

## **PART 1 General**

### **1.1 WORK COVERED BY CONTRACT DOCUMENTS**

- .1 Work of this Contract comprises the furnishing of all labour, material, tools, and equipment required for the project is summarized, but is not limited to, as follows:

**North Kouchibouguac Road Rehabilitation, from the Kouchibouguac National Park entrance to Route 117.**

- .1 Civil:
- .1 Remove and dispose of existing elements as indicated.
  - .2 Reinststate/rehabilitate disturbed areas.
  - .3 Place hydraulic seeding where required.
- .2 Road Works
- .1 Providing detour/traffic control as required for all roads, walkways, and trails affected by the work.
  - .2 Remove existing signage, to be reinstated at end of project. Install temporary traffic control measures.
  - .3 Soil stripping and ditching.
  - .4 Removal of all asphalt as indicated. Milling of existing asphalt concrete and reuse for shouldering. Disposal of the extra materials.
  - .5 Provide full time attendance at all open excavations.
  - .6 Removal and reuse/disposal of existing granular base, subbase and subgrade materials.
  - .7 Excavation to subgrade and stockpiling designated material for reuse.
  - .8 Grading to subgrade lines. Compact and proof roll.
  - .9 Supply, place, and compact granular sub-base and aggregate base.
  - .10 Perform grading to finished elevations as indicated.
  - .11 Supply and place new asphalt as indicated.
  - .12 Process and Place RAP materials for shouldering
  - .13 Reinststate signage. Install new sign.
- .3 Drainage
- .1 Remove existing culverts.
  - .2 Install new culverts under Kouchibouguac Road with armour protection riprap.

- .3 Excavate existing ditches to finished elevations.
- .4 Reinstatement
  - .1 Reinststate/rehabilitate all disturbed areas.
- .2 Complete an as-built survey as the work progresses.
- .3 Obtain and pay for independent third party utility locates prior to start of any excavation.
  - .1 Enbridge Gas New Brunswick 1.800.994.2762
  - .2 Bell Aliant 1.844.224.8344
  - .3 NB Power 1.800.663.6272
  - .4 Rogers 1.800.738.7893

**1.2 CONTRACT METHOD**

- .1 Construct Work under stipulated price contract.

**1.3 WORK SEQUENCE**

- .1 North Kouchibouguac Road is to be closed for duration of the work. Contractor works and detours to meet WATCM and MUTCD requirements.
- .2 Co-ordinate Progress Schedule.
- .3 Maintain fire access/control. Notify emergency department in the event of full closure of the road.

**1.4 CONTRACTOR USE OF PREMISES**

- .1 Limit use of premises for work, storage, and access, to allow:
  - .1 Work by other contractors
  - .2 Public usage.
- .2 Co-ordinate use of premises under direction of the Departmental Representative.
- .3 Storage areas to be approved by Departmental Representative.
- .4 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .5 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .6 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.
- .7 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

## **1.5 OWNER OCCUPANCY**

- .1 Owner may need to occupy portions of the site during entire construction period for execution of normal operations.
- .2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner's usage.

## **1.6 CONTRACTOR FURNISHED ITEMS**

- .1 Contractor Responsibilities:
  - .1 Designate submittals and delivery date for each product in progress schedule.
  - .2 Review shop drawings, product data, samples, and other submittals. Submit to Consultant notification of observed discrepancies or problems anticipated due to non-conformance with Contract Documents.
  - .3 Receive and unload products at site.
  - .4 Inspect deliveries jointly with Owner; record shortages, and damaged or defective items.
  - .5 Handle products at site, including uncrating and storage.
  - .6 Protect products from damage, and from exposure to elements.
  - .7 Assemble, install, connect, adjust, and finish products.
  - .8 Provide installation inspections required by public authorities.
  - .9 Repair or replace items damaged by Contractor or subcontractor on site (under his control).

## **1.7 ALTERATIONS, ADDITIONS OR REPAIRS**

- .1 Execute work with least possible interference or disturbance to Owner's normal use of premises. Arrange with the Departmental Representative to facilitate execution of work.

## **1.8 EXISTING SERVICES**

- .1 Notify the Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give the Departmental Representative 48 hours' notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to vehicular traffic and Owner's operations.
- .3 Provide alternative routes for personnel and vehicular traffic.
- .4 Establish location and extent of service lines in area of work before starting Work. Notify the Departmental Representative of findings.
- .5 Submit schedule to and obtain approval from the Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

- .6 Provide temporary services as indicated or when directed by the Departmental Representative to maintain critical utilities and systems.
- .7 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
- .8 Where unknown services are encountered, immediately advise the Departmental Representative and confirm findings in writing.
- .9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .10 Record locations of maintained, re-routed and abandoned service lines.
- .11 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

## **1.9 DOCUMENTS REQUIRED**

- .1 Maintain at job site, one copy each document as follows:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Reviewed Shop Drawings.
  - .5 Construction Schedule
  - .6 List of Outstanding Shop Drawings.
  - .7 Change Orders.
  - .8 Other Modifications to Contract.
  - .9 Field Test Reports.
  - .10 Copy of Approved Work Schedule.
  - .11 Health and Safety Plan and Other Safety Related Documents.
  - .12 Environmental Control Plan
  - .13 Other documents as specified.

## **PART 2 Products**

### **2.1 NOT USED**

- .1 Not used.

## **PART 3 Execution**

### **3.1 NOT USED**

- .1 Not used.

**END OF SECTION**

**Part 1            General**

**1.1                ACCESS AND EGRESS**

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

**1.2                USE OF SITE AND FACILITIES**

- .1        Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with the Departmental Representative to facilitate work as stated.
- .2        Provide for personnel and vehicle access.
- .3        Where security is reduced by work provide temporary means to maintain security.
- .4        Contractor shall provide sanitary facilities for use by Contractor's personnel. Keep facilities clean.

**1.3                EXISTING SERVICES**

- .1        Notify the Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2        Provide alternative routes for personnel, pedestrian and vehicular traffic.
- .3        Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

**1.4                SPECIAL REQUIREMENTS**

- .1        Submit schedule in accordance with 01 32 16.07 - Construction Progress Schedules - Bar (GANTT) Chart.
- .2        Ensure that Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .3        Keep within limits of work and avenues of ingress and egress.
- .4        Deliver materials outside of peak traffic hours unless otherwise approved by the Departmental Representative.

**Part 2            Products**

**2.1                NOT USED**

- .1        Not used.

**Part 3            Execution**

**3.1                NOT USED**

.1                Not used.

