

PWGSC Ontario	SPECIFICATION	Section 00 00 00
Region Project	TITLE SHEET	Page 1
Number: R.087522.001		2021-06-01

PROJECT TITLE      Roadway Resurfacing  
                          Bath/Millhaven Institutions  
                          Bath, Ontario

PROJECT NUMBER      R.087522.001

PROJECT DATE      2021-06-01

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## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- .1 Title and description of Work.
- .2 Contract Method.
- .3 Contractor use of premises.
- .4 Alterations to existing site.

### 1.2 PRECEDENCE

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

### 1.3 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises Roadway Resurfacing - Phase 2 of Bath/Millhaven Institutions, located at Bath, Ontario.

### 1.4 CONTRACT METHOD

- .1 Construct work under combined price contract.

### 1.5 COST BREAKDOWN

- .1 Within 48 hours of notification of acceptance of bid furnish a cost breakdown by Section aggregating contract price.
  - .1 For items designated as unit price on the unit price schedule, submit prices for each line item for the unit of measure specified.
- .2 Show separately cost of equipment purchased exempt from Ontario Retail Sales Tax under your Ontario Sales Tax License number.
- .3 Within 48 hours of acceptance of bid submit a list of subcontractors.

### 1.6 WORK BY OTHERS

- .1 Work of this Project must include provisions for coordinating additional related work, identified in Contract Documents, for following principal items.
  - .1 Storm Sewer Improvements - Project R.070386.001
- .2 The Contractor shall for the purpose of the Ontario Occupational Health and Safety Act and Regulations for Construction Projects, and for the duration of the Work of the Contract:

- .1 Assume the role of Constructor in accordance with the Authority Having Jurisdictions.

#### 1.7 WORK SEQUENCE

- .1 Maintain fire access/control.

#### 1.8 WORK SEQUENCE

- .1 Construct Work in stages to accommodate Owner's continued use of premises during construction.
- .2 Coordinate Progress Schedule and coordinate with Owner Occupancy during construction.
- .3 Required stages:
  - .1 Complete all works on perimeter roads around the Millhaven Institution. Access for security patrols must be maintained at all times.
  - .2 Complete all works on perimeter road around the Bath Institution. Access for public and security controls must be maintained at all times.
  - .3 Complete all works on access road entering the institution from Highway 33. At a minimum, half of the access must be hard surfaced at all times.
- .4 Construct Work in stages to provide for continuous public usage. Do not close off public usage of facilities until use of one stage of Work will provide alternate usage.
- .5 Maintain fire access/control.

#### 1.9 CONTRACTOR USE OF PREMISES

- .1 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

### PART 2 - PRODUCTS

#### 2.1 NOT USED

- .1 Not used.

### PART 3 - EXECUTION

#### 3.1 NOT USED

- .1 Not used.

## PART 1 - GENERAL

### 1.1 MINIMUM STANDARDS

- .1 Execute work to meet or exceed:
  - .1 National Building Code of Canada 2015, National Fire Code of Canada 2015, Ontario Building Code 2012 and any other code of provincial or local application, including all amendments up to project date, provided that in any case of conflict or discrepancy, the more stringent requirements shall apply as directed by the Departmental Representative.
  - .2 Rules and regulations of authorities having jurisdiction.
  - .3 Treasury Board of Canada Secretariat, Fire Protection Standard, April 1, 2010.
  - .4 Observe and enforce construction safety measures required by National Building Code 2015, Part 8 Safety Measures at Construction and Demolition Sites, Occupational Health and Safety Act and Regulations for Construction Projects, Revised Statutes of Ontario 1990, Chapter O.1 as amended, O. Reg. 213/91 as amended by O. Reg. 631/94, O. Reg. 143/99, O. Reg. 571/99, O. Reg. 145/00, O. Reg. 527/00, R.R.O. 1990, Reg. 834, O. Reg. 278/05 (Asbestos), Workplace Safety and Insurance Board and municipal statutes and authorities.
  - .5 Environmental Protection Act, O. Reg. 102/94 and O. Reg. 103/94.
  - .6 Comply with CSA B651-18, Accessible Design for the Built Environment, unless specified otherwise. In any case of conflict or discrepancy between the building codes and CSA B651, the requirements of CSA B651 shall apply.
  - .7 Ontario Provincial Standards (OPS) for Roads and Public Works.

### 1.2 SAFETY PLANS

- .1 On award of Contract, submit to Departmental Representative, two copies of Contractor's and sub-contractors':
  - .1 Safety Policy and Program.
  - .2 Safety Communication Plan.
- .2 Emergency Preparedness Plan.
- .3 Workplace Safety and Insurance Board LTI rating.

### 1.3 TAXES

- .1 Pay applicable Federal, Provincial and Municipal taxes.

### 1.4 FEES, PERMITS AND CERTIFICATES

- .1 Provide authorities having jurisdiction with information requested.
- .2 Pay fees and obtain certificates and permits required.

- .3 Furnish certificates and permits when requested.

#### 1.5 EXAMINATION

- .1 Before submitting tender, examine existing conditions and determine conditions affecting work.
- .2 Obtain