheets (MSDS) to Departmental Representative. |

1.3 SUBMITTALS
(Cont'd)

- .7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 7 days after receipt of comments from Departmental Representative.
- .8 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's full responsibility for construction Health and Safety.
- .9 Medical Surveillance: Where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.
- .10 On-site Contingency and Emergency Response Plan: Address standard operating procedures to be implemented during emergency situations.
- .11 Submit other data, information and documentation upon request as stipulated elsewhere in this section.

1.4 FILING OF
NOTICE

- .1 File Notice of Project and other Notices with provincial authorities prior to commencement of Work.
- .2 Upon request, Departmental Representative will provide name and mailing address of provincial department to whom the Notice of Project shall be sent.

1.5 HAZARD
ASSESSMENT

- .1 Implement and carry out a health and safety hazard assessment program as part of the work. Program to include:
 - .1 Initial hazard assessment carried out immediately upon notification of contract award prior to commencement of Work.

1.5 HAZARD
ASSESSMENT
(Cont'd)

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

1.6 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work. Have Contractor's Site Superintendent in attendance. Departmental Representative will advise of time and location.
- .2 Provide site safety orientation session to all workers and other authorized persons prior to granting them access to work site. Brief persons on site conditions and on the minimum site safety rules in force at the site.
- .3 Conduct site-specific occupational health and safety meetings during the entire work as follows:
 - .1 Formal meetings on a minimum monthly basis.
 - .2 Informal "tool box" meetings on a regular basis from a predetermined schedule.

- 1.6 MEETINGS
(Cont'd)
- .4 Keep workers informed of anticipated hazards, on safety practices and procedures to be followed and of other pertinent safety information related to:
 - .1 Progress of work;
 - .2 New sub-trades arriving on site, and;
 - .3 Changes in site and project conditions.
 - .5 Record and post minutes of meeting. Make copies available to Departmental Representative upon request.

- 1.7 GENERAL
REQUIREMENTS
- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
 - .2 Comply with Buchannan Memorial Hospital, Emergency Services and medical supply delivery requirements. Submit Health and Safety Plan to Departmental Representative for review by Health Authority.
 - .3 Health and Safety Plan shall contain the following three (3) parts:
 - .1 Part 1: List of individual health risks and safety hazards identified by hazard assessments.
 - .2 Part 2: List of specific measures to control or mitigate each hazard and risk identified in part one of Plan. Describe the engineering controls, personnel protective equipment and safe work practices to be implemented and followed when performing work related to each identified hazard or risk.
 - .3 Part 3: Emergency Measures and Communications Procedures as follows:

1.7 GENERAL
REQUIREMENTS
(Cont'd)

.3 (Cont'd)

.3 (Cont'd)

.1 Emergency Measures: on-site operating procedures, evacuation measures and emergency response to be implemented in the occurrence of an incident. Procedures to be specific and relevant to identified hazards. Measures to complement and be integrated with the facility and tenants Emergency Response Plans in place at site. Obtain information on existing emergency and evacuation plans from Departmental Representative and incorporate appropriate data.

.2 Communication Procedures:

.1 List of names and telephone numbers of designated officials, to be contacted should an incident or emergency situation occur, including the following.

.1 General Contractor and all Subcontractors. Federal and

.2 Provincial Departments and local emergency resources organizations, as resources organizations, as applicable laws and regulations.

.3 Officials from PWGSC and Parks Canada. Departmental Representative will provide list of names to be included.

.2 Procedures implemented at site to communicate and share information between workers, subcontractors, and General Contractor on work activities and in particular those which might endanger workers and Facility employees.

.3 List of critical construction activities to be communicated with the Facility Manager and designated tenant representatives which could affect facility and tenant operations, or pose a risk to the health and safety of their employees and to the general public. Develop list in consultation with the Departmental Representative.

1.7 GENERAL
REQUIREMENTS
(Cont'd)

- .3 (Cont'd)
.3 (Cont'd)
.4 Prepare Health and Safety Plan in a three column format, addressing the three parts specified above, as follows:

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

- .5 Develop Health and Safety Plan in collaboration with all subcontractors. Address all work and activities of subcontractors as they arrive on site. Immediately update Plan and submit to Departmental Representative.
- .6 Implement, maintain and enforce compliance with requirements of the Health and Safety Plan until final completion of work and demobilization from site.
- .7 As work progresses, review and update Plan addressing additional health risks and safety hazards identified by on-going hazard assessments.
- .8 Submit revised versions of Plan to Departmental Representative.
- .9 Post a typed written copy, including all updates of the Health and Safety Plan in a common visible location at work site.
- .10 Submission of the Health and Safety Plan, and updates to the Departmental Representative is for review and information purposes only. Its submission shall not be construed to imply approval by Departmental Representative, be interpreted as a warranty of being complete, accurate and legislate compliant and shall not relieve the Contractor of his legal obligations for the provision Health and Safety of the Construction Project.
- .11 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

- 1.8 RESPONSIBILITY
- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
 - .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

- 1.9 COMPLIANCE REQUIREMENTS
- .1 Comply with Occupational Health and Safety Act, Occupational Safety General Regulations, N.S. Reg.
 - .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations made under part II of the Canada Labour Code.
 - .3 Observe and enforce construction safety measures required by:
 - .1 2010 National Building Code of Canada, Part 8;
 - .2 Provincial Worker's compensation Board;
 - .3 Municipal Statutes and ordinances.
 - .4 In event of conflict between any provisions of above authorities the most stringent provision shall apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.
 - .5 A copy of the Canada Labour Code Part II may be obtained by contacting:

Canadian Government Publishing
Public Works & Government Services Canada
Ottawa, ON, K1A 0S9
Tel: (819) 956-4800 or 1-800-635-7943

1.10 UNFORESEEN HAZARDS	.1	Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, and follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction. Advise Departmental Representative verbally and in writing.
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1.11 HEALTH AND SAFETY CO-COORDINATOR	.1	Employ and assign to Work, competent and authorized representative as Health and Safety Co-coordinator. Health and Safety Co-ordinator must: <ul style="list-style-type: none"> .1 Have minimum 2 years' site-related working experience specific to activities. .2 Have working knowledge of occupational safety and health regulations. .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work. .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan. .5 Be on site during execution of Work and report directly to and be under direction of site supervisor.
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1.12 POSTING OF DOCUMENTS	.1	Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.
	.2	Post all permits on site. Submit copies to Departmental Representative.

1.13 CORRECTION OF NON-COMPLIANCE	.1	Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
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|-----------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.13 CORRECTION OF
NON-COMPLIANCE
(Cont'd)</u> | .2 | Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified. |
| | .3 | Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected. |
| <u>1.14 BLASTING</u> | .1 | Blasting or other use of explosives is not permitted without prior written instructions from Departmental Representative. |
| <u>1.15 POWDER
ACTUATED DEVICES</u> | .1 | Use powder actuated devices only after receipt of written permission from Departmental Representative. |
| <u>1.16 WORK STOPPAGE</u> | .1 | Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work. |
| <u>1.17 SITE CONTROL
AND ACCESS</u> | .1 | Control work site and entry points. Grant and allow entry to only workers and other persons so authorized. Immediately stop unauthorized persons from circulating within construction areas and remove from site. |
| | .2 | Implement procedures for granting permission to enter into work site to all persons who require access. Procedures to include the provision of a site safety orientation session. |
| | .3 | Delineate and isolate construction areas from other areas of site by use of appropriate means. Erect barricades, fences, hoarding and temporary lighting as required. |
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1.17 SITE CONTROL
AND ACCESS
(Cont'd)

- .4 Erect signage at entry points and at other strategic locations around site, clearly identifying construction area(s) as being "off limits" to unauthorized persons. Signage must be professionally made in both official languages or by use of well-understood graphic symbols.
- .5 Secure site at night time or provide security guard(s) as deemed necessary to protect site against entry.
- .6 Ensure persons granted access are fitted and wear appropriate personnel protective equipment (PPE). Be responsible for the provision of such PPE to persons who require access to conduct work or perform inspections.