**END OF SECTION**

**Part 1            General**

**1.1                MEASUREMENT**

- .1 All measurements shall be along a horizontal plane unless otherwise indicated.

**1.2                PAY ITEMS**

- .1 All items in this contract will be paid for by cost included in the unit prices.
- .2 Bid Item 1 – Work Site Organization
  - .1 Unit of Measurement: Lump Sum.
  - .2 This section includes: mobilization and demobilization for the project.
- .3 Bid Item 2 – Section 01 35 00.06 – Special Procedures for Traffic Control
  - .1 Unit of Measurement: Lump Sum
  - .2 This Item includes:
    - .1 Flag Persons and traffic accommodation person(s)
    - .2 Provision, installation and maintenance of temporary traffic control devices, including detour signs, construction signage and electronic message boards.
    - .3 Provision and maintenance of detours.
    - .4 Vehicles, equipment, supplies, and additional manpower required by traffic accommodations persons.
- .4 Bid Item 3, Sediment Control Fence as per Section 01 35 43 Environmental Procedures and NBDTI Standard Specification Division 600.
  - .1 Unit of Measurement: Metre (m).
  - .2 Method of Measurement: along centreline of sediment fence, as laid and as accepted by the Departmental Representative.
  - .3 This item includes:
    - .1 Periodic and general maintenances of erosion control measure and removal at the end of the project.
- .5 Bid Items 4 and 5, Erosion Control Structures per Section 01 35 43 Environmental Procedures and NBDTI Standard Specification Division 600.
  - .1 Unit of Measurement: Each (ea.).
  - .2 Method of Measurement: number of erosion control type A and D installed and as accepted by the Departmental Representative.

- .3 This item includes:
  - .1 Periodic and general maintenances of erosion control measure and removal at the end of the project.
- .6 Bid Item 6 - Section 02 41 13.14 - Asphalt Paving Removal (Cold Milling)
  - .1 Unit of Measurement: Square Metres (sq.m.) of surface area.
  - .2 Method of Measurement: Removal of existing asphalt pavement will be measured in square metres of surface actually removed regardless of depth removed or number of operations required. Payment at the contract unit price shall be compensation in full for all labour, materials and use of equipment to; carry out the cold milling to full depth, sweep the milled surface and load and haul milled material to stockpile locations outside the Park boundaries for future use as shoulder material as indicated by the Departmental Representative with the remainder becoming the property of the Contractor.
- .7 Bid Item 7 - Removal of signs and sign posts as per Section 02 41 16 – Structure Demolition
  - .1 Unit of Measurement: Each.
  - .2 Method of Measurement: Number of signs removed.
  - .3 This item includes: dismantling, salvaging and transporting of signs and hardware to a location within Kouchibouguac National Park, and disposal of posts. Contractor to maintain traffic signalisation during construction.
  - .4 There shall be no payment for transporting and stockpiling salvaged materials.
- .8 Bid Item 8 – New Sign as per Section 10 14 53 Traffic Signage
  - .1 Unit of Measurement: Each.
  - .2 This item includes:
    - .1 Supply and Installation of new sign posts as indicated on the Plans.
    - .2 Supply and Installation of signs, as approved by Departmental Representative.
- .9 Bid Item 9 –Excavation and Embankment as per Section 31 23 33.01 - Excavating, Trenching and Backfilling:
  - .1 Unit of Measurement: Cubic Metres (cu.m.).
  - .2 Method of Measurement: calculated from cross sections taken by the Departmental Representative in areas of excavation. Departmental Representative will take initial cross sections after clearing, grubbing, stripping and removal of asphalt are completed and immediately prior to excavation of material to be incorporated into work. Final cross sections will be taken when material is excavated to the final lines and grades.

- .3 This item includes: excavation, loading, hauling, placement and compaction of excavated material as indicated on the drawings, including areas where culverts are being removed and not replaced. This item also includes roadway dust control. Surplus material not incorporated into the roadway cross section shall become the property of the Contractor and disposed of outside the area.
- .4 There shall be no extra payment for:
  - .1 Excavating unnecessarily beyond lines established by the Departmental Representative, with exception of unavoidable slide material. Do not measure slide material, when such slides are attributable to negligence.
  - .2 Ripping of material.
  - .3 Scarifying or benching existing slopes or existing road surfaces.
  - .4 Removing and disposing of roots, stumps and other materials excavated during waste operation.
  - .5 Removing unsuitable material from embankment attributable to negligence.
  - .6 Removal of existing culvert and disposal.
  - .7 Shattering rock to 300 mm below subgrade elevation.
  - .8 Scaling and removing loose rock from rock face.
  - .9 Watering, drying and compacting.
  - .10 Finishing.
  - .11 Unclassified excavation
- .10 Bid Items 10 – Soil Stripping and Stockpiling as per Section 31 24 13 – Roadway Embankments:
  - .1 Unit of Measurement: Square Metres (sq.m.) of surface area (slope measurement)
  - .2 Method of Measurement: The surface area measured jointly with the Departmental Representative using a measuring wheel or approved alternative method. Removal of topsoil will be measured in square metres of surface actually removed regardless of depth removed.
  - .3 This item includes:
    - .1 Excavation, loading, hauling, stockpiling of topsoil and placement of material on slopes upon completion of excavation and embankment.
    - .2 Material placement and grading in area to be hydroseeded.
    - .3 No extra payment for area stripped outside the construction limits unless approved by Departmental Representative.
- .11 Bid Item 11 - Section 31 37 00 – Rip Rap complete with geotextile:
  - .1 Unit of Measurement: Square Meters.
  - .2 Method of Measurement: rip-rap in square metres of material placed completed with geotextile, to depth indicated.
  - .3 This item includes: supply, haulage, placement of Rip Rap to the limits and at the locations indicated on the drawings complete with N2 Geotextile.

