

**Part 1           General**

**1.1               TAXES**

- .1       Pay all taxes properly levied by law (including Federal, Provincial and Municipal).

**1.2               FEES, PERMITS and CERTIFICATES**

- .1       Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.

**1.3               MINIMUM STANDARDS**

- .1       Materials are to be new and work is to conform to the minimum applicable standards of the latest versions of the Canadian Electrical Code (CAN/CSA C22.1), the National Building Code of Canada (where applicable), the Canadian General Standards Board, the Canadian Standards Association, and all applicable Provincial and Municipal codes. In the case of conflict or discrepancy the most stringent requirement is to apply.

**1.4               DESCRIPTION OF THE WORK**

- 1.       Work to be performed under this contract is to be the implementation of temporary single-lane traffic across the Des Allumettes Bridge outside Pembroke along Provincial Highway 148 between Ontario and Quebec. Work consists of, but not limited to, the following:
  - .1       Installation of traffic signals and supporting structures and guys;
  - .2       Electrical hook-up with hydro utility;
  - .3       Installation of video traffic detection equipment;
  - .4       Electrical connection of Ontario and Quebec traffic signals;
  - .5       Traffic control;
  - .6       Installation of traffic barriers along approaches to bridge;
  - .7       Removal of existing pavement markings;
  - .8       New pavement markings;
  - .9       New signage;
  - .10      Installation of flexible traffic delineators;
  - .11      Installation of impact attenuating devices;
  - .12      Removal of existing portable message variable signs (coordinate with Beacon Lite);
  - .13      Maintenance of all features included in present contract until December 31, 2014;
  - .14      Partly re-use existing signs identified as plywood signs in existing set-up.

All work is to be carried out in a safe manner in accordance with all Municipal, Provincial and Federal laws.

- .2       Supply all labour, equipment, and material to perform the work as described in the contract plans and specifications and retain qualified tradespersons to perform the work.

### **1.5 VERIFICATION OF SITE DIMENSIONS**

- .1 The Contractor is advised that all elevations and dimensions shown on the plans are approximate only. Verify all existing dimensions and grades before preparing and submitting shop drawings and before planning and undertaking any construction work. Immediately report all discrepancies, in writing, to the Departmental Representative.

### **1.6 SUBMITTALS**

- .1 Submit for the Departmental Representative's review, all required shop drawings, procedures, plans, product data, samples, schedules and Certificates of Conformance in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Do not proceed with subsequent stages of work until the appropriate Certificates of Conformance have been submitted in accordance with Section 01 45 00 - Quality Control.

### **1.7 WORK SEQUENCE**

- .1 Work is to be sequenced so as to maintain all levels of service.

### **1.8 CONSTRUCTION PROGRESS SCHEDULE**

- .1 On award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion within five (5) days. When the Departmental Representative has reviewed schedule, take necessary measures to complete work within scheduled time. Do not change schedule without notifying Departmental Representative.
- .2 Progress schedule must include quantity of work to be accomplished within each two (2) week timeframe. No progress payments will be made until construction progress schedule is submitted and approved. Submit cost breakdown for each lump sum payment item together with progress schedule.
- .3 When requested by Departmental Representative, resubmit schedule with all revisions made to show progress of work and to show any changes which are required to meet approved completion dates, within five (5) working days.
- .4 Take all necessary measures to complete the work within scheduled times approved by the Departmental Representative.
- .5 Carry out work during "regular hours", Monday to Friday from 07:00 to 18:00 hours and on Saturdays, Sundays and statutory holidays.

### **1.9 PROTECTION OF EXISTING UTILITIES**

- .1 Establish locations and protect and maintain existing utility lines.
- .2 Repair, restore and/or replace to the Departmental Representative's approval any and all utilities damaged due to the work, or activities in connection with the work.
- .3 Notify the Departmental Representative and utility companies of intended interruption of services and obtain required permission.

- .4 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 locals.

#### **1.10 REGULATORY REQUIREMENTS**

- .1 Compliance: Be fully acquainted with all rules, regulations and other by-laws of the appropriate Federal, Provincial and Municipal governments relating to the work of this Contract and comply with same.
- .2 Fee permits, certificates: Pay all fees and obtain all permits. Provide authorities with plans and information for acceptance certificates. Provide inspection certificates as evidence that work conforms to requirements of Authority having jurisdiction.
- .3 The submission of a tender will be construed as the Tenderer's declaration that they have discussed the approval requirements with the appropriate levels of government. All costs incurred by the Contractor associated with compliance with Sections 1.10.1 and 1.10.2 is understood to be borne by the Contractor. The Contractor cannot make any claim for additional compensation due to delays on commencing work due to compliance with the above.

#### **1.11 LICENCING REQUIREMENTS**

- .1 The Contractor must submit, with his tender, proof that he is licensed to work in both the provinces of Ontario and Quebec, in accordance with the Régie du bâtiment du Québec requirements.

#### **1.12 SIGNS**

- .1 Provide common-use signs related to traffic control, information, instruction, use of equipment, public safety devices, etcetera, in both official languages or by the use of commonly understood graphic symbols to the Departmental Representative's approval.
- .2 No advertising will be permitted on this project.