1.18 PROTECTION

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

1.19 PERMITS

- .1 Obtain permits, licenses and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.

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| <u>1.19 PERMITS
(Cont'd)</u> | .2 | Where particular permit or compliance certificate cannot be obtained at the required stage of work, notify Departmental Representative in writing and obtain Departmental Representative's approval to proceed prior to carrying out that portion of the work. |
| <u>1.20 MINIMUM SITE
SAFETY RULES</u> | .1 | Notwithstanding the requirement to abide by federal and provincial health and safety regulations, the following safety rules shall be considered minimum requirements at the work site and obeyed by all persons granted access:
.1 Wear personal protective equipment (PPE) appropriate to function and task on site; the minimum requirements being hard hat and safety footwear. Wear eye protection where appropriate.
.2 Immediately report unsafe activities, conditions, near-miss accidents, injuries and damages.
.3 Maintain site in tidy condition.
.4 Obey warning signs and safety tags. |
| | .2 | Brief workers on site safety rules, and on the disciplinary measures to be taken for violation or non-compliance of such rules. Post such information on site. |
| <u>1.21 TOOLS AND
EQUIPMENT SAFETY</u> | .1 | Implement and follow a scheduled tool and equipment inspection/maintenance program at work site. Regularly check tools, equipment and machinery for safe operation and perform maintenance at pre-established time and frequency intervals as recommended by manufacturer. Include subcontractors equipment as part of the inspection process. |
| | .2 | Use standardized checklists to ensure established safety checks are stringently followed. |
| | .3 | Immediately tag and remove items found faulty or defective off site. |
| | .4 | Maintain written documentation on each inspection. Make available to Departmental Representative upon request. |

1.22 HAZARDOUS
PRODUCTS

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

1.23 PROJECT / SITE
CONDITIONS

- .1 The following are known or potential project related safety hazards at site:
 - .1 Highway Traffic.
 - .2 Fractured and loose rock overhead. Contractor should be aware that the potential for falling rocks exists.
 - .3 Adjacent operation of Emergency Vehicles.
 - .4 Overhead Power Lines.
 - .5 Pressurized water Lines.
 - .6 Working at Heights.
 - .7 Excavations, Trenches and Coring.
 - .8 Environment (Extreme weather, wildlife).
 - .9 Lifting Operations.
- .2 Obtain from Departmental Representative, copy of MSDS Data sheets of existing hazardous materials stored on site or being used by Facility and Tenant personnel in the course of their operations.
- .3 Above lists shall not be construed as being complete and inclusive of safety and health hazards encountered as a result of Contractor's operations during the course of work. Include above items into the hazard assessment program specified herein.

1.24 ACCIDENT
REPORTING

- .1 Investigate and report incidents and accidents as outlined in Provincial Occupational Safety and Health Act and Regulations.

- 1.24 ACCIDENT REPORTING (Cont'd)
- .2 Investigate and immediately report to Departmental Representative incidents and accidents which results, or has the potential of resulting in:
- .1 Injuries requiring medical aid.
 - .2 Property damage in excess of \$5,000.00.
 - .3 Required notification to Workers Compensation Board or other regulatory agencies as stipulated by applicable regulations.
- .3 Medical aid in above clause shall have the same meaning as the term "medical aid injury" as defined in the Canadian Dictionary of Safety Terms - 1987 issue, from the Canadian Society of Safety Engineers (C.S.S.E.) as follows:
- .1 Medical Aid 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.

PART 2 - PRODUCTS

- 2.1 NOT USED
- .1 Not used.

PART 3 - EXECUTION

- 3.1 NOT USED
- .1 Not used.

PART 1 - GENERAL

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| <u>1.1 RELATED SECTIONS</u> | .1 | Section 01 74 21 - Demolition Management and Disposal. |
| | .2 | Section 31 23 10 - Excavating, Trenching and Backfilling. |

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| <u>1.2 REFERENCES</u> | .1 | Canadian Council of Ministers of the Environment (CCME), Environmental Quality Guidelines. |
| | .2 | Canadian Environmental Protection Act. |
| | .3 | Nova Scotia Environment, Watercourse Alteration Specifications (2006) for Clear Span Permanent Bridges. |
| | .4 | Nova Scotia Department of Environment, Labour, Erosion and Sedimentation Control Handbook for Construction Sites. |
| | .5 | Environment Canada, Section 36(3) of the Fisheries Act, prohibits the planned or accidental discharge of deleterious substances to waters frequented by fish. |
| | .6 | Environment Canada, Migratory Birds Convention Act, prohibits the deposit of oil, oil wastes, or other substances harmful to migratory birds or in any area frequented by birds and the harm of any migratory bird or its nest. |
| | .7 | Species at Risk Act. |
| | .8 | Nova Scotia Environment Act. |
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1.3 ENVIRONMENTAL
PERFORMANCE

- .1 A meeting will be held with the successful contractor at least two weeks prior to the commencement of construction activities. All Contractor staff and Departmental Representative's staff assigned to project are required to attend. Environmental protection requirements for the project will be reviewed, including, but not limited to watercourse maintenance or diversion, water quality management, soils disposal, dewatering management, related permit requirements and on-site reporting and monitoring procedures.
- .2 The Contractor is held responsible to ensure that all necessary permits related to Environmental Protection have been obtained and that necessary documentation is available on-site.
- .3 Meet all requirements as detailed in the site specific Basic Impact Analysis in Appendix B. Where stipulations in Appendix B differ from those herein, the more stringent requirements shall apply. A copy of the site specific Basic Impact Analysis shall be available on-site in a conspicuous location.
- .4 Prepare and submit the following documents as specified elsewhere in this section for review by the Departmental Representative:
 - .1 Diversion methodology.
 - .2 Construction Methodology.
 - .3 Erosion and Sedimentation Control Plan.
 - .4 Environmental/Spill Response Plan.
- .5 Under the Canadian Environmental Protection Act, Federal Fisheries Act and Nova Scotia Environment Act, no sediment shall be released into any waterbody.

1.4 SITE SET-UP AND
USE

- .1 All site activities related to construction are to be confined within the defined project boundaries.
- .2 Equip work site with appropriate and properly maintained sanitary facilities for use by workers.

1.4 SITE SET-UP AND
USE
(Cont'd)

- .3 Garbage must be collected and removed daily from the work site. All material must be removed, transported and disposed of in accordance with existing federal, provincial, and municipal solid waste disposal guidelines and/or regulations.
- .4 Littering is prohibited.
- .5 Temporary storage, parking areas, and turn-a-round facilities for contractor-related equipment and vehicles will be limited to those areas agreed to and designated by the Departmental Representative.
- .6 Fires and burning of rubbish on site are not permitted.
- .7 Comply with all regulations set out in the Canadian National Parks Act (S.C. 2000, C.32), in particular, the prohibition of illegal fishing, hunting and feeding of wildlife.

1.5 SITE CLEARING

- .1 Restrict tree removal to areas indicated or designated by Departmental Representative. Minimize stripping of topsoil and vegetation.
- .2 Do not clear vegetation unless approved by Departmental Representative.
- .3 Do not operate bulldozers, graders, and other clearing and grubbing equipment designated clearing boundaries. Use equipment with a restricted turning radius.
- .4 Do not remove vegetation and topsoil to obtain fill for road construction purposes.
- .5 Do not cut trees and other vegetation outside the limits indicated on the drawings; trees or snags posing a danger to operations would be an exception.
- .6 Do not permit trees and debris to fall outside cleared areas or into water courses.