- .4 There shall be no payment for extra materials placed outside of limits.
- .12 Bid Item 12 - Section 32 11 16.01 – Granular Sub-base:
  - .1 Unit of Measurement: Metric Tonne (1000 kg).
  - .2 Method of Measurement: from accepted truck slips.
  - .3 This item includes: supply, haulage, water supply, placement and compaction of granular materials to the limits and at the locations indicated on the drawings.
  - .4 There shall be no payment for extra thickness of sub-base materials placed outside of limits. Whenever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.
- .13 Bid Item 13 – Reclaimed Asphalt Product (shouldering) as per Section 32 11 23 – Aggregate Base Courses:
  - .1 Unit of Measurement: Metric Tonnes (1000 kg)
  - .2 Method of Measurement: from accepted truck slips.
  - .3 This item includes: supply, haulage, processing, placement and compaction of shoulder material (RAP) to the limits and at the locations indicated on the drawings. Stockpile RAP material separately in accordance with Section 31 05 16 – Aggregate Materials.
  - .4 There shall be no payment for extra thickness or width of shoulder material placed outside of limits unless approved or directed by the Departmental Representative.
- .14 Bid Item 14 - Section 32 11 23 – Aggregate Base Courses:
  - .1 Unit of Measurement: Metric Tonne (1000 kg).
  - .2 Method of Measurement: from accepted truck slips.
  - .3 This item includes: supply, haulage, water supply, placement and compaction of granular materials to the limits and at the locations indicated on the drawings.
  - .4 There shall be no payment for extra thickness of base materials placed outside of limits. Whenever in the opinion of the Departmental Representative there is extra thickness, the appropriate weight will be deducted.
- .15 Bid Items 15 & 16 - Section 32 12 16 – Asphalt Paving (Types B & D):
  - .1 Unit of Measurement: Metric Tonne (1000 kg).
  - .2 Method of Measurement: from accepted truck slips, except as provided below.
    - .1 Payment adjustment will be made for escalation in the price of liquid asphalt in accordance with NBDTI Standard Specification Item 821 - Adjustment for Asphalt Binder Price.

- .2 Payment adjustment for density to Department of Transportation and Infrastructure of New-Brunswick Standard Specifications, Section 260.5.2 Payment Adjustment for Density.
  - .3 Payment adjustment for density to Department of Transportation and Infrastructure of New-Brunswick Standard Specifications, Section 260.5.3 Payment Adjustment for Smoothness.
  - .3 This item includes:
    - .1 supply, haulage, placement and compaction of asphalt materials to the limits and at the locations indicated on the drawings.
    - .2 Supply of tack coat, if required.
  - .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.
- .16 Bid Items 17 Provisional MTV as per Section 32 12 16 Asphalt Paving:
- .1 Unit of Measurement: Metric Tonne (1000 kg).
  - .2 Method of Measurement: A unit price adjustment that shall apply to the total quantity of asphalt concrete acceptably placed using a material transfer vehicle in accordance with NBDTI section 260.
- .17 Bid Item 18 - Section 32 17 23 - Pavement Markings:
- .1 Unit of Measurement: Metres (m)
  - .2 Method of measurement: measured by metres measured by the Departmental Representative along the centerline of solid lines or painted length of dash lines, including reflective glass beads.
  - .3 No additional payment for traffic control associated with the application of pavement markings shall be made.
  - .4 All pavement markings to be in accordance with the Manual of Uniform Traffic Devices for Canada, latest edition. Temporary pavement markings shall be incidental to the Work.
- .18 Bid Item 19 - Section 32 92 19.16 – Hydraulic Seeding:
- .1 Unit of Measurement: Square metres of surface area (slope measurement).
  - .2 Method of Measurement: The surface area shall be measured jointly with the Departmental Representative using a measuring wheel or approved alternative method.
  - .3 This item includes:
    - .1 Final grading of soil along the backslope and or toe of slope on finished slopes.
    - .2 Application of fertilizer and mulching.

- .3 Maintenance during establishment period of areas seeded.
- .4 There shall be no payment for areas hydroseeded and mulched outside the construction limits unless approved by the Departmental Representative.
- .19 Bid Items 20 and 21 - Section 33 42 13 – Pipe Culverts
  - .1 Unit of Measurement: Metres (m.) for each size and type of culvert.
  - .2 Method of Measurement: along centerline of culverts, from end to end of culvert, as laid and as accepted by Departmental Representative.
  - .3 This item includes:
    - .1 Supply and placement of culvert
    - .2 Any necessary dewatering prior to placing of bedding and construction maintenance and removal of any temporary bypass roads. Temporary water control works (culverts, pumps, sand bags etc.)
    - .3 Trenching, supply and placement of bedding and backfill materials, disposal of unusable fill and culvert materials.
    - .4 Excavation, removal and disposal of existing asphalt materials, if required.
    - .5 In the event that the materials in the trench area does not meet the backfill requirement, the contractor will have to supply and place suitable backfill materials meeting NBDTI standard specification, Section 140.2.7, at no extra cost .
    - .6 All other incidental items not included in other items of this contract.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not used.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED SECTIONS**

- .1        Section 01 11 00 – Summary of Work.
- .2        Section 01 29 00 – Payment Procedures.

**1.2                RELATED REQUIREMENTS SPECIFIED ELSEWHERE**

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

**1.3                APPOINTMENT AND PAYMENT**

- .1        The Departmental Representative will appoint and pay for services of testing laboratory except follows:
  - .1        Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
  - .2        Inspection and testing performed exclusively for the Contractor's convenience.
  - .3        Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
  - .4        Mill tests and certificates of compliance.
  - .5        Tests specified to be carried out by Contractor under the supervision of the Departmental Representative.
- .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 the Departmental Representative to verify acceptability of corrected work.

**1.4                CONTRACTOR'S/DESIGN-BUILDER'S RESPONSIBILITIES**

- .1        Provide labour, equipment and facilities to:
  - .1        Provide access to Work for inspection and testing.
  - .2        Facilitate inspections and tests.
  - .3        Make good Work disturbed by inspection and test.
  - .4        Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
- .2        Notify the Departmental Representative sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
- .3        Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
- .4        Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by the Departmental Representative.

**Part 2            Products**

**2.1                NOT USED**

.1            Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1        NBDTI Standard Specifications latest edition – Section 906

**1.2                ADMINISTRATIVE**

- .1        Schedule and administer project meetings throughout the progress of the work at the call of the Departmental Representative.
- .2        Prepare agenda for meetings.
- .3        Distribute written notice of each meeting four days in advance of meeting date to Departmental Representative.
- .4        Provide physical space and make arrangements for meetings.
- .5        Preside at meetings.
- .6        Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
- .7        Reproduce and distribute copies of minutes within three days after meetings and transmit to meeting participants and affected parties not in attendance and Departmental Representative.
- .8        Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

**1.3                PRECONSTRUCTION MEETING**

- .1        Within 15 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2        Departmental Representative, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3        Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
- .4        Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5        Agenda to include:
  - .1        Appointment of official representative of participants in the Work.
  - .2        Schedule of Work: in accordance with Section 01 32 16.07 - Construction Progress Schedules - Bar (GANTT) Chart.
  - .3        Schedule of submission of shop drawings and samples. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.
  - .4        Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.