#### **1.13 GUARANTIES AND EXTENDED WARRANTIES**

- .1 Before completing the work collect all manufacturer's guarantees and warranties and deposit with Departmental Representative.

#### **1.14 PRODUCTS AND WORKMANSHIP**

- .1 Perform work in accordance with Canadian Electrical Code and National Building Code of Canada (NBCC) where applicable.
- .2 Material and workmanship must conform to or exceed applicable standards of Canadian Government Specifications Board (CGSB), Canadian Standards Association (CSA), American Society for Testing and Materials (ASTM) and other referred organizations.

- .3 Conform to latest revision of dated referenced standards. Standards or codes not dated are to be deemed editions in force during tender period.
- .4 Workmanship:
  - .1 Use only thoroughly skilled and trained workmen, experienced in the type of work assigned to them; who are completely familiar with the materials specified, the manufacturer's recommended methods of installation/application, the drawings and specifications; and who will ensure a high standard of workmanship in the finished work.
  - .2 In the acceptance or rejection of finished work, no allowance will be made for the lack of skill on the part of workmen.
  - .3 Observe provincial legislation(s) related to worker competencies.

#### **1.15 SUPERVISION BY THE CONTRACTOR**

- .1 During the work, at all times, the Contractor is to have a representative on site controlling health and safety with signing authority on behalf of the Contractor.

#### **1.16 LAYOUT OF THE WORK**

- .1 Immediately upon entering site for purpose of beginning work on this project, locate all general reference points and take proper action necessary to prevent their disturbance. Preserve the layout and benchmarks prior to removals.
- .2 Lay out the work according to the elevations and dimensions shown on the plans and verified in the field, or determined in the field.
- .3 Notify the Departmental Representative immediately of any discrepancies between field measurements and dimensions shown on the plans.
- .4 Be responsible for rectification of errors resulting from failure to verify dimensions, elevations and other pertinent data shown on the plans.
- .5 Supply stakes and other survey markers required for this work. Employ competent personnel to lay out work in accordance with lines and grades provided.
- .6 Maintain all reference points and markers for duration of contract.

#### **1.17 CONTRACT DOCUMENTS REQUIRED**

- .1 Drawings and specifications are complementary, items shown or mentioned in one and not in the other are deemed to be included in the contract work.
- .2 Be responsible for printing/duplicating any required drawings or specifications for:
  - .1 Suppliers;
  - .2 Sub-contractors;
  - .3 On-site drawings & specifications;
  - .4 Project record drawings.
- .3 Maintain at job site, one copy each of the following, but not be limited to:

- .1 Contract Drawings.
- .2 Specifications.
- .3 Addenda.
- .4 Review shop drawings, procedures, etc.
- .5 Change orders.
- .6 Other modifications to Contract.
- .7 Field test reports.
- .8 Copy of approved Work schedule.
- .9 Health and Safety Plan and other Safety related documents.
- .10 Manufacturers' installation and application instructions.
- .11 Labour conditions and wage schedules.
- .12 Emergency Preparedness Plan.
- .13 Other documents as specified.

#### **1.18 EXECUTION**

- .1 Cut, Patch and Make Good:
  - .1 Cut existing surfaces as required to accommodate new work.
  - .2 Remove all items so shown or specified.
  - .3 Patch and make good surfaces cut, damaged or disturbed, to Departmental Representative's approval at contractors expense. Match existing material, colour, finish and texture.
  - .4 Repaired, replaced and refinished items to be at least equal to those that existed immediately before damage occurred.
- .2 Sleeves, Hangers and Inserts: co-ordinate setting and packing of sleeves and supply and installation of hangers and inserts. Obtain Departmental Representative's approval before cutting into structure.
- .3 Unless otherwise specified, materials for removal become the Contractor's property and are to be taken from site.

#### **1.19 CLOSEOUT SUBMITTALS**

- .1 Operational and Maintenance Manuals:
  - .1 Submit to Departmental Representative six (6) copies of approved Operations Data and Maintenance Manual, compiled as follows:
    - .1 Bind data in vinyl hard cover 3 "D" ring type loose-leaf binders for 212 x 275mm size paper. Binders must not exceed 75mm thick or be more than 2/3 full.
    - .2 Enclose title sheet labelled "Operation Data and Maintenance Manual," project name, date and list of contents. Project name must appear on binder face and spine.

- .3 Organize contents into applicable sections of work to parallel project specifications breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.
- .2 Include following information plus data specified:
  - .1 Maintenance instruction for finished surface and materials.
  - .2 Copy of hardware and paint schedules.
  - .3 Maintenance: use clear drawings, diagrams or manufacturers' literature which specifically apply and detail the following:
    - .1 lubrication products and schedules;
    - .2 trouble shooting procedures;
    - .3 adjustment techniques; and
    - .4 operational checks.
  - .4 Suppliers' names, addresses and telephone numbers and components supplied by them must be included in this section. Components must be identified by a description and manufacturers part number.
  - .5 Guarantees showing:
    - .1 name and address of projects;
    - .2 guarantee commencement date (date of Interim Certificate of Completion);
    - .3 duration of guarantee;
    - .4 clear indication of what is being guaranteed and what remedial action will be taken under guarantee; and
    - .5 signature and seal of Guarantor.
  - .6 Additional material used in project listed under various Sections showing name of manufacturer and source of supply.
- .3 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.
- .2 Records:
  - .1 As work progresses, maintain accurate records to show deviations from contract drawings. Just prior to Departmental Representative's inspection for issuance of final certificate of completion, supply to the Departmental Representative one (1) set of white prints with all deviations neatly inked in. The Departmental Representative will provide two sets of clean white prints for this purpose.
- .3 As-Built Records
  - .1 Record all deviations from the Contract Drawings by hand using red marker on full size white prints As-Built Record Drawings.
  - .2 Turn one set of As-Built Record Drawings over to Departmental Representative on completion of work.