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| <u>1.5 SITE CLEARING
(Cont'd)</u> | .7 | Store organic debris removed during grading operations for use during site restoration. Locate such stockpiles well away from any stream or water body and cover with coarse material or tarps to minimize wind and water erosion. |
| | .8 | Only carry out excavation for installation of new work grubbing operations where required. Disturb vegetative mat in the grubbing operations area only. |
| <u>1.6 WORK IN AND
ADJACENT TO
WATERWAYS</u> | .1 | Work adjacent waterways to be conducted in accordance with Nova Scotia Environment Nova Scotia Watercourse Alteration Activity Standards. |
| | .2 | All in-stream work is to be carried out under low flow conditions and during the period of June 1 to September 30. |
| | .3 | Do not operate construction equipment in waterways. Fording of watercourses is not permitted. |
| | .4 | Do not use waterway beds for borrow material. |
| | .5 | Do not dump excavated fill, waste material or other debris in waterways. |
| | .6 | Design and construct temporary crossings to minimize erosion to waterways. |
| | .7 | Do not skid construction materials across waterways. |
| | .8 | Do not clean or drain equipment in waterways. |
| | .9 | Maintain watercourse flow for duration of the Work. |
| | .10 | Deposit temporary storage sites for debris generated from clearing operations away from watercourses, surrounded by a natural vegetative buffer, screened from the road and as selected by the Departmental Representative. |
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- .11 All in-stream work is to be completed in the dry.
- .12 Dewatering from any body of water or waterway is not permitted.
- .13 Do not pump or drain water containing suspended materials into waterways. Water containing suspended materials shall be pumped into vegetation a minimum of 30 m away from watercourses.

- .1 Do not bury rubbish and waste materials on site. Remove all garbage from site daily.
 - .2 Do not dispose of waste or volatile materials, such as mineral spirits or oil into waterways, storm or sanitary sewers.
 - .3 Dispose of uncontaminated construction/ demolition materials which cannot be recycled or reused, at an approved construction and debris disposal site.
 - .4 Nova Scotia Department of the Environment Contact for waste disposal in this Region is:
- Mark Farrell
District Manager - Sydney Office
Phone: (902) 563-2100
Fax: (902) 563-2307

- .1 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements and in accordance with the Basic Impact Analysis in Appendix B.
- .2 Watercourse shall be maintained within construction area. Contractor to submit construction methodology to Departmental Representative before proceeding. Methodology to include excavation dewatering techniques, maintenance of watercourse flow and isolation from construction areas for duration of construction.

- 1.8 DRAINAGE
(Cont'd)
- .3 Contractor is responsible for the protection of natural watercourses from damage due to siltation runoff from the construction site and dewatering procedures.
 - .4 Do not pump or drain water containing suspended materials into waterways. Water containing suspended materials shall be pumped into vegetation a minimum of 30 m away from watercourses.
 - .5 Excavate swales in all areas at the earliest practical time in the construction sequence to prevent water from upstream areas from flowing across exposed soils.
 - .6 All areas exposed during construction or control structures such as berms, swales, ditches, etc., shall be stabilized immediately.

- 1.9 POLLUTION
CONTROL
- .1 Maintain temporary erosion and pollution control features installed under this contract.
 - .2 Control emissions from equipment to Federal, Provincial and local authorities emission requirements.
 - .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads. Chemicals used in dust control must have prior approval of the Departmental Representative.
 - .4 Cleaning of heavy equipment, including concrete trucks, shall not be cleaned within the park boundaries.
 - .5 Minimize idling of engines and equipment at all times.

- 1.10 EARTH MOVEMENT
- .1 Where engineering and environmental requirements can be met, excavated materials from this project may be used for backfilling, at the discretion of the geotechnical engineer designated by the Departmental Representative.
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1.10 EARTH MOVEMENT
(Cont'd)

- .2 All surplus excavated material must be disposed of at an approved location and in an approved manner.
- .3 Any proposed sources of borrow material shall be approved by the Departmental Representative prior to start-up. Fill materials or aggregate used during this Contract shall not contain sulphide-bearing material as defined by the proposed Guidelines for Development on Slates in Nova Scotia (April, 1991).
- .4 When vegetation must be removed, then the extent and duration of exposure should be kept to a minimum. Plan the phases of development so that only areas that are activity being developed are exposed.
- .5 Any excavated material that is to be stockpiled on site must be covered to prevent erosion and minimize contaminated runoff.
- .6 Areas of unstable clays should be left undisturbed.
- .7 Dust control measures will be necessary, especially when asphalt is removed. The use of chemical dust control agents must be pre-approved by the Departmental Representative.
- .8 Where there is potential for severe erosion and/or downstream "siltation", cover excavations during major precipitation events as directed by Departmental Representative.
- .9 Any disturbed areas which may be reworked shall be stabilized using wood chips or other approved methods within two weeks of the disturbance or before a forecast of a significant rainfall event. Maintain in place until placement of permanent stabilization or landscaping.
- .10 Stabilize all slopes and other areas not subject to reworking by sodding, hydroseeding and mulching as soon as finished grades are established.

- 1.10 EARTH MOVEMENT
(Cont'd)
- .11 Excavate high side cutoff ditches as necessary at the earliest practical time in the construction sequence to prevent water from upstream areas from flowing across exposed soil.
- 1.11 EROSION AND
SEDIMENT CONTROL
- .1 Appropriate preventative controls should be in place at all times during construction to prevent undue erosion and sedimentation. Provide to the Departmental Representative for approval seven days before start-up an Erosion and Sedimentation Control Plan. Comply with the Province of Nova Scotia's Manual entitled Erosion and Sedimentation Control, Handbook for Construction Sites. Incorporate necessary silt fences, silt traps, plastic lined trenches and ditches, temporary culverts or diversions as approved by the Departmental Representative. Supply, install and maintain all sedimentation and erosion control features for duration of the Work, in accordance with the approved plan. Remove all sedimentation and erosion control upon completion of the work and when requested by the Departmental Representative.
- .2 The plan must cover all activities within the limits of the construction, laydown and traffic diversion areas.
- .3 The plan must acknowledge the potential for excavated materials to be contaminated and may be a source of contaminated leachate / runoff.
- .4 Backfilled slopes should be mechanically compacted and grades should be consistent with the prevailing down-slope grade. Where it is felt that immediate re-vegetation is needed to stabilize an area, hydroseeding operations or other temporary stabilization measures will be carried out, as directed by the Departmental Representative.
- .5 Prior to carrying out work, check long range weather forecast to ensure that there is adequate time before forecast of heavy rain storms to stabilize the work. Provide details of stabilization plan to Departmental Representative for review.

1.11 EROSION AND
SEDIMENT CONTROL
(Cont'd)

- .6 Maintain a stockpile of appropriate erosion and environmental protection materials (e.g. silt fences, straw bales, wood chips, clean rock fill and aggregate base course) on site at all times.
- .7 Supply and install additional erosion control measures as required by site conditions to prevent sediment from entering drainage courses.
- .8 Inspect erosion and sediment control measures on a daily basis and maintain as necessary.
- .9 Remove silt accumulations at silt fences and protection devices by careful hand excavation. Dispose of accumulated silt by removing from site.

1.12 HAZARDOUS
MATERIALS

- .1 Store and handle dangerous goods, whose release into the environment could cause adverse effect, in a manner which gives due regard for workers and public safety, and for the protection of the environment.
- .2 No material toxic to fish or any aquatic life shall be permitted to enter any stream, river, or lake. This shall include, but not be limited to lubricants, fuels, testing fluids, insecticides, detergents, herbicides, cement, lime or concrete.
- .3 Manage fuels, lubricants and chemicals as per the Nova Scotia Dangerous Goods and Hazardous Wastes Management Criteria and all other appropriate provincial and federal regulations.
- .4 Notwithstanding any provisions in the Basic Impact Analysis in Appendix B, do not fuel or lubricate equipment within 100 m of any watercourse.
- .5 Employ protection measures such as drip pans for all refuelling and lubricating operations, to reduce the potential for escape or petroleum products to the environment.

1.12 HAZARDOUS
MATERIALS
(Cont'd)

- .6 Immediately contact Departmental Representative after a spill of more than 10 L of fuel or lubricant, and after any amount of other chemical products has escaped.
- .7 Departmental Representative may suspend work following the improper handling of hazardous materials.
- .8 Do not store hazardous material, including explosives, except for quantities which shall normally be expected to be utilized in a day of Work, and which are not permitted to stockpile.
- .9 Maintain on-site adequate supply of sorbent material and berming devices to contain spills.