- .5 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
- .6 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
- .7 Owner provided products.
- .8 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .9 Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.
- .10 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00 - Closeout Submittals.
- .11 Monthly progress claims, administrative procedures, photographs, hold backs.
- .12 Appointment of inspection and testing agencies or firms.
- .13 Insurances, transcript of policies.

#### **1.4 PROGRESS MEETINGS**

- .1 During course of Work and two weeks prior to project completion, schedule progress meetings bi-weekly.
- .2 Contractor, major Subcontractors involved in Work and Departmental Representative are to be in attendance.
- .3 Notify parties a minimum 7 days prior to meetings.
- .4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 4 days after meeting.
- .5 Agenda to include the following:
  - .1 Review, approval of minutes of previous meeting.
  - .2 Review of Work progress since previous meeting.
  - .3 Field observations, problems, conflicts.
  - .4 Problems which impede construction schedule.
  - .5 Review of off-site fabrication delivery schedules.
  - .6 Corrective measures and procedures to regain projected schedule.
  - .7 Revision to construction schedule.
  - .8 Progress schedule, during succeeding work period.
  - .9 Review submittal schedules: expedite as required.
  - .10 Maintenance of quality standards.
  - .11 Review proposed changes for effect on construction schedule and on completion date.
  - .12 Other business.

**Part 2            Products**

**2.1                NOT USED**

.1                Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1                Not Used.

**END OF SECTION**

## **Part 1           General**

### **1.1               DEFINITIONS**

- .1     Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.
- .2     Bar Chart (GANTT Chart): 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 activity or other project element. Usually expressed as work days or work weeks.
- .6     Master Plan: summary-level schedule that identifies major activities and key milestones.
- .7     Milestone: significant event in project, usually completion of major deliverable.
- .8     Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. 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.
- .9     Project Planning, Monitoring and Control System: overall system operated by the 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     Limit activity durations to maximum of approximately 10 working days, to allow for progress reporting.

- .4 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 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit to the Departmental Representative within 5 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.
- .3 Submit Project Schedule to the Departmental Representative within 5 working days of receipt of acceptance of Master Plan.

### **1.4 MASTER PLAN**

- .1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- .2 The Departmental Representative will review and return revised schedules within 5 (five) working days.
- .3 Revise impractical schedule and resubmit within 5 (five) working days.
- .4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

### **1.5 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
  - .6 Culverts
  - .7 Base and Sub-base
  - .8 Paving
  - .9 Hydraulic seeding

### **1.6 PROJECT SCHEDULE REPORTING**

- .1 Update Project Schedule on bi-weekly basis 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.

## **1.7 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.
- .2 Weather related delays with their remedial measures will be discussed and negotiated.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not used.

## **Part 3 Execution**

### **3.1 NOT USED**

- .1 Not used.

**END OF SECTION**

**Part 1            General**

**1.1                ADMINISTRATIVE**

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

**1.2                SHOP DRAWINGS AND PRODUCT DATA**

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

- .4 Allow 10 days for the Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by the Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to the Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as the Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify the Departmental Representative in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, in triplicate, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .8 Submissions include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
  - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
  - .5 Details of appropriate portions of Work as applicable:
    - .1 Fabrication.
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .3 Setting or erection details.
    - .4 Capacities.
    - .5 Performance characteristics.
    - .6 Standards.
    - .7 Operating weight.
    - .8 Wiring diagrams.
    - .9 Single line and schematic diagrams.
    - .10 Relationship to adjacent work.
- .9 After the Departmental Representative's review, distribute copies.
- .10 Submit six prints of shop drawings for each requirement requested in specification Sections and as the Departmental Representative may reasonably request.

- .11 Submit six copies of product data sheets or brochures for requirements requested in specification Sections and as requested by the Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit one electronic copy of test reports for requirements requested in specification Sections and as requested by the Departmental Representative.
  - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
- .13 Submit one electronic copy of certificates for requirements requested in specification Sections and as requested by the Departmental Representative.
  - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
  - .2 Certificates must be dated after award of project contract complete with project name.
- .14 Submit one electronic copy of manufacturer's instructions for requirements requested in specification Sections and as requested by the Departmental Representative.
  - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit one electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by the Departmental Representative.
- .16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .17 Delete information not applicable to project.
- .18 Supplement standard information to provide details applicable to project.
- .19 If upon review by the 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.
- .20 The review of shop drawings by the Departmental Representative is for sole purpose of ascertaining conformance with general concept.
  - .1 This review shall not mean that the Departmental Representative approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
  - .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that

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

### **1.3 SAMPLES**

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

### **1.4 CERTIFICATES AND TRANSCRIPTS**

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of Contract.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not Used.

## **Part 3 Execution**

### **3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1        Transport Association of Canada (TAC) -Manual of Uniform Traffic Control Devices for Streets and Highways – latest edition.
- .2        New Brunswick Department of Transportation (NBDTI) Work Area Traffic Control Manual (WATCM) – latest edition
- .3        NBDTI Standard Specification Item 917-919 – Traffic Control Persons, Detours, Maintenance of Traffic Flow.

**1.2                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 permit and preferably on same side of travelled way.
  - .3        Do not leave equipment on travelled way overnight.
- .3        North Kouchibouguac Road is to be closed for duration of the work. Close lanes of road only after receipt of written approval from Departmental Representative.
  - .1        Before re-routing traffic erect suitable signs and devices in accordance with instructions contained in WATCM and in Part D of MUTCD.
- .4        Keep travelled way graded, free from pot holes and of sufficient width for required number of lanes of traffic.
  - .1        Provide and maintain minimum 7 m wide temporary roadway for traffic in two-way sections on detours.
  - .2        Provide and maintain minimum 5 m wide temporary roadway for traffic in one-way sections on detours.
- .5        As directed by the Departmental Representative, provide gravelled detours or temporary roads to facilitate passage of traffic around restricted construction area:
  - .1        Do grading for detour in accordance with Section 31 24 13 - Roadway Embankments.
  - .2        Place and compact granular sub-base in accordance with Section 32 11 16.01 - Granular Sub-base.
  - .3        Place and compact granular base in accordance with Section 32 11 23 - Aggregate Base Courses.

- .4 Place and compact asphalt concrete pavement in accordance with Section 32 12 16 - Asphalt Paving.
- .6 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, unless other means of road access exist that meet approval of the Departmental Representative.