**1.20 COST BREAKDOWN**

- .1 Before submitting first progress claim, submit breakdown of Contract Amount in detail as directed by Departmental Representative and aggregating the Contract Amount. After approval by Departmental Representative cost breakdown will be used as the basis of progress payments.

**1.21 PRECEDENCE**

- .1 For Federal Government projects, Division 01 Sections take precedence over technical specification sections in other Divisions of this Project Manual

**Part 2 Products**

**2.1 NOT USED**

**Part 3 Execution**

**3.1 NOT USED**

**END OF SECTION**

**Part 1            General**

**1.1                WORK**

- .1            At least seven (7) days prior to the start of work the contractor must submit four (4) bound copies of a detailed "Work Plan" for review and approval by the Departmental Representative. The plan must be updated by the contractor as operations require. The plan is to include but not limited to:
  - .1            Traffic Control
    - .1            Detailed written description of all traffic control procedures (referenced to drawings). Detailed drawings of all traffic control procedures and signing including controls for ramp traffic - all drawings to be on either letter or tabloid size sheets with title blocks.
    - .2            Detailed description of set-up/tear down and lane shift times, sequences & procedures. Detailed description of all channelization and guiding devices to be used.
    - .3            Detailed plan for handling emergency vehicles passing through the site.
    - .4            Frequency of inspection and detailed procedure of patrolling the traffic control set-up. Details for placing temporary traffic markings & erection of shoulder hazard signing. Details of Traffic Control Person personal protective equipment.
    - .5            Detailed sketch of proposed temporary sign stand design.
  - .2            Traffic Control Persons:
    - .1            Communications: All traffic control persons are to be equipped with radios so that they have communication with each other and any other construction vehicle operator.
  - .3            Traffic Control Maintenance:
    - .1            Employ a full time traffic control supervisor with enough staff to ensure constant patrol and maintenance of all traffic control devices.
    - .2            Traffic Control Devices:
      - .1            Keep clean and in acceptable condition, all signs, channelization devices and other traffic control devices. The minimum standard for acceptability is the latest edition of "Ontario Traffic Manual – Temporary Conditions" by the Ministry of Transportation Ontario.
    - .3            Lane Openings: Prior to opening any lane to traffic all the temporary pavement markings, hazard markers and hazard signing must be in place.
      - .1            Space temporary markings at a maximum of 10m. Markings may be made with an approved temporary marking tape or with a combination of painted marks and temporary overlay markers. Where painted marks are used, coat painted marks with glass beads and temporary overlay markers (TOMs) are to be placed at a maximum spacing of 20m over the painted marks.

**1.2 ACCOMMODATION OF TRAFFIC**

- .1 Maintain full access for residents to their private property at all times.
- .2 Full closure of the existing bridge is prohibited during the construction of the new structure. Only when the new bridge is fully operational will the Contractor close the existing crossing.
- .3 Carry out their work activities in such a manner to minimize traffic delays.

**1.3 WORK UNDER STRUCTURE**

- .1 Use of or access to the existing bridge superstructure steel to carry out the Work is not permitted.
- .2 Maintain, at all times, the existing maximum navigational envelope during the works.
- .3 Do not obstruct existing navigational aids and markers.

**1.4 ACCESS AND EGRESS**

- .1 Roadway
  - .1 Maintain vehicular, pedestrian and cyclist traffic in accordance with the Contract Drawings and Documents. Maintain existing conditions for traffic throughout period of contract except where required to complete the work under contract and where measures have been taken in accordance with the Traffic Control Plan and as approved by the Departmental Representative to protect and control public traffic. Existing conditions for traffic to be restricted as follows:
  - .2 Section from approximately 85m north of abutment on the Quebec approach to approximately 200m south of abutment to the Ontario approach.
    - .1 One lane closed for 0.6 km.
    - .2 Speed limit reduced to 60 km/h for 1.5 km.
  - .3 Maintain existing conditions for traffic crossing right-of-way.

**Part 2 Products**

**2.1 NOT USED**

**Part 3 Execution**

**3.1 NOT USED**

**END OF SECTION**

**Part 1            General**

**1.1                ADMINISTRATIVE**

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

**1.2                SUBMISSION REQUIREMENTS**

- .1        Coordinate each submission with requirements of work and Contract Documents. Individual submissions will not be reviewed until all related information is available.
- .2        Allow seven (7) working days for Departmental Representative's review of each submission.