1.13 ENVIRONMENTAL
INCIDENT OR
EMERGENCY

- .1 In the event of an environmental incident or emergency such as:
 - .1 Chemical spill or petroleum spill, poisonous or caustic gas emission, biological or chemical explosion, hazardous material spill, sewage spill; or contaminated water into waterways.
 - .1 Notify the Contractor's Job Superintendent.
 - .2 Call the local emergency services and give type of emergency.
 - .3 Notify the environmental emergency reporting system (1-800-565-1633) or Ingonish Parks Canada Warden Office (902-285-2542).
 - .4 Notify the Departmental Representative.
- .2 Prepare and submit to submit to Departmental Representative Environmental/Spill Response Plan for approval.

1.14 TREATED WOOD

- .1 Creosote is not approved for use in Parks.
- .2 Make workers aware of the possible health risks associated with exposure to CCA or creosote treated timber as well as the recommended safe practices for handling such materials.

<u>1.14 TREATED WOOD</u> (Cont'd)	.3	Dispose of treated wood wastes including saw-dust outside of the Park, and in accordance with all applicable Provincial and Municipal regulations. Attention to disposal of replaced guiderail posts that have been treated with creosote.
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<u>1.15 SITE</u> <u>DECOMMISSIONING</u>	.1	Unless prior permission from the Departmental Representative is obtained, remove all contractor equipment, facilities and materials from the site at the finish of each work phase, or if work is suspended due to weather or other circumstances, upon the suspension of work activities.
	.2	Return all work sites to a neat and tidy condition upon site abandonment.

PART 2 - PRODUCTS

<u>2.1 NOT USED</u>	.1	Not Used.
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PART 3 - EXECUTION

<u>3.1 NOT USED</u>	.1	Not Used.
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PART 1 - GENERAL

1.1 REFUELING

- .1 Refueling of equipment to be performed in locations as directed by Departmental Representative.
- .2 Notwithstanding any provisions in the Basic Impact Analysis in Appendix B, do not refuel equipment within 100 metres of any watercourse or storm water catch basin unless protection against spills is in place and location is approved by Departmental Representative.
- .3 Use petroleum containers approved for products with no spill fill spouts for dispensing fuels. The sure pour nozzle to have self closing valve, prevent any flow of fuel until the nozzle is inserted into the receiving container. On removal from the receiving container the slide valve closes to eliminate any fuel spill. Nozzle to be equipped with its own automatic vent eliminating the need for the user to open or close air inlets on the pouring container.
- .4 Nozzle to support the weight of the pouring container. Nozzles to automatically stop the flow when the receiving container becomes full. The nozzle to be such that it reduces evaporative losses of volatile organic compounds during the fuel transfer.
- .5 All spills of hydrocarbon based products such as gasoline, kerosene, naphtha, lubricating oils, engine oils, greases and de-icing fluids or antifreeze **no** matter how large or small to be reported to Departmental Representative and the Park's Environmental Protection Officer (EPO).
- .6 Oil changes or equipment repairs in the field or on Parks Canada land are not permitted.
- .7 Refueling to be performed on level surfaces, PCC Portland cement concrete or HMAC surfaces when approved by the Departmental Representative unless otherwise directed.
- .8 Contractor to have drip pans sized for amounts of product to be recovered and customized to fit

under pieces of equipment to perform routine maintenance to equipment while maintaining equipment on property. Drip Pans to be used whenever leaving equipment on site or parking overnight when not in use.

- .9 Parking of equipment on site to be on level ground in locations away from watercourses and as approved by Departmental Representative. Equipment with leaks or poor mechanical repair to be removed from site when so ordered by Departmental Representative.

1.2 SPILL CONTROL
KIT

- .1 Contractor to have at the work site a spill control kit consisting of the following minimum types of equipment:
 - .1 a spaded shovel;
 - .2 a stable broom;
 - .3 a broad nosed shovel;
 - .4 a container(s) suitable, compatible to and of sufficient size to contain petroleum products being used with equipment;
 - .5 Absorbents;
 - .6 rags;
 - .7 metal container for soiled rags;
 - .8 Booms when working next to a watercourse that will traverse the width of the watercourse by two times; and
 - .9 Spill control kit to be inspected and approved by both the Nova Scotia Department of Environment & Conservation and the Departmental Representative prior to Work commencing. Spill control kits to be available to Contractor employees at all areas where Work of the Contract is being performed and at all times during the course of the Contract.
 - .10 Contractor employees to be trained in the use of the spill control kit and the equipment they contain.

1.3 SPILLS

- .1 Disposal of spilled materials to be off Parks Canada property and at approved locations for materials to be disposed of.
- .2 When parking of equipment on site, the equipment is to be secured from entry, inspected for leaks and the ground protected from leaks.

- .3 Contractor to protect all wells, catch basins, drywells, drains and watercourses from contamination in event of a spill.
- .4 All equipment to be used for the Work of the Contract to be inspected by the Departmental Representative for leaks. Equipment not in good repair to be removed/repaired when directed by Departmental Representative.
- .5 Spills in excess of 74 litres to be reported immediately to Departmental Representative, the Park's Environmental Protection Officer (EPO) and the Nova Scotia Department of Environment and Conservation.
- .6 Contractor to immediately remove as much or all of the contaminated soils as possible, from any spills created from Work of the Contractor.
- .7 Contaminated soils/materials to be placed in containers compatible to the contaminants.
- .8 Any remaining clean-up to be performed at no extra cost to Parks Canada. Clean-up to be to the Departmental Representative's satisfaction.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED
SECTIONS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 78 00 - Closeout Submittals.
- .3 Section 03 30 00 - Cast-In-Place Concrete.
- .4 Section 31 23 33.01 - Excavating, Trenching and Backfilling.
- .5 Section 31 24 13 - Temporary Roadway Embankments.
- .6 Section 32 11 16.01 - Granular Sub-Base.
- .7 Section 32 11 23 - Aggregate Base Courses.

1.2 INSPECTION

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

- .1 Independent Inspection/Testing Agencies will be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative.
- .2 Provide equipment required for executing inspection and testing by appointed agencies.
- .3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and re-inspection.

1.4 ACCESS TO WORK

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

1.5 PROCEDURES

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

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

- 1.7 REPORTS
- .1 Submit 1 PDF copy or 4 copies of inspection and test reports to Departmental Representative.
 - .2 Provide copies to Subcontractor of work being inspected or tested.

- 1.8 MILL TESTS
- .1 Submit mill test certificates as required of specification Sections.

- 1.9 PDA TESTING
- .1 Submit PDA test results for all piles tested. Ensure Departmental Representative is made aware of all testing at least five (5) working days before conducting tests.

PART 2 - PRODUCTS

- 2.1 NOT USED
- .1 Not Used.

PWGSC	QUALITY CONTROL	Section 01 45 00
Neils Brook Bridge		Page 4
Replacement		
Job No. R.074443.001		2016-01-13

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

- | | | |
|----------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.1 RELATED SECTIONS</u> | .1 | Section 01 52 00 - Construction Facilities. |
| | .2 | Section 01 56 00 - Temporary Barriers and Enclosures. |
| <u>1.2 INSTALLATION AND REMOVAL</u> | .1 | Provide temporary utilities controls in order to execute work expeditiously. |
| | .2 | Remove from site all such work after use or as directed by Departmental Representative. |
| <u>1.3 DEWATERING</u> | .1 | Provide temporary drainage to keep excavations and site free from standing water. |
| | .2 | Ensure discharge is not contaminated with sediment, oil, etc. |
| <u>1.4 TEMPORARY HEATING AND VENTILATION</u> | .1 | Pay for costs of temporary heat, and pumping used during construction, including costs of supply, installation, fuel, operation, maintenance, and removal of equipment, if applicable. |
| | .2 | Maintain strict supervision of operation of temporary heating and pumping equipment:
.1 Conform with applicable codes and standards.
.2 Enforce safe practices.
.3 Prevent abuse of services.
.4 Prevent damage to finishes. |
| | .3 | Provide temporary heating and hoarding as required to:
.1 Facilitate progress of Work.
.2 Protect Work and products against dampness and cold.
.3 Prevent moisture condensation on surfaces.
.4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials. |
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1.4 TEMPORARY
HEATING AND
VENTILATION
(Cont'd)

- .3 (Cont'd)
- .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .4 Hoard, heat and provide protection for curing concrete in accordance with Section 03 30 00 - Cast In Place Concrete.
- .5 Allow Departmental Representative to Inspect methods for fire safety.