### **1.3 INFORMATIONAL AND WARNING DEVICES**

- .1 Provide, erect and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response.
- .2 Barricades, signs, delineators, warning lights, electronic message board, Flag Person's paddles and other devices shall be in strict accordance with NBDTI WATCM.
- .3 Signs to be bilingual or symbolic.
- .4 Supply and erect signs, delineators, barricades and miscellaneous warning devices as specified in WATCM and in Temporary Conditions Signs and Devices, of MUTCD manual.
- .5 Place signs and other devices in locations recommended in WATCM and MUTCD manual.
- .6 Meet with the Departmental Representative prior to commencement of Work to prepare list of signs and other devices required for project. If situation on site changes, revise list and submit to the Departmental Representative for approval.
- .7 Speed zones signing within the construction zone shall be 30 km/h.
- .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.

### **1.4 CONTROL OF PUBLIC TRAFFIC**

- .1 Provide competent Flag Persons in possession of "Flag Person's Certificate" from work safe and trained in accordance with, and properly equipped as specified in, MUTCD manual in following situations:
  - .1 When public traffic is required to pass working vehicles or equipment that 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 workmen 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.
- .7 Delays to public traffic due to contractor's operators: maximum 15 minutes.
- .2 Contractor is responsible of all aspects of the traffic control at all times.
- .3 Where roadway, carrying two-way traffic, is restricted to one lane, for 24 hours each day, provide portable traffic signal system.
  - .1 Adjust, as necessary, and regularly maintain system during period of restriction.
  - .2 Signal system to meet requirements of Part IV of Manual of Uniform Traffic Control Devices for Streets and Highways.
- .4 Submit traffic control signing plan to Departmental Representative prior to begin work, work shall not begin until departmental representative has approved layout.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

## **Part 1        General**

### **1.1        SECTION INCLUDES**

- .1        Health and safety considerations required to ensure that PWGSC shows due diligence towards health and safety on construction sites, and meets the requirements laid out in PWGSC/RPB Departmental Policy DP 073 - Occupational Health and Safety - Construction.

### **1.2        REFERENCES**

- .1        Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2        Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1        Material Safety Data Sheets (MSDS).
- .3        Province of New Brunswick
  - .1        Occupational Health and Safety Act, S.N.B. 1983.

### **1.3        SUBMITTALS**

- .1        Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2        Submit site-specific Health and Safety Plan: 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.
- .3        Submit 3 copies of Contractor's authorized representative's work site health and safety inspection reports to the Departmental Representative bi-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        The Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 working days after receipt of plan. Revise plan as appropriate and resubmit plan to the Departmental Representative within 5 working days after receipt of comments from the Departmental Representative.
- .7        The 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 overall responsibility for construction Health and Safety.
- .8        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 the Departmental Representative.

- .9 Submit WHMIS MSDS – Material Safety Data Sheets.
- .10 Submit letter in good standing from Provincial Workers' Compensation or other department of labour organization.

#### **1.4 MEETINGS**

- .1 Schedule and administer Health and Safety meeting with the Departmental Representative prior to commencement of Work.
- .2 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations.

#### **1.5 PROJECT/SITE CONDITIONS**

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 The Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

#### **1.6 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 all workers, sub-contractors and other persons granted access to Work Site with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

#### **1.7 COMPLIANCE REQUIREMENTS**

- .1 Comply with the latest edition of the Occupational Health and Safety Act, General Regulation, N.B.
- .2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.
- .3 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, the Departmental Representative shall advise on the course of action to be followed. In the case of direct conflict between the federal and provincial/ territorial regulatory Health and Safety instruments noted above in paragraphs 1.2.1 and 1.2.2, the Canada Labour Code shall be the default regulatory instrument.

#### **1.8 UNFORSEEN HAZARDS**

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province of New Brunswick having jurisdiction and advise the Departmental Representative verbally and in writing.

## **1.9 HEALTH AND SAFETY CO-ORDINATOR**

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
  - .1 Have site-related working experience specific to activities associated with roadwork
  - .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.

## **1.10 CORRECTION OF NON-COMPLIANCE**

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

## **1.11 BLASTING**

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

## **1.12 WORK STOPPAGE**

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not used.

## **Part 3 Execution**

### **3.1 NOT USED**

- .1 Not used.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1    Definitions:
  - .1    Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
  - .2    Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.
- .2    Reference Standards:
  - .1    NBDTI – Environmental Requirements – latest edition
  - .2    U.S. Environmental Protection Agency (EPA)/Office of Water
    - .1    EPA 832/R-92-005-92, Storm Water Management for Construction Activities, Chapter 3.

**1.2                ACTION AND INFORMATIONAL SUBMITTALS**

- .1    Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2    Prior to commencing construction activities or delivery of materials to site, provide Environmental Protection Plan for review and approval by the Departmental Representative.
- .3    Ensure Environmental Protection Plan includes comprehensive overview of known or potential environmental issues to be addressed during construction.
- .4    Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5    Include in Environmental Protection Plan:
  - .1    Name of person responsible for ensuring adherence to Environmental Protection Plan.
  - .2    Name and qualifications of person responsible for manifesting hazardous waste to be removed from site.
  - .3    Name and qualifications of person responsible for training site personnel.
  - .4    Descriptions of environmental protection personnel training program.
  - .5    Erosion and sediment control plan identifying type and location of erosion and sediment controls to be provided including monitoring and reporting requirements

to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.

- .6 Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
- .7 Traffic Control Plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Ensure plans include measures to minimize amount of mud transported onto paved public roads by vehicles or runoff.
- .8 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Ensure plan includes measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
- .9 Spill Control Plan including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- .10 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- .11 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
- .12 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .13 Waste Water Management Plan identifying methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.
- .14 Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.
- .15 Pesticide treatment plan to be included and updated, as required.

### **1.3 FIRES**

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

### **1.4 EROSION AND SEDIMENT CONTROL**

- .1 All measures necessary to minimize and the mitigation of sediment shall be provided as required or as directed by the Departmental Representative.
  - .1 All measures to meet NBDTI standard specification Division 600.
- .2 Labour, equipment and materials to be provided and will be considered incidental to the work, except for payment items specifically identified in the unit price table.

- .3 Monitor effectiveness of erosion and sediment control measures during and after rainfall events. Repair and replace as necessary.

## **1.5 DRAINAGE**

- .1 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .2 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

## **1.6 SITE CLEARING AND PLANT PROTECTION**

- .1 Protect trees and plants on site and adjacent properties as indicated.
- .2 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .3 Minimize stripping of topsoil and vegetation.
- .4 Restrict tree removal to areas indicated or designated by the Departmental Representative.

## **1.7 WORK ADJACENT TO WATERWAYS**

- .1 Construction equipment to be operated on land only.
- .2 Do not use waterway beds for borrow material.
- .3 Waterways to be free of excavated fill, waste material and debris.
- .4 Design and construct temporary crossings to minimize erosion to waterways.
- .5 Do not skid logs or construction materials across waterways.
- .6 Avoid indicated spawning beds when constructing temporary crossings of waterways.