- .3 Accompany submissions with transmittal letter, in duplicate, indicating:
  - .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.
- .4 Submissions to 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.
- .5 After Departmental Representative's review, distribute copies.
- .6 Submit electronic copy of shop drawings for each requirement requested in specification sections and as Departmental Representative may reasonably request.
- .7 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.
- .8 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
  - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
  - .2 Testing must have been within three (3) years of date of contract award for project.
- .9 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.

- .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
- .2 Certificates must be dated after award of project contract complete with project name.
- .10 Submit electronic copies of manufacturer's instructions for requirements requested in specification Sections and as requested by Departmental Representative.
  - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .11 Submit electronic copies of manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
- .12 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .13 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .14 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, submission will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

### **1.3 SHOP DRAWINGS**

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit drawings stamped and signed by professional engineer registered or licensed in both Provinces of Ontario and Quebec.
- .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 seven (7) days for Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.

- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, in duplicate, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .8 Submissions include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
- .9 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .10 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.
- .11 After Departmental Representative's review, distribute copies.

#### **1.4 PRODUCT DATA**

- .1 Product data: manufacturers catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products.
- .2 Submit two (2) copies of product data.
- .3 Sheet size: 215 x 280 mm, maximum of 3 modules.

- .4 Delete information not applicable to project.
- .5 Supplement standard information to provide details applicable to project.
- .6 Cross-reference product data information to applicable portions of Contract Documents.

**1.5 SHOP DRAWING REVIEW**

- .1 Review of shop drawings by Departmental Representative is for sole purpose of ascertaining conformance with general concept, and not for approval of design details inherent in shop drawings, responsibility for which remains with Contractor.
- .2 This review does not relieve Contractor of responsibility for errors or omissions in shop drawings or responsibility for meeting all requirements of Contract Documents.
- .3 Contractor to verify all dimensions and existing conditions at work site for information related to fabrication processes, construction techniques, installation methods and co-ordination of work with sub-trades.

**Part 2 Products**

**2.1 NOT USED**

**Part 3 Execution**

**3.1 NOT USED**

**END OF SECTION**

## **Part 1           General**

### **1.1               REFERENCES**

- .1     Ministry of Transportation, Ontario (MTO)
  - .1     Ontario Traffic Manual, Book 7: Temporary Conditions .
  - .2     Ontario Traffic Manual, Book 12: Traffic Signals
- .2     Transportation Association of Canada
  - .1     Manual of Uniform Traffic Control Devices for Canada, Fourth Edition
  - .2     Geometric Design Guide for Canadian Roads, 1999 Edition Part 2.
- .3     Ministère des Transports du Québec
  - .1     Tome V, Signalisation Routière Normes et ouvrages routiers du ministère des Transports du Québec La Signalisation Routière Au Québec
- .4     Cahier des charges et devis généraux, Infrastructures routières-Construction et réparation, Édition 2013, Québec, MTQ

### **1.2               SUBMITTALS**

- .1     Submittals in accordance with Section 01 33 00 – Submittal Procedures.
- .2     Prepare and submit a Traffic Control Plan (TCP), signed and sealed by a Professional Engineer, registered or licensed in the Provinces of Ontario and Quebec.
- .3     The TCP to detail the specific traffic control layout for implementation including vehicular, pedestrian and cyclist movement, required to allow the Contractor to fulfill all conditions of the Contract.
- .4     A suggested Traffic Control layout is depicted on Contract Drawing No. C17. The TCP to include temporary traffic signals, all appropriate signage and public notice with the use of two portable variable message signs (one at each approach).
- .5     The TCP to also include, and not necessarily be limited to:
  - .1     Monitoring and repair;
  - .2     Traffic control signs (regulatory, warning and temporary);
  - .3     Traffic control delineation;
  - .4     Lanes closures;
  - .5     Changes to public access;
  - .6     Pedestrian, cyclist and vehicular safety including barriers, temporary concrete barriers and barricades;
  - .7     Changes to Emergency Vehicular Access;
  - .8     Removal of existing and provision of temporary pavement markings; and
  - .9     Any other traffic control measures.
- .6     Submit TCP to Departmental Representative for review.

- .7 The review of the TCP by the Departmental Representative will make no representation that the document is accurate, complete or compliant with all applicable legislation. Any errors, omissions or deficiencies within the TCP will remain the sole responsibility of the Contractor. Do not commence implementation of the TCP until all the comments made by the Departmental Representative are satisfactorily addressed and written authorization to proceed is received.
- .8 All materials supplied and implemented as part of the TCP will remain in place beyond the expiration of the contract.

### **1.3 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 minimize 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 other than those actively required for use in the TCP.
- .3 Close lanes of road only after receipt of written approval from Departmental Representative.
  - .1 Before re-routing traffic erect suitable signs and devices to references in article 1.1
- .4 Keep travelled way graded, free from pot holes and of sufficient width for required number of lanes of traffic.
- .5 Provide two 3.30m wide minimum lanes for traffic in two-way sections through Work Zone.
- .6 Provide signal 5 m wide minimum roadway for traffic in one-way section through Work Zone.
- .7 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, except where other means of road access exist that meet approval of Departmental Representative
- .8 In accordance with reviewed Traffic control Plan, mark the pavement.
  - .1 Obliterate the existing pavement markings in accordance with Section 32 01 11.01- Pavement Cleaning and Marking Removal
  - .2 Apply pavement markings in accordance with Section 32 17 23 Temporary Pavement Markings
  - .3 Maintain and reapply pavement marking as required for the duration of the contract, or until written direction is provided by the Departmental Representative to the contrary.
- .9 Set adjust and maintain the phasing and timing of the traffic signal controller as directed by Departmental Representative.