1.5 TEMPORARY POWER
AND LIGHT

- .1 Departmental Representative will not provide or pay for temporary power during construction for temporary lighting and operating of power tools.
- .2 Arrange for connection with appropriate utility company. Pay all costs for supply, installation, maintenance and removal.
- .3 Temporary power for electric cranes and other equipment requiring in excess of above is responsibility of Contractor.
- .4 Provide and maintain temporary lighting throughout project.
- .5 Coordinate with all Parks Canada/PWGSC Staff.
- .6 Supply and install temporary facilities for power to approval of local power supply authorities.
- .7 Provide and pay for temporary power and lights for use of Departmental Representative site office.

1.6 TEMPORARY
COMMUNICATION
FACILITIES

- .1 Provide and pay for temporary telephone, fax and data hook up, line(s) and equipment as necessary for own use and use of Departmental Representative.
-

1.7 FIRE
PROTECTION

- .1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .2 Burning rubbish and construction waste materials is not permitted on site.

1.8 SANITARY
FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
- .3 All surface modifications are restricted to the identified corridors. Accurate delineation of these corridors by field survey is required prior to commencement of construction.

1.9 STORAGE SHEDS

- .1 Provide adequate weathertight sheds with raised floors, for storage of materials, tools and equipment which are subject to damage by weather.

1.10 ACCESS

- .1 Provide and maintain adequate access to project site.
 - .2 Build and maintain temporary roads where indicated and provide snow removal during period of work.
 - .3 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.
 - .4 All surface modifications are restricted to the identified construction corridors. Accurate delineation of these corridors by field survey prior to commencement of construction is required.
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<u>1.10 ACCESS</u> <u>(Cont'd)</u>	.5	All vehicle traffic is restricted to existing roadways or as indicated in project plans. A field visit will be scheduled with the Contractor for locational confirmation and all areas of proposed construction will be marked in the field with orange flagging tape prior to commencement of work.
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PART 2 - PRODUCTS

<u>2.1 NOT USED</u>	.1	Not Used.
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PART 3 - EXECUTION

<u>3.1 NOT USED</u>	.1	Not Used.
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PWGSC	CONSTRUCTION	Section 01 52 00
Neils Brook Bridge	FACILITIES	Page 1
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Job No. R.074443.001		2016-01-13

PART 1 - GENERAL

<u>1.1 RELATED SECTIONS</u>	.1	Section 01 51 00 - Temporary Utilities.
	.2	Section 01 56 00 - Temporary Barriers and Enclosures.
<u>1.2 REFERENCES</u>	.1	Canadian General Standards Board (CGSB)
	.1	CGSB 1-GP-189M-2000, Primer, Alkyd, Wood, Exterior.
	.2	CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
	.2	Canadian Standards Association (CSA International)
	.1	CAN3-A23.1-/A23.2-09 (R2014) Concrete Materials and Methods for Concrete Construction/ Method of Test for Concrete.
	.2	CSA-0121-CSA 0121-08 (R2013), Douglas Fir Plywood.
<u>1.3 INSTALLATION AND REMOVAL</u>	.3	CAN/CSA-Z321-96 (R2006), Signs and Symbols for the Occupational Environment.
	.1	Provide construction facilities in order to execute work expeditiously.
	.2	Remove from site all such work after use.
	.3	Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
	.4	Gravel areas to prevent tracking of mud. Identify areas that require gravelling.
	.5	Indicate use of supplemental or other staging area.
<u>1.4 SCAFFOLDING</u>	.1	Provide and maintain scaffolding, ladders and temporary stairs.

- 1.5 HOISTING
- .1 Provide, operate and maintain hoists cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for use thereof.
 - .2 Hoists cranes shall be operated by qualified operator.

- 1.6 SITE STORAGE/LOADING
- .1 Contractor's use of site storage and loading shall be limited to an area within limits of traffic diversion. Any conditional areas required shall be approved by Departmental Representative prior to use.
 - .2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

- 1.7 CONSTRUCTION PARKING
- .1 Parking will be limited to Contractor vehicles and equipment required to carry out work only, provided it does not disrupt performance of Work.
 - .2 Provide and maintain adequate access to project site.
 - .3 Build and maintain temporary roads where indicated or directed by Departmental Representative and provide snow removal during period of Work.
 - .4 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.

- 1.8 SECURITY
- .1 Departmental Representative shall provide and pay for responsible security personnel to guard site and contents of site after working hours and during holidays, if applicable.
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1.9 OFFICES

- .1 Provide for use of Departmental Representative a lit and ventilated mobile type trailer office, with heating and cooling to maintain a temperature of 22 degrees Celsius. Office shall be of sufficient size to accommodate site meetings as required, and be furnished with a desk, chair, drawing laydown table and three-level shelf. All exterior doors shall be lockable.
- .2 The office shall be brought to site and ready for use no more than 5 working days prior to start of work. Site office shall remain on site until final completion certificate is signed by Departmental Representative.
- .3 Pay for and provide power, light, telephone, fax and data services for the Departmental Representative site office. Installations shall be inclusive of all required accessories to make complete and functional.
- .4 Provide a clearly marked and fully stocked first-aid case in a readily available location.
- .5 Contractors and Subcontractors may provide their own offices as necessary. Location of these offices to be to the satisfaction of the Departmental Representative.

1.10 EQUIPMENT TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.

1.11 SANITARY FACILITIES

- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
 - .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
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- 1.12 CONSTRUCTION SIGNAGE
- .1 No other signs or advertisements, other than warning signs, are permitted on site.
 - .2 Signs and notices for safety and instruction shall be in both official languages Graphic symbols shall conform to CAN3-Z321.
 - .3 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Departmental Representative.

- 1.13 CLEAN-UP
- .1 Clean continuously as work progresses.
 - .2 Remove construction debris, waste materials, packaging material from work site daily.
 - .3 Clean dirt or mud tracked onto paved or surfaced roadways.
 - .4 Store materials resulting from demolition activities that are salvageable.
 - .5 Stack stored new or salvaged material not in construction facilities.

PART 2 - PRODUCTS

- 2.1 NOT USED
- .1 Not Used.

PART 3 - EXECUTION

- 3.1 NOT USED
- .1 Not Used.

PART 1 - GENERAL

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|--------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.1 REFERENCES</u> | .1 | Government of Canada Weights and Measures Act 1985. |
| | .2 | Government of Canada Weights and Measures Regulations 1990. |
| <u>1.2 CERTIFICATION</u> | .1 | Prior to use, Contractor shall have weight scales certified as meeting requirements of Statutes of Canada, Weights and Measures Act. Display certificate in a visible location. |
| <u>1.3 OPERATION</u> | .1 | Contractor shall provide a weigher at scale location to issue tickets and prepare a daily summary sheet to submit to Departmental Representative. Also, Contractor shall provide checker on site to receive materials, prepare daily summary and monitor spread rates. |

PART 2 - PRODUCTS

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|----------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>2.1 EQUIPMENT</u> | .1 | Weigh scales: of sufficient capacity to weigh loaded vehicles in a single operation. The weigh scale shall be calibrated in SI units. |
| | .2 | Scale house: <ul style="list-style-type: none">.1 To enclose mass indicator and where weigher can perform work and maintain records..2 Waterproof, one sliding window facing scale platform, one other window for cross ventilation, entrance door not to face on to scale platform. |
| | .3 | Approved weigh tickets, in triplicate, with consecutive serial numbers shall be provided by Contractor. |
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PART 3 - EXECUTION