## **1.8 POLLUTION CONTROL**

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area by providing temporary enclosures.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads. (no calcium chloride)

### **1.9 ENVIRONMENTAL INCIDENT OR EMERGENCY**

- .1 All spills or leaks, such as those from machinery or fuel storage tanks must be promptly contained, cleaned up and reported immediately.
- .2 The Contractor will be provided with contact numbers at the pre-construction meeting prior to commencement of Work.

### **1.10 ENVIRONMENTAL PROTECTION PLAN**

- .1 Contractor will develop and forward to the Departmental Representative for approval an Environmental Protection Plan indicating measures to be put in place to prevent contaminants from reaching any watercourse. In developing this plan Environment Canada recommends the Canadian Standards Association publication Emergency Planning for Industry (CAN/CSA-Z731-95) as a useful reference.
- .2 Included will be a contingency plan/spill response plan which will be implemented to enable a rapid and effective response in the event of a spill or leak.
- .3 In order to ensure that a quick and effective response to a spill event is possible the Contractor must ensure spill response equipment will be readily available on site. Response equipment such as absorbent material and open-ended barrels for collection of cleanup debris must be stored in an accessible location on site. Open-ended barrels must be UN performance packaging certified open head drums.
- .4 Personnel working on the project must be knowledgeable about response procedures.
- .5 Refuelling and maintenance of equipment must only occur at designated areas on level hard surface away from sensitive receptors such as drainage areas.
- .6 All equipment including dump trucks and machinery shall be free from leaks. Any faulty equipment must be repaired immediately or removed from site.

### **1.11 STORAGE AND HANDLING OF FUELS AND DANGEROUS FLUIDS**

- .1 Fuel storage facility and fuelling of vehicles, shall be a minimum of 100m from any water body. Any spillage and/or ponded fuel shall be immediately recovered and placed in secure containers.

### **1.12 HISTORICAL/ARCHAEOLOGICAL CONTROL**

- .1 Provide historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in area are discovered during construction.
- .2 Plan: include methods to assure protection of known or discovered resources and identify lines of communication between Contractor personnel and the Departmental Representative.

**1.13 NOTIFICATION**

- .1 The Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform the Departmental Representative of proposed corrective action and take such action for approval by the Engineer.
  - .1 Do not take action until after receipt of written approval by the Departmental Representative.
- .3 The Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 CLEANING**

- .1 Clean in accordance with Section 01 74 11 – Cleaning.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .3 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.

**END OF SECTION**

**Part 1            General**

**1.1                INSPECTION**

- .1        Allow the 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 the Departmental Representative instructions, or law of Place of Work.
- .3        If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4        The Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, the Departmental Representative shall pay cost of examination and replacement.

**1.2                INDEPENDENT INSPECTION AGENCIES**

- .1        Independent Inspection/Testing Agencies will be engaged by the Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by the Departmental Representative.
- .2        Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .3        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 the Departmental Representative at no cost to the Departmental Representative. Pay costs for retesting and re-inspection.

**1.3                ACCESS TO WORK**

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

**1.4                PROCEDURES**

- .1        Notify appropriate agency the Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.

- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

## **1.5 REJECTED WORK**

- .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by the 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 the Departmental Representative it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by the Departmental Representative.

## **1.6 REPORTS**

- .1 Submit 3 copies of inspection and test reports to the Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested manufacturer or fabricator of material being inspected or tested.

## **1.7 TESTS AND MIX DESIGNS**

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

## **1.8 MILL TESTS**

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

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                RELATED SECTIONS**

- .1            Section 01 33 00 – Submittal Procedures.

**1.2                REFERENCES**

- .1            U.S. Environmental Protection Agency (EPA) / Office of Water
  - .1            EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

**1.3                SUBMITTALS**

- .1            Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

**1.4                INSTALLATION AND REMOVAL**

- .1            Provide temporary utilities controls in order to execute work expeditiously.
- .2            Remove from site all such work after use.

**1.5                DEWATERING**

- .1            Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

**1.6                WATER SUPPLY**

- .1            Arrange for connection with appropriate utility company and pay costs for installation, maintenance and removal.

**1.7                TEMPORARY POWER AND LIGHT**

- .1            Provide and pay for temporary power during construction for temporary lighting and operating of power tools.
- .2            Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.

**1.8                TEMPORARY COMMUNICATION FACILITIES**

- .1            Provide and pay for any temporary telephone, fax, data hook-up, necessary for own use.

**1.9                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.

**Part 2            Products**

**2.1                NOT USED**

- .1      Not Used.

**Part 3            Execution**

**3.1                TEMPORARY EROSION AND SEDIMENTATION CONTROL**

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

**END OF SECTION**

## **1.1 REFERENCES**

- .1 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB 1.189-00, Exterior Alkyd Primer for Wood.
  - .2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
- .2 Canadian Standards Association (CSA International)
  - .1 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
  - .2 CSA-0121-M1978(R2003), Douglas Fir Plywood.
  - .3 CAN/CSA-S269.2-M1987(R2003), Access Scaffolding for Construction Purposes.
  - .4 CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.
- .3 Public Works Government Services Canada (PWGSC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions 'C', In Effect as of: May 14, 2004.

## **1.2 SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

## **1.3 INSTALLATION AND REMOVAL**

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

## **1.4 HOISTING**

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

## **1.5 CONSTRUCTION PARKING**

- .1 Parking will be permitted on site provided it does not disrupt performance of Work.
- .2 Provide and maintain adequate access to project site.

- .3 Build and maintain temporary roads 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 Contractor's use of road..

#### **1.6 EQUIPMENT, TOOL AND MATERIALS STORAGE**

- .1 Provide and maintain, in 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 manner to cause least interference with work activities.

#### **1.7 SANITARY FACILITIES**

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

#### **1.8 CONSTRUCTION SIGNAGE**

- .1 Signs and notices for safety and instruction in both official languages Graphic symbols to CAN/CSA-Z321.
- .2 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 the Departmental Representative.

#### **1.9 PROTECTION AND MAINTENANCE OF TRAFFIC**

- .1 Provide access and temporary relocated roads as necessary to maintain traffic.
- .2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by the Departmental Representative.
- .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs.
- .4 Protect travelling public from damage to person and property.
- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.
- .7 Construct access and haul roads necessary.

- .8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
- .9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .10 Dust control: adequate to ensure safe operation at all times.
- .11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by the Departmental Representative.
- .12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
- .13 Provide snow removal during period of Work.
- .14 Remove, upon completion of work, haul roads designated by the Departmental Representative.