- .10 All traffic control devices supplied and installed under this contract to be maintained by the Contractor including temporary traffic signal for the duration of the Contract until written direction is provided by the Departmental Representative to the contrary. All materials will remain on site beyond the expiration of the contract.
- .11 Signage at the east approach to the bridge (Quebec side), to be in accordance with Tome V, Traffic control devices, Normes et ouvrages routiers du ministère des Transports du Québec.
- .12 Signage on the west approach to the bridge (Ontario side), signage to be in accordance with Ontario Traffic Manual, Book 7: Temporary Conditions.

#### **1.4 INFORMATIONAL AND WARNING DEVICES**

- .1 Provide 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 Supply and erect signs, barricades and miscellaneous warning devices to references in article 1.1
- .3 Place signs and other devices in locations recommended by references in article 1.1.
- .4 Meet with 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 to approval of Departmental Representative.
- .5 Continually maintain traffic control devices in use:
  - .1 Check signs daily for legibility, damage, suitability and location. Clean, repair or replace to ensure clarity and reflectance.
  - .2 Remove or cover signs which do not apply to conditions existing from day to day.
  - .3 Replace damaged or broken impact attenuating devices, temporary concrete barriers, signals, poles or any other equipment actively used in the TCP as required.

#### **1.5 CONTROL OF PUBLIC TRAFFIC**

- .1 Provide competent flag personnel, trained in accordance with, and properly equipped to references in article 1.1 and for situations as follows:
  - .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 At each end of restricted sections where pilot cars are required.
- .8 Delays to public traffic due to contractor's operators:15 minutes maximum.
- .2 Where roadway, carrying two-way traffic, is restricted to one lane, for 24 hours each day, provide traffic signal system.
  - .1 Adjust, as necessary, and regularly maintain system during period of restriction.
  - .2 Ensure signal system meets requirements of references in article 1.1.

## **1.6 OPERATIONAL REQUIREMENTS**

- .1 Maintain vehicle, pedestrian and cycling traffic in compliance with the contract documents until end of contract.
- .2 Maintain existing conditions for traffic throughout period of contract except that when required for construction under contract and when measures have been taken as specified in the Traffic Control Plan and approved by Departmental Representative to protect and control public traffic:
  - .1 Section from approximately 85m North of Quebec abutment to approximately 200m South of Ontario abutment.
    - .1 One lane closed for 0.61 km.
    - .2 Speed limit reduced to 60 km/h for 1.45 km.
  - .3 Maintain existing conditions for traffic crossing right-of-way until end of contract.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Material and equipment is to meet or exceed provincial standards using materials that are approved for use in Ministry of Transportation Ontario (MTO) or Ministère des Transports du Québec (MTQ) construction projects. Demonstrate in writing that each product meets or exceeds provincial requirements.

## **Part 3 Execution**

### **3.1 TRAFFIC CONTROL PLAN**

- .1 Ensure that all workers, including sub-contractors, in the work area are aware of the importance of the Traffic Control Plan measures.
- .2 Maintain the condition of all traffic control devices for the duration of the contract.
- .3 Immediately repair, replace or otherwise make good the practice deemed unsafe or non-compliant when notified by Departmental Representative of a violation of the Traffic Control Plan, or applicable regulations.
- .4 Review and modify the Traffic Control Plan for errors, omissions, deficiencies, or because of any new hazards that are identified and have not been previously addressed in the Plan.
- .5 Ensure that all staff receives the necessary training prior to commencement of the work.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .2 Construction Safety Association of Ontario
  - .1 Hoisting and Rigging Safety Manual
- .3 Government of Canada
  - .1 Bill C-45.
- .4 Province of Ontario
  - .1 Occupational Health and Safety Act Revised Statutes of Ontario 1990, Chapter O.1 as amended, and Regulations for Construction Projects, O. Reg. 213/91 as amended and O. Reg. 213/91 as amended and O. Reg. 629/94 as amended, Diving Operations should diving operations be required.
  - .2 Workplace Safety and Insurance Act, 1997.
  - .3 Municipal statutes and authorities.
- .5 Province of Québec
  - .1 Act Respecting Occupational Health and Safety and amendments.
  - .2 Loi Sur La Sante ET La Sécurité DU Travail
  - .3 Safety Code for the Construction Industry, R.R.Q., 1981, c. S-2.1, r.6 (2003 (updated to 1 April 2013)).
- .6 Fire Commissioner of Canada (FCC)
  - .1 FC-301 Standard for Construction Operations, June 1982.
  - .2 FC-302 Standard for Welding and Cutting, June 1982.