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|-------------------------|----|-----------------------------------------------------------------------------------------------------------------------------|
| <u>3.1 INSTALLATION</u> | .1 | Provide, install and maintain scales and scale house at location approved by Departmental Representative. |
| | .2 | Remove scales and scale house when no longer required and as directed by Departmental Representative. Level approach ramps. |
| | .3 | The work shall include installation of the anchorage assemblies. |
| <u>3.2 MAINTENANCE</u> | .1 | Maintain scale platform and scale mechanism clean and free from gravel, asphalt, snow, ice and debris. |

PART 1 - GENERAL

1.1 DESCRIPTION

- .1 This section is to provide traffic control as stipulated in the Nova Scotia Transportation and Infrastructure Renewal Temporary Workplace Traffic Control Manual (TCM).
 - .2 Ensure that two lanes of opposing traffic is maintained at all times, except as follows:
 - .1 Single-lane closures are permitted for up to two nights between 7pm and 6am of the following morning to facilitate girder erection. Maintain a single lane open to alternating traffic.
 - .2 During the two night closures, up to a total of five (5) full-bridge closures are permitted (eg. two the first night and three the second would add to five). Each full bridge closure shall be a maximum of 20-minutes and shall take place between 12am (midnight) and 4am. There shall be a minimum of one hour between full-bridge closures. All full-bridge closures shall be coordinated with Emergency Response Vehicles. Allow emergency response vehicles to call ahead in order to gain passage across bridge without delay.
 - .3 Single-lane closures are also permitted during blending of new alignment to existing road on the approaches. Do not allow traffic delay of greater than 10 minutes at any time during July and August, or 20 minutes otherwise. Schedule work during non-peak hours to minimize delay.
 - .4 Provide necessary traffic control and flagpersons during closures.
 - .5 Submit proposed closure schedule and times to Departmental Representative a minimum 10 working days prior to any scheduled closures. Include emergency response plan for review and approval prior to conducting any closures.
 - .3 The Department and the Contractor agree that time is of the essence when restricting movement of traffic on the Cabot Trail (Nova Scotia Trunk 30). As such, restriction of movement of traffic on the Cabot Trail must be minimized in the performance of work in completion of this Contract. Therefore, a Road Rental Fee shall be in effect for each fifteen (15) minute interval
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(or part thereof) that Cabot Trail is restricted to traffic as a result of construction activities beyond allowable maximum delay periods noted above. The Road Rental Fee shall be **One Thousand Dollars (\$1,000.00) per fifteen (15) minute interval (or part thereof)** beyond the 20 minute maximum delay (September to June), 10 minute maximum delay (July to August) and 5 full bridge road closure periods specified above. This Road Rental Fee shall be recoverable from the sum due from the Department to the Contractor for accepted work on this Contract. Road Rental will be considered for activities deemed necessary by the Departmental Representative.

- .4 Make provision to allow emergency response vehicles to safely cross the site at all times. Ensure traffic is not unduly impeded, interrupted or endangered by execution or existence of the Work.
- .5 Given the nature of the highway, its critical transportation link, effect on motorists, etc. it is imperative that Park personnel be kept notified as to the number of construction areas, their locations, duration of work, etc. This information must be provided by the contractor to the Park Communications staff on an ongoing basis.
- .6 A Traffic Control Plan must be approved by the Departmental Representative prior to commencing any work. Traffic Control Plan to be submitted prior to the pre-construction meeting.
- .7 The Departmental 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.
- .8 Provide transverse rumble strips on each approach lane to the work site. Rumble strips shall be ground-in dish shaped indentations constructed in the existing pavement extending across the full width of the travel lane.

1.2 RELATED WORK

- .1 Section 01 11 00 - General Instructions.

- .2 Section 01 35 29 - Health and Safety Requirements.
- .3 Section 01 56 00 - Temporary Barriers and Enclosures.

1.3 REFERENCE STANDARD

- .1 Nova Scotia Department of Transportation and Infrastructure Renewal
.1 Nova Scotia Temporary Workplace Traffic Control Manual, 2009 (R2012).

1.4 PROTECTION OF PUBLIC TRAFFIC

- .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 travelling public.
 - .2 Keep equipment units as close together as working conditions will permit and preferably on same side of travelled way.
 - .3 Do not leave equipment on travelled way overnight.
- .3 Do not close any lanes of roadway without approval of Departmental Representative. Before re routing traffic, erect suitable signs and devices in accordance with instructions contained in the TCM. 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 Ensure at least two (2) lanes of alternating two-way traffic at all times, except as permitted in Section 1.1.2.
- .6 When directed by Departmental 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 Departmental Representative. Maintain full access to Hospital and Emergency Response Centre. Do not permit delays.
- .8 All flag persons and traffic control personnel shall have successfully completed a traffic control training course approved by the Workplace Health, Safety and Compensation Commission of Nova Scotia. Proof of training for all persons shall be available on site at all times.

1.5 INFORMATIONAL AND
WARNING DEVICES

- .1 Provide and maintain rumble strips at approaches to the construction zone as follows:
 - .1 Transverse rumble strips shall consist of a series of dish shaped indentations ground-in to the existing pavement.
 - .2 Extend strips across full width of travel lane for vehicles approaching construction zone.
 - .3 Type: rounded grooves.
 - .4 Depth: 12 to 14mm.
 - .5 Width: 150-180mm.
 - .6 Spacing between strips: 300-500mm.
 - .7 Number of strips per group: 4.
 - .8 Number of groups per approach: 2
 - .9 Locations of rumble strip groups: as indicated on design drawings or as directed by Departmental Representative.
- .2 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.
- .3 All traffic signs are to be bilingual or symbolic and shall be Level 1 reflectivity.
- .4 Supply and erect signs, declinators, barricades and miscellaneous warning devices as specified in TCM.
- .5 Place signs and other devices in locations recommended in the TCM.

- .6 Provide an Accredited Sign Supervisor 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 TCM. The Accredited Sign Supervisor is considered part of the contractor's supervision and administration staff and compensation for the provision this individual is considered incidental to the work.
- .7 A Traffic Control Plan must be approved by the Departmental Representative prior to commencing any work.
- .8 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.

1.6 PORTABLE VARIABLE
MESSAGE SIGNS

- .1 General
 - .1 Employ electronic signage (trailer mounted) at both ends of the work area, notifying the general public that construction will be occurring along with anticipated delay times, etc. Notification signage is critical for this project, given the traffic volumes and potential for accidents to occur.
- .2 Operating Characteristics
 - .1 The Portable Variable Message Signs (PVMS) shall exhibit the following operating characteristics while in use:
 - .1 Light emitting diode (LED) technology or hybrid LED/Flip Disk Technology.
 - .2 Antiglare polycarbonate sheeting.
 - .3 Solar powered.
 - .4 Capable of operating for 7 consecutive days on battery power supply with solar panels

disconnected.

.5 Shall include all hardware and software necessary to facilitate reliable local and remote sign control.

.6 Programmable (25 message sequence for one week duration).

.7 Capable of displaying a multiphase message with variable dwell times for each phase.

.8 Text of message shall not scroll or travel horizontally or vertically across the face of the sign.

.9 Capable of displaying 3 lines of 8 characters, each character being approximately 457 mm high.

.10 Each character matrix comprised of 35 pixels, 5 wide by 7 high.

.11 Message visible from 500 metres away in all ambient light conditions.

.12 Message legible from 50 m to 300 m away in all ambient light conditions.

.13 Ability to raise the bottom of the display board a minimum of 1.5 metres above ground level.

.14 Flat black background on the display area when the pixels are in the off position.

.15 Trailer painted orange or yellow.

.16 Capability to accurately level the sign and aim it towards oncoming traffic.

.17 Photo sensor array to enable the luminance of the sign to be controlled both automatically and manually in relation to ambient light levels.

.18 Locking device to prevent rotation of the sign in winds up to 10-km/hour, while the sign is in display mode.

.3 Trailer Mounting

.1 The maximum dimensions of the Portable Variable Message Sign and trailer assembly while in display mode shall be as follows:

.1 Maximum overall height = 4.5 metres.