**1.10 MEASUREMENT FOR PAYMENT**

- .1 Unless specifically stated otherwise, items under this section are not to be measured for payment but are incidental to the work.

**1.11 CLEAN-UP**

- .1 Remove construction debris, waste materials, packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store materials resulting from demolition activities that are salvageable.
- .4 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 TEMPORARY EROSION AND SEDIMENTATION CONTROL**

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control drawings and requirements of authorities having jurisdiction.

- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

**END OF SECTION**

**Part 1            General**

**1.1                INSTALLATION AND REMOVAL**

- .1        Provide temporary controls in order to execute Work expeditiously.
- .2        Remove from site all such work after use.

**1.2                HOARDING**

- .1        Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.
- .2        Erect temporary site enclosures using freestanding fence.

**1.3                GUARD RAILS AND BARRICADES**

- .1        Provide secure, rigid guard rails and barricades around deep excavations.
- .2        Provide as required by governing authorities as indicated.

**1.4                ACCESS TO SITE**

- .1        Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

**1.5                PUBLIC TRAFFIC FLOW**

- .1        Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public.

**1.6                FIRE ROUTES**

- .1        Maintain access to property including overhead clearances for use by emergency response vehicles.

**1.7                PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY**

- .1        Protect surrounding private and public property from damage during performance of Work.
- .2        Be responsible for damage incurred.

**1.8                WASTE MANAGEMENT AND DISPOSAL**

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

**Part 2            Products**

**2.1                NOT USED**

.1            Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**

## **1.1 REFERENCES**

- .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 products or systems are in conformance with applicable standards, the 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 the 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 Bids, except where specific date or issue is specifically noted.

## **1.2 QUALITY**

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality 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.
- .3 Should disputes arise as to quality or fitness of products, decision rests strictly with the 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 building.
- .5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

## **1.3 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.
- .4 Store cementitious products clear of earth or concrete floors and away from walls.

- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials and lumber on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Remove and replace damaged products at own expense and to satisfaction of the Departmental Representative.
- .8 Touch-up damaged factory finished surfaces to the Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

#### **1.4 TRANSPORTATION**

- .1 Pay costs of transportation of products required in performance of Work.

#### **1.5 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 the Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that the Departmental Representative will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes the Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

#### **1.6 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 the Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. The 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 the Departmental Representative whose decision is final.

#### **1.7 CO-ORDINATION**

- .1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves and accessories.

**1.8 REMEDIAL WORK**

- .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate 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.

**1.9 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 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.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

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

**1.2                QUALIFICATIONS OF SURVEYOR**

- .1            Qualified registered land surveyor, licensed to practice in Place of Work, acceptable to the Departmental Representative.

**1.3                SURVEY REFERENCE POINTS**

- .1            Existing base horizontal and vertical control points are designated on drawings.
- .2            Locate, confirm and protect control points prior to starting site work. Preserve permanent reference points during construction.
- .3            Make no changes or relocations without prior written notice to the Departmental Representative.
- .4            Report to the Departmental Representative when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- .5            Require surveyor to replace control points in accordance with original survey control.

**1.4                SURVEY REQUIREMENTS**

- .1            Establish three 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 grades, locate and lay out, by instrumentation.
- .3            Stake for grading and fill placement.
- .4            Stake slopes.
- .5            Establish pipe invert elevations.

**1.5                EXISTING SERVICES**

- .1            Before commencing work, establish location and extent of service lines in area of Work and notify the Departmental Representative of findings.
- .2            Remove abandoned service lines within 2 m of structures. Cap or otherwise seal lines at cut-off points as directed by the Departmental Representative.

## **1.6 LOCATION OF EQUIPMENT AND FIXTURES**

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform the Departmental Representative of impending installation and obtain approval for actual location.
- .4 Submit field drawings to indicate relative position of various services and equipment when required by the Departmental Representative.

## **1.7 RECORDS**

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

## **1.8 SUBMITTALS**

- .1 Submit name and address of Surveyor to the Departmental Representative.
- .2 On request of the 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 conforms and does not conform with Contract Documents.

## **1.9 SUBSURFACE CONDITIONS**

- .1 Promptly notify Consultant in writing if subsurface conditions at Place of Work differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.
- .2 After prompt investigation, should Consultant determine that conditions do differ materially, instructions will be issued for changes in Work as provided in Changes and Change Orders.

## **Part 2 Products**

### **2.1 NOT USED**

- .1 Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1        Public Works Government Services Canada (PWGSC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions "C", In Effect as Of: May 14, 2004.

**1.2                PROJECT CLEANLINESS**

- .1        Maintain Work in tidy condition, free from accumulation of waste products and debris, including other than that caused by Owner or other Contractors.
- .2        Remove waste materials from site at daily regularly scheduled times or dispose of as directed by the Departmental Representative. Do not burn waste materials on site, unless approved by the Departmental Representative.
- .3        Clear snow and ice from access to site, bank/pile snow in designated areas only.
- .4        Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5        Provide on-site containers for collection of waste materials and debris.
- .6        Provide and use marked separate bins for recycling. Refer to Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .7        Dispose of waste materials and debris off site.
- .8        Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .9        Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .10      Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

**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.
- .4        Remove waste products and debris other than that caused by Owner or other Contractors.

- .5 Dispose of timber culverts at approved facility.
- .6 Remove waste materials from site at regularly scheduled times or dispose of as directed by the Departmental Representative. Do not burn waste materials on site, unless approved by the Departmental Representative.
- .7 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .8 Remove dirt and other disfiguration from exterior surfaces.
- .9 Sweep and wash clean paved areas.

**1.4 WASTE MANAGEMENT AND DISPOSAL**

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

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

## **Part 1           General**

### **1.1               WASTE MANAGEMENT GOALS**

- .1     Prior to start of Work conduct meeting with the Departmental Representative to review and discuss PWGSC's Waste Management Plan and Goals.
- .2     PWGSC's Waste Management Goal 75 percent of total Project Waste to be diverted from landfill sites. Provide the Departmental Representative documentation certifying that waste management, recycling, reuse of recyclable and reusable materials have been extensively practiced.
- .3     Accomplish maximum control of solid construction waste.
- .4     Preserve environment and prevent pollution and environment damage.

### **1.2               DEFINITIONS**

- .1     Class III: non-hazardous waste - construction renovation and demolition waste.
- .2     Cost/Revenue Analysis Workplan (CRAW): based on information from WRW, and intended as financial tracking tool for determining economic status of waste management practices.
- .3     Demolition Waste Audit (DWA): relates to actual waste generated from project.
- .4     Inert Fill: inert waste - exclusively asphalt and concrete.
- .5     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.
- .6     Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .7     Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .8     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.
- .9     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.
- .10    Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.