**1.2                SUBMITTALS**

- .1 Submittals to be in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Submit site-specific Health and Safety Plan: Within seven (7) days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
  - .1 Site-specific safety hazard assessment and measures to be taken to address anticipated hazards.
  - .2 Contractor's and Sub-Contractor's Safety Communication Plan.
  - .3 Emergency Response Plan describing procedures to be followed during emergency situations including evacuating injured personnel from the site.
  - .4 Contractor's Health and Safety Policy.
  - .5 Name of Health and Safety Coordinator and contact information.
- .3 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within seven (7) days after receipt of plan. Revise plan as

appropriate and resubmit plan to Departmental Representative within seven (7) days after receipt of comments.

- .4 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.
- .5 Submit records of Contractor's Health and Safety meeting when requested.
- .6 Submit three (3) copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative and authority having jurisdiction, weekly.
- .7 Submit Construction Safety Checklists after completion.
- .8 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .9 Submit copies of incident and accident reports.
- .10 Submit WHMIS MSDS - Material Safety Data Sheets to Departmental Representative.

### **1.3 FILING OF NOTICE**

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Ensure that every employer has informed the Provincial authorities of an event by the most rapid means of communication, followed within twenty four (24) hours by a written report, in the form and with the information prescribed by regulation, if this event has caused:
  - .1 The death of a worker;
  - .2 Such serious injury to a worker preventing the worker from performing their work for ten (10) consecutive working days;
  - .3 Such serious injuries to several workers preventing them from performing their work for one working day; or
  - .4 Material damage valued at \$50,000 or more.

### **1.4 REGULATORY REQUIREMENTS**

- .1 Comply with specified standards and regulations to ensure safe operations at site.
- .2 Apply the most stringent requirements of Federal, Provincial, and other authorities having jurisdiction.

### **1.5 PROJECT AND SITE CONDITIONS**

- .1 Work at site will involve but not be limited to:
  - .1 Traffic and access control.
  - .2 Work near water.
  - .3 Contact with silica in concrete.
  - .4 Electrical systems.

- .5 Vehicle traffic in work zone.
- .6 Work on roadway.
- .7 Corroded metals.
- .8 Ice.
- .9 Work near utilities.
- .10 Falling hazards.
- .11 Low temperatures.

## **1.6 GENERAL REQUIREMENTS**

- .1 Comply with Ontario Occupational Health and Safety Act, Loi Sur La Sante ET La Sécurité DU Travail (current edition), Canada Labour Code Part II, and Canada Occupational Safety and Health Regulations. The most stringent requirements (regulations/codes/standards) of the Federal, Provincial and other authorities having jurisdiction are applicable.
- .2 Develop written site-specific Health and Safety Plan based on hazard assessment prior to commencing any site work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications. As a minimum, the safety program will include the contents of the Occupational Health and Safety Act and the following aspects:
  - .1 Company health and safety policy.
  - .2 A description of the work, total costs, schedule and projected workforce curve.
  - .3 Flowchart of safety and health responsibility.
  - .4 The physical and material layout of the site.
  - .5 First-aid and first-line treatment standards.
  - .6 Identification of site-specific hazards.
  - .7 Risk assessment for the tasks to be carried out, including preventative measures and the procedures for applying them.
  - .8 Training requirements.
  - .9 Procedures in case of accident/injury.
  - .10 Written commitment from all parties to comply with the safety program.
  - .11 A site inspection schedule based on the preventative measures.
- .3 Relief from or substitution for any portion or provision of minimum Health and Safety Guidelines specified herein or reviewed site-specific Health and Safety Plan must be submitted to Departmental Representative in writing. Departmental Representative will respond in writing, either accepting or requesting improvements.
- .4 Designate an officer on site in compliance with the CSST Safety Code for Construction Industry, from the beginning to the end of construction.
- .5 Ensure that work practices and operation can minimize risks from hazards.
- .6 Ensure before commencing work that personnel assigned on work site are holding valid Health and Safety Certificates when required by Regulations.
- .7 Be responsible to set up and keep up-to-date an emergency plan for the work that includes the following elements:

- .1 Description of major disaster risks (hazardous material spills, work near water, etc.)
- .2 Evacuation procedure
- .3 Identification of resources (police, firefighters, ambulance services, etc.)
- .4 Identification of persons in charge at the site
- .5 Identification of those with first-aid training
- .6 Training required for those responsible for applying the plan
- .7 Any other information needed, in light of the site characteristics
- .8 Portable fire extinguishers that provide protection according to the nature of the present hazard are to be installed in all equipment and be approved by Underwriters Laboratories of Canada (U.L.C.)

### **1.7 RESPONSIBILITY**

- .1 Be fully responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
- .3 Responsibilities related to health and safety including traffic control, use of public ways, temporary electrical installation, housekeeping of sites, public safety, access to the site, protection against fire, permanent ramps and guardrails, temporary heating and all other general safety measures are the responsibility of the Contractor.
- .4 The Contractor is designated the “Constructor” as defined by the Ontario Act **and** the “Principal Contractor” as defined by the Act Respecting Occupational Health and Safety in the Province of Québec and fully, properly and completely initiates, monitors and maintains total control of the Works across the entire work site in this regard on behalf of the Departmental Representative.