.2 Maximum overall width = 3.75 metres.

.3 Maximum overall length = 5.5 metres.

.4 Maximum gross unit weight = 2500 kilograms.

.4 Conspicuity Markings

.1 PVMS trailer assemblies shall require high reflectivity micro-prismatic fluorescent sheeting tape (or equivalent) (e.g. diamond grade or Type VII) (meeting ATSM standard E991 and ASTM E1247 for fluorescent materials). The reflectorized tape shall be of alternating, uniform white and orange or white and yellow sections. Sections of reflectorized tape shall be placed around the trailer frame, tongue or other outermost dimension, at uniform height and width such to reflect the light from the headlights of a vehicle approaching from any direction.

.2 PVSM sign assemblies shall require high reflectivity micro-prismatic fluorescent sheeting tape (or equivalent) (e.g. diamond grade or Type VII) ((meeting ATSM standard E991 and ASTM E1247 for fluorescent materials). The reflectorized tape shall be construction orange in colour, and 13 mm in width. The tape shall surround the outside of the sign assembly on all sides and be uniform distance from the outmost pixels.

1.7 CONTROL OF
PUBLIC TRAFFIC

- .1 Provide traffic control personnel who have valid provincial certification and are trained in accordance with and properly equipped as specified in the TCM, in following situations:
- .1 When public traffic is required to pass working vehicles or equipment which may block all or part of travelled 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 travelled 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.
- .4 In addition to traffic control during the normal hours of work, a responsible person on site at all times to monitor that the traffic signage is working properly (including nights, weekends and holidays).

1.8 TRAFFIC MANAGEMENT
PLAN REQUIREMENT

.1 Contractor to provide a Traffic Control plan, prior to construction, for approval by the Departmental Representative.

1.9 OPERATIONAL
REQUIREMENTS

- .1 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken as specified herein and approved by Departmental Representative to protect and control public traffic, existing conditions for traffic may be restricted as follows:
 - .1 In accordance with TCM.
- .2 Maintain existing conditions for traffic crossing right-of-way containing work except that, when required for construction under this Contract and when measures have been taken as specified herein and approved by Departmental Representative, to protect and control public traffic.

END OF SECTION

PART 1 - GENERAL

<u>1.1 RELATED SECTIONS</u>	.1	Section 01 51 00 - Temporary Utilities.
	.2	Section 01 52 00 - Construction Facilities.
<u>1.2 REFERENCES</u>	.1	Nova Scotia Temporary Workplace Traffic Control Manual, latest edition.
	.2	Canadian General Standards Board (CGSB)
	.1	CGSB 1.189M-2000, Primer, Alkyd, Wood, Exterior.
	.2	CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
	.3	Canadian Standards Association (CSA International)
	.1	CSA-O121-M0121-08 (R2013), Douglas Fir Plywood.
<u>1.3 INSTALLATION AND REMOVAL</u>	.1	Provide temporary controls in order to execute Work expeditiously.
	.2	Remove from site all such work after use.
<u>1.4 GUARD RAILS AND BARRICADES</u>	.1	Provide secure, rigid guard rails and barricades around deep excavations.
	.2	Provide as required by governing authorities.
<u>1.5 ACCESS TO SITE</u>	.1	Provide and maintain access roads, as may be required for access to Work.
<u>1.6 PUBLIC TRAFFIC FLOW</u>	.1	Provide and maintain competent Traffic Control Persons, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect the public.

<u>1.6 PUBLIC TRAFFIC FLOW</u> (Cont'd)	.2	Keep two lanes open at all times during construction as per Section 01 55 26 - Traffic Regulation. Provide concrete jersey barriers along edge of excavation and embankment.
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<u>1.7 FIRE ROUTES</u>	.1	Maintain access to property including overhead clearances for use by emergency response vehicles.
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<u>1.8 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY</u>	.1	Protect surrounding private and public property from damage during performance of Work.
	.2	Be responsible for damage incurred.

PART 2 - PRODUCTS

<u>2.1 NOT USED</u>	.1	Not Used.
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PART 3 - EXECUTION

<u>3.1 NOT USED</u>	.1	Not Used.
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PART 1 - GENERAL

1.1 REFERENCE
STANDARDS

- .1 Within text of each specifications section, reference may be made to reference standards.
- .2 Conform to these reference standards, in whole or in part as specifically requested in specifications.
- .3 If there is question as to whether any product or system is in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be borne by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.
- .5 Conform to latest date of issue of referenced standards in effect on date of submission of Tenders, except where specific date or issue is specifically noted.

1.2 QUALITY

- .1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

- 1.2 QUALITY
(Cont'd)
- .3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
 - .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout bridge site.
 - .5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions.

- 1.3 AVAILABILITY
- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.
 - .2 In event of failure to notify Departmental Representative at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

- 1.4 STORAGE, HANDLING AND PROTECTION
- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
 - .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
 - .3 Store products subject to damage from weather in weatherproof enclosures.

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| 1.4 STORAGE,
HANDLING AND
PROTECTION
<u>(Cont'd)</u> | .4 | Remove and replace damaged products at own expense and to satisfaction of Departmental Representative. |
| | .5 | Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates. |
| 1.5 TRANSPORTATION | .1 | Pay costs of transportation of products required in performance of Work. |
| | .2 | Transportation cost of products supplied by Departmental Representative will be paid for by Departmental Representative. Unload, handle and store such products. |
| 1.6 MANUFACTURER'S
INSTRUCTIONS | .1 | Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers. |
| | .2 | Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative may establish course of action. |
| | .3 | Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time. |
| 1.7 QUALITY OF WORK | .1 | Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results. |

1.7 QUALITY OF WORK (Cont'd) .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.

.3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

1.8 CO-ORDINATION .1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.

1.9 REMEDIAL WORK .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.

.2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.10 EXISTING UTILITIES .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or pedestrian and vehicular traffic.

.2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

PART 2 - PRODUCTS

2.1 NOT USED .1 Not Used.

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PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

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|------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.1 RELATED
SECTIONS</u> | .1 | Section 01 78 00 - Closeout Submittals. |
| <u>1.2 REFERENCES</u> | .1 | Departmental Representative's identification of existing survey control points and property limits. |
| <u>1.3 QUALIFICATION
OF SURVEYOR</u> | .1 | Qualified registered land surveyor, licensed to practice in Province of Nova Scotia, acceptable to Departmental Representative. |
| <u>1.4 SURVEY
REFERENCE POINTS</u> | .1 | Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction. |
| | .2 | Make no changes or relocations without prior written notice to Departmental Representative. |
| | .3 | Report to Departmental Representative when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations. |
| | .4 | Require surveyor to replace control points in accordance with original survey control. |
| <u>1.5 SURVEY
REQUIREMENTS</u> | .1 | Establish two permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents. |
| | .2 | Establish lines and levels, locate and lay out, by instrumentation. |
| | .3 | Stake for grading, fill and topsoil placement. |
| | .4 | Stake slopes. |

- .5 Establish pipe invert elevations and location of any exposed pipe not being removed under this contract.
- .6 Record elevation and location of all existing and installed end caps of abandoned underground services.

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

- .1 Maintain a complete, accurate log of control and survey work as it progresses.
- .2 On completion of site works, prepare a certified survey showing dimensions, locations, angles and elevations of Work.
- .3 Record locations of maintained, re-routed and abandoned service lines.

- .1 Submit name and address of Surveyor to Departmental Representative.
- .2 On request of Departmental Representative, submit documentation to verify accuracy of field engineering work.
- .3 Submit certificate signed by surveyor certifying and noting those elevations and locations of completed Work that conform with Contract Documents.

PART 2 - PRODUCTS

.1 Not Used.

PWGSC	EXAMINATION AND	Section 01 71 00
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PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

1.1 RELATED SECTION .1 Section 01 77 00 - Closeout Procedures.

1.2 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Departmental Representative or other Contractors.

.2 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.

.3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.4 Provide on-site containers for collection of waste materials and debris.

.5 Provide and use clearly marked separate bins for recycling.