- .11 Separate Condition: refers to waste sorted into individual types.
- .12 Source Separation: acts of keeping different types of waste materials separate beginning from first time they became waste.
- .13 Waste Audit (WA): detailed inventory of materials in building. Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project. Indicates quantities of reuse, recycling and landfill. Refer to Schedule A.
- .14 Waste Management Co-ordinator (WMC) : contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.
- .15 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials. Refer to Schedule B. WRW is based on information acquired from WA (Schedule A).

### **1.3 DOCUMENTS**

- .1 Maintain at job site, one copy of following documents:
  - .1 Waste Reduction Workplan.
  - .2 Schedules completed for project.

### **1.4 SUBMITTALS**

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare and submit to Departmental Representative within 10 days from contract award:
  - .1 Submit 1 copies of completed Waste Reduction Workplan (WRW): Schedule B.
- .3 Submit before final payment summary of waste materials salvaged for reuse, recycling or disposal by project using deconstruction/disassembly material audit form.
  - .1 Failure to submit could result in hold back of final payment.
  - .2 Provide receipts, scale tickets, waybills, and show quantities and types of materials reused, recycled or disposed of.
  - .3 For each material reused, sold or recycled from project, include amount and the destination.
  - .4 For each material land filled or incinerated from project, include amount of material and identity of landfill, incinerator or transfer station.

### **1.5 WASTE REDUCTION WORKPLAN (WRW)**

- .1 Prepare WRW prior to project start-up.
- .2 WRW should include but not limited to:
  - .1 Destination of materials listed.
  - .2 Deconstruction/disassembly techniques and sequencing.
  - .3 Schedule for deconstruction/disassembly.

- .4 Location.
  - .5 Security.
  - .6 Protection.
  - .7 Clear labelling of storage areas.
  - .8 Details on materials handling and removal procedures.
  - .9 Quantities for materials to be salvaged for reuse or recycled and materials sent to landfill.
- .3 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
  - .4 Describe management of waste.
  - .5 Identify opportunities for reduction, reuse, and recycling of materials. Based on information acquired from WA.
  - .6 Post WRW or summary where workers at site are able to review content.
  - .7 Set realistic goals for waste reduction, recognize existing barriers and develop strategies to overcome these barriers.
  - .8 Monitor and report on waste reduction by documenting total volume and cost of actual waste removed from project.

## **1.6 STORAGE, HANDLING AND PROTECTION**

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by the Departmental Representative.
- .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.

## **1.7 DISPOSAL OF WASTES**

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil and paint thinner into waterways, storm, or sanitary sewers.
- .3 Timber culverts to be disposed of at an approved facility.

## **1.8 SCHEDULING**

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

**Part 2 Products**

- .1 Not used

**Part 3 Execution**

**3.1 APPLICATION**

- .1 Do Work in compliance with WRW.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

**3.2 CLEANING**

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

**3.3 CANADIAN GOVERNMENTAL DEPARTMENTS CHIEF RESPONSIBILITY FOR THE ENVIRONMENT**

- .1 Schedule E - Government Chief Responsibility for the Environment:

New Brunswick	Department of the Environment 364 Argyle Street, Box 6000 Fredericton NB E3B 5H1	506-453-3700 506-453-3843
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**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 Canadian Environmental Protection Act (CEPA)
  - .1 SOR/2008-197, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.

**1.2                ADMINISTRATIVE REQUIREMENTS**

- .1 Acceptance of Work Procedures:
  - .1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
    - .1 Notify the Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
    - .2 Request the Departmental Representative's inspection.
  - .2 The Departmental Representative's Inspection:
    - .1 Departmental Representative and Contractor to inspect Work and identify defects and deficiencies.
    - .2 Contractor to correct Work as directed.
  - .3 Completion Tasks: submit written certificates that tasks have been performed as follows:
    - .1 Work: completed and inspected for compliance with Contract Documents.
    - .2 Defects: corrected and deficiencies completed.
    - .3 Equipment and systems: tested, adjusted and balanced and fully operational.
    - .4 Certificates required by Utility companies: submitted.
    - .5 Operation of systems: demonstrated to Owner's personnel.
    - .6 Work: complete and ready for final inspection.
  - .4 Final Inspection:
    - .1 When completion tasks are done, request final inspection of Work by the Departmental Representative and Contractor.
    - .2 When Work incomplete according to the Departmental Representative, complete outstanding items and request re-inspection.

**1.3                FINAL CLEANING**

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

**Part 2            Products**

**2.1                NOT USED**

.1            Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 Canadian Environmental Protection Act (CEPA)
  - .1 SOR/2008-197, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.

**1.2                ADMINISTRATIVE REQUIREMENTS**

- .1 Pre-warranty Meeting:
  - .1 Convene meeting one week prior to contract completion with contractor's representative and Departmental Representative, in accordance with Section 01 31 19 - Project Meetings to:
    - .1 Verify Project requirements.
    - .2 Review warranty requirements and if any manufacturer's installation instructions.
  - .2 Departmental Representative to establish communication procedures for:
    - .1 Notifying construction warranty defects.
    - .2 Determine priorities for type of defects.
    - .3 Determine reasonable response time.
  - .3 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.
  - .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

**1.3                ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Two weeks prior to Substantial Performance of the Work, submit to the Departmental Representative, four final copies of operating and maintenance manuals.
- .3 Provide evidence, if requested, for type, source and quality of products supplied.

**1.4                FORMAT**

- .1 Organize data as 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.
  - .1 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.

- .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.
  - .1 Bind in with text; fold larger drawings to size of text pages.

## **1.5 CONTENTS - PROJECT RECORD DOCUMENTS**

- .1 Table of Contents for Each Volume: provide title of project;
  - .1 Date of submission; names.
  - .2 Addresses, and telephone numbers of Consultant and Contractor with name of responsible parties.
  - .3 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:
  - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: as required to supplement product data.
  - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.

## **1.6 AS -BUILT DOCUMENTS AND SAMPLES**

- .1 Maintain, in addition to requirements in General Conditions, at site for Departmental Representative one record copy of:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Addenda.
  - .4 Change Orders and other modifications to Contract.
  - .5 Reviewed shop drawings, product data, and samples.
  - .6 Field test records.
  - .7 Inspection certificates.
  - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction.
  - .1 Provide files, racks, and secure storage.

- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.
  - .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.
  - .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.

**1.7 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.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**