### **1.8 UNFORSEEN HAZARDS**

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, immediately stop work and advise Departmental Representative verbally and in writing.
- .2 Follow procedures in place for Employees Right to Refuse Work as specified in the Act in the Province of Ontario and the Act Respecting Occupational Health and Safety in the Province of Québec.
- .3 Have an Emergency Preparedness Plan in place for procedures to follow in the event of an emergency. The Contractor’s site personnel are to be familiar with this plan from the start of the Work.

### **1.9 HEALTH AND SAFETY COORDINATOR**

- .1 Employ and assign to Work, a competent and authorized representative as Health and Safety Coordinator. Health and Safety Coordinator must:
  - .1 Have site-related working experience specific to activities associated with this project.
  - .2 Have working knowledge of occupational health and safety 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 Health and Safety Plan.
  - .5 Be on site during execution of Work and report directly to Site Supervisor.
  - .6 Follow the duties of the Health and Safety Co-ordinators as described and listed under the Québec Safety Code for the construction industry.

### **1.10 POSTING OF DOCUMENTS**

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province of Ontario and Québec, and in consultation with the Departmental Representative.
- .2 Provide documents as follow and post on site:
  - .1 Contractor's (Constructor's) name.
  - .2 Name, trade and employer of Health and Safety Coordinator.
  - .3 Contractor's Health and Safety Policy.
  - .4 Site-Specific Health and Safety Plan, including Emergency Response Plan.
  - .5 Notice of Project.
  - .6 Ministry of Labour and CSST Orders and reports.
  - .7 Occupational Health and Safety Act and Regulations for Construction Projects for Province of Ontario and Québec.
  - .8 Material Safety Data Sheets.
  - .9 Copy of valid certificate for first-aid personnel on duty.
  - .10 WSIB "In Case of Injury" poster.
  - .11 Location of toilet and clean-up facilities.
  - .12 Any special handling or procedures specific to site.
- .3 Comply with Provincial general posting requirements.

### **1.11 CORRECTION OF NON-COMPLIANCE**

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.

### **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.

- .2 Assign responsibility and obligation to Health and Safety Coordinator to stop or start Work when, at Health and Safety Coordinator's discretion, it is necessary or advisable for reasons of health or safety.

**Part 2 Products**

**2.1 NOT USED**

**Part 3 Execution**

**3.1 NOT USED**

**END OF SECTION**

**Part 1           General**

**1.1               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.

**1.2               SUBMITTALS**

- .1       Submittals to be in accordance with Section 01 33 00 – Submittal Procedures.
- .2       Prior to commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
- .3       Environmental Protection Plan to present 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.

**1.3               NOTIFICATION**

- .1       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 Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
- .3       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**

**Part 3            Execution**

**3.1                NOT USED**

**END OF SECTION**

**Part 1            General**

**1.1                DEFINITIONS**

- .1      Certificate of Conformance: A document issued by the Quality Verification Engineer confirming that the specified components of the Work are in General Conformance with the requirements of the Contract Documents.
- .2      General Conformance: means that, in the opinion of a professional engineer, the standard of construction work fulfills the essential requirements of the Contract Documents, and has been done in accordance with normally accepted industry standards, and will perform its intended function.
- .3      Interim Inspection: An inspection confirming that the specified components of the Work are in General Conformance with the Contract Documents and a written permission issued by the Quality Verification Engineer to the Contractor to proceed to the next stage of the Work.
- .4      Quality Verification Engineer: An Engineer qualified to provide the quality verification engineer services specified in the Contract Documents.

**1.2                INSPECTION**

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

**1.3                INDEPENDENT INSPECTION AGENCIES**

- .1      Employ or retain one or more professional engineers to provide the services of a Quality Verification Engineer (QVE). Obtain the written consent of the Departmental Representative before retaining a professional engineer.
- .2      Advise the Departmental Representative of the name of the QVE before the QVE provides services to the Contractor.
- .3      The QVE will issue Certificates of Conformance, as specified in the Contract Documents, by completing Form PHCC-822 "Certificate of Conformance". The QVE will also issue written permission to proceed to the next stage of the Work following an Interim Inspection, as specified in the Contract Documents. A Certificate of Conformance to be issued by one QVE who will be responsible for all Interim Inspections of Work covered by the Certificate of

Conformance. The Certificate of Conformance is to include the time, date and components inspected in all Interim Inspections.

- .4 Where a QVE is unavailable to complete all the Interim Inspections that are specified, the QVE is to issue a Certificate of Conformance covering the Interim Inspections completed to date. The second QVE is to issue a Certificate of Conformance covering the subsequent Interim Inspections for which the second QVE is responsible. Ensure that the Certificates cover all required inspections and submit them at the same time.
- .5 The QVE will not delegate any activity that the Contract Documents require the QVE to “witness”. For all other activities, the QVE may delegate the function to another person where it is consistent with prudent engineering practice to do so, and the function is performed under the supervision of the QVE.
- .6 Contractor is responsible for all Quality Control.

#### **1.4 ACCESS TO WORK**

- .1 Allow Departmental Representative access to Work whenever and wherever it is in progress.
- .2 Co-operate to provide reasonable facilities for such access.
- .3 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

#### **1.5 CONSTRUCTION**

- .1 Submit Certificates of Conformance, with reference to the applicable Shop Drawings, Contract Drawings and other Contract Documents, to the Departmental Representative at the milestones identified in the Contract Documents and prior to commencing subsequent stages of the work. The Certificate of Conformance will be submitted within 48 hours of completing the Work described in the Certificate of Conformance unless a different period is specified elsewhere in the Contract Documents. Where Interim Inspections are specified, the Contractor will not proceed until written permission is received from the QVE. A copy of the written permission will be made available to the Departmental Representative upon request.
- .2 The QVE will seal, sign and date Certificates of Conformance indicating that construction of the Work is in General Conformance with the stamped Contract Drawings and the requirements of the Contract Documents. No conditions or limitations will form part of the Certificate of Conformance or the written permission to proceed following an Interim Inspection. Any amendments to the Contract Documents accepted by the Departmental Representative, and related to the Certificate of Conformance, will be appended.

#### **1.6 NON-CONFORMING WORK BY THE CONTRACTOR**

- .1 If the QVE is prevented from issuing a written permission following an Interim Inspection, or a Certificate of Conformance, because of lack of clarity of the Contract Documents, the QVE will seek clarification of the requirements from the Departmental Representative.
- .2 If components of the Work have aspects that are not in General Conformance with the Contract Documents, the Contractor may propose an amendment to the Contract Documents. The Contractor is to, under the seal and signature of the QVE, provide the Departmental

Representative with an itemized, detailed description of all aspects within the scope of the Certificate of Conformance that are not in General Conformance with the Contract Documents. The Contractor will also, under the seal and signature of a professional engineer (who may or may not also be the QVE), provide to the Departmental Representative recommendations for an amendment to the Contract Documents that will deliver the functionality of the original Contract Documents.

- .3 The proposal for an amendment to the Contract Documents differs from a change proposal. A proposal for an amendment to the Contract Documents occurs after the work has been carried out, and the Work does not conform to the Contract Documents.
- .4 The Departmental Representative will:
  - .1 Reject the proposed amendment, and require the Contractor to take whatever remedial measures necessary to achieve a Certificate of Conformance based on the original Contract Documents, or
  - .2 Accept the proposed amendment and require the Contractor to submit a Certificate of Conformance for the work with the accepted amendment attached.

## **1.7 PROCEDURES**

- .1 Notify Departmental Representative forty eight (48) hours in advance of requirement for tests .
- .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.

## **1.8 TESTING BY DEPARTMENTAL REPRESENTATIVE**

- .1 Departmental Representative will perform inspection/testing on a random basis for auditing purposes. Correct defect and irregularities as advised by Departmental Representative at no cost.
- .2 If Contractor covers or permits to be covered Work that has been designated for inspections before these are made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .3 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such Work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative will authorize payment of the cost of examination and replacement.

## **1.9 TESTS AND REPORTS**

- .1 Submit four (4) copies of inspection and test reports to Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested and manufacturer or fabricator of material being inspected or tested.

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

**Part 2 Products**

**2.1 NOT USED**

**Part 3 Execution**

**3.1 NOT USED**

**END OF SECTION**

**Part 1            General**

**1.1                RELATED SECTIONS**

- .1      Section 32 01 11 01      Pavement Cleaning and Marking Removal.
- .2      Section 34 71 13.01      Vehicle Concrete Barriers
- .3      Section 32 17 23          Temporary Pavement Markings
- .4      Section 32 11 23          Aggregate Base Courses
- .5      Section 34 71 16          Impact Attenuating Devices

**1.2                REFERENCES**

- .1      Conform to reference standards, in whole or in part as specifically requested in specifications.
- .2      If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .3      Cost for such testing will be borne by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.

**1.3                QUALITY**

- .1      Products, materials, equipment and articles incorporated in Work to 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      Procurement policy is to acquire, in cost effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3      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.
- .4      Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
- .5      Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .6      Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations.

#### **1.4 STORAGE, HANDLING AND PROTECTION**

- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .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, lumber and steel on flat, solid supports and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .9 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

#### **1.5 TRANSPORTATION**

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

#### **1.6 MANUFACTURER'S INSTRUCTIONS**

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

#### **1.7 QUALITY OF WORK**

- .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.

- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.

#### **1.8 CO-ORDINATION**

- .1 Ensure 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.

#### **1.9 CONCEALMENT**

- .1 In finished areas conceal pipes, ducts and wiring in barrier walls and walls, except where indicated otherwise.
- .2 Before installation inform Departmental Representative if there is interference. Install as directed by Departmental Representative.

#### **1.10 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.

#### **1.11 LOCATION OF FIXTURES**

- .1 Consider location of fixtures, outlets, and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.

#### **1.12 FASTENINGS**

- .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.

- .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

**1.13 PROTECTION OF WORK IN PROGRESS**

- .1 Prevent overloading of parts of structure. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated, without written approval of Departmental Representative.

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

**Part 2 Products**

**2.1 MATERIALS**

- .1 Meet or exceed specified provincial standards using only materials that are approved for use in Ministry of Transportation Ontario (MTO) or Ministère des Transports du Québec (MTQ) construction projects. Demonstrate in writing that each product meets or exceeds provincial requirements.

**Part 3 Execution**

**3.1 NOT USED**

**END OF SECTION**