.6 Remove waste material and debris from site and deposit in waste container at end of each working day.

.7 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

.8 Dispose of waste materials, and debris off site at approved facilities.

1.3 FINAL CLEANING

.1 When Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.3 Prior to final review, remove surplus products, tools, construction machinery and equipment.

1.3 FINAL CLEANING
(Cont'd)

- .4 Remove waste products and debris other than that caused by Departmental Representative or other Contractors.
- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Sweep and wash clean paved areas.

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

- 3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

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| 1.1 RELATED
SECTIONS | .1 | Section 01 33 00 - Submittal Procedures. |
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| 1.2 DEFINITIONS | .1 | Materials Source Separation Program (MSSP): Consists of series of ongoing activities to separate reusable and recyclable waste material into material categories from other types of waste at point of generation. |
| | .2 | Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others. |
| | .3 | Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products. |
| | .4 | Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste. |
| | .5 | Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
.1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
.2 Returning reusable items including pallets or unused products to vendors. |
| | .6 | Salvage: Removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling. |
| | .7 | Separate Condition: Refers to waste sorted into individual types. |
| | .8 | Source Separation: Acts of keeping different types of waste materials separate beginning from first time they became waste. |
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| <u>1.3 DOCUMENTS</u> | .1 | Maintain at job site, one copy of following documents:
.1 Material Source Separation Plan. |
| <u>1.4 SUBMITTALS</u> | .1 | Submittals in accordance with Section 01 33 00 - Submittal Procedures. |
| | .2 | Prepare and submit following prior to project start-up:
.1 Submit 2 copies of Materials Source Separation Program (MSSP) description. |
| <u>1.5 WASTE REDUCTION WORKPLAN (WRW)</u> | .1 | Prepare Waste Reduction Work plan. |
| | .2 | Structure WRW to prioritize actions and follow as first priority Reuse, then followed by Recycle. |
| | .3 | Describe management of waste. |
| | .4 | Post workplan or summary where workers at site are able to review its content. |
| <u>1.6 MATERIALS SOURCE SEPARATION PROGRAM (MSSP)</u> | .1 | Prepare MSSP and have ready for use prior to project start-up. The DWA with related weight bills and/or receipt must be submitted on a monthly basis with the Contractor's monthly Progress claim. |
| | .2 | Implement MSSP for waste generated on project in compliance with approved methods and as reviewed by Departmental Representative. |
| | .3 | Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and recyclable materials. |
| | .4 | Provide containers to deposit reusable and recyclable materials. |
| | .5 | Locate containers in locations, to facilitate deposit of materials without hindering daily operations. |
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1.6 MATERIALS
SOURCE SEPARATION
PROGRAM (MSSP)
(Cont'd)

- .6 Locate separated materials in areas which minimize material damage.
- .7 Collect, handle, store on-site, and transport off-site, salvaged materials in separate condition.
 - .1 Transport to approved and authorized recycling facility.

1.7 STORAGE,
HANDLING AND
PROTECTION

- .1 Store, materials to be reused, recycled and salvaged in locations as specified in MSSP.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Protect structural components not removed for demolition from movement or damage.
- .6 Support affected structures. If safety of road is endangered, cease operations and immediately notify Departmental Representative.
- .7 Protect surface drainage and electrical from damage and blockage.
- .8 Separate and store materials produced during dismantling of structures in designated areas.
- .9 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated facilities.
 - .1 On-site source separation is recommended.
 - .2 Remove co-mingled materials to off-site processing facility for separation.
 - .3 Provide waybills for separated materials.

1.8 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, or oil into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
 - .1 Number and size of bins.
 - .2 Waste type of each bin.
 - .3 Total weight generated.
 - .4 Weight reused or recycled.
 - .5 Reused or recycled waste destination.
- .4 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material-by-material basis as identified in pre-demolition material audit.

1.9 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises.
- .2 Maintain security measures established by PWGSC.

1.10 SCHEDULING

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

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 APPLICATION

- .1 Do Work in compliance with WRW.
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<u>3.1 APPLICATION</u> (Cont'd)	.2	Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.
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<u>3.2 CLEANING</u>	.1	Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
	.2	Clean-up work area as work progresses.
	.3	Source separate materials to be reused/recycled into specified sort areas.

PART 1 - GENERAL

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| 1.1 RELATED
SECTIONS | .1 | Section 01 78 00 - Closeout Submittals. |
| | .2 | Section 01 74 11 - Cleaning. |
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| 1.2 INSPECTION AND
DECLARATION | .1 | Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
.1 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
.2 Request Departmental Representative's Inspection. |
| | .2 | Departmental Representative's Inspection: Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Correct Work accordingly. |
| | .3 | Completion: submit written certificate that following have been performed:
.1 Work has been completed and inspected for compliance with Contract Documents.
.2 Defects have been corrected and deficiencies have been completed.
.3 Systems have been tested and are fully operational.
.4 Certificates required by Nova Scotia Department of Labour and Environment has been submitted.
.5 Operation of systems have been demonstrated to Departmental Representative.
.6 Work is complete and ready for Final Inspection. |
| | .4 | Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative, and Contractor. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request reinspection. |
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PART 2 - PRODUCTS

2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

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|---------------------------------|----|-------------------------------------------------|
| <u>1.1 RELATED
SECTIONS</u> | .1 | Section 01 33 00 - Submittal Procedure. |
| | .2 | Section 01 45 00 - Quality Control. |
| | .3 | Section 01 71 00 - Examination and Preparation. |
| | .4 | Section 01 77 00 - Closeout Procedures. |

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| <u>1.2 SUBMISSION</u> | .1 | Prepare instructions and data using personnel experienced in maintenance and operation of described products. |
| | .2 | Copy will be returned after final inspection, with Departmental Representative's comments. |
| | .3 | Revise content of documents as required prior to final submittal. |
| | .4 | If requested, furnish evidence as to type, source and quality of products provided. |
| | .5 | Defective products will be rejected, regardless of previous inspections. Replace products at own expense. |
| | .6 | Pay costs of transportation. |

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| <u>1.3 FORMAT</u> | .1 | Organize data in the form of an instructional manual. |
| | .2 | Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets. |
| | .3 | When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine. |
| | .4 | Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents. |
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|-------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.3 FORMAT
(Cont'd) | .5 | Arrange content by systems, under Section numbers and sequence of Table of Contents. |
| | .6 | Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment. |
| | .7 | Text: Manufacturer's printed data, or typewritten data. |
| | .8 | Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages. |
| | .9 | Provide 1:1 scaled CAD files in dxf or dwg format on diskettes or CD. |
| 1.4 CONTENTS - EACH
VOLUME | .1 | Table of Contents: 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 clearly 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. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control. |

1.5 AS-BUILTS AND
SAMPLES

- .1 Maintain at the site for Departmental Representative one record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to the 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. 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. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.

1.6 RECORDING
ACTUAL SITE
CONDITIONS

- .1 Record information on set of opaque drawings, provided by Departmental Representative.
- .2 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .3 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
 - .1 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .2 Field changes of dimension and detail.
 - .3 Changes made by change orders.
 - .4 Details not on original Contract Drawings.

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| 1.6 RECORDING
ACTUAL SITE
CONDITIONS
(Cont'd) | .3 | (Cont'd)
.5 References to related shop drawings and modifications. |
| | .4 | Specifications: legibly 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. |
| | .5 | Other Documents: maintain manufacturer's certifications, inspection certifications, field test records, required by individual specifications sections. |
| 1.7 FINAL SURVEY | .1 | Submit final site survey certificate, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents. |
| 1.8 WARRANTIES AND
BONDS | .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 days after completion of the applicable item of work. |
| | .4 | Except for items put into use with Departmental Representative's permission, leave date of beginning of time of warranty until the Date of Substantial Performance is determined. |
| | .5 | Verify that documents are in proper form, contain full information, and are notarized. |
| | .6 | Co-execute submittals when required. |
| | .7 | Retain warranties and bonds until time specified for submittal. |

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PART 2 - PRODUCTS

2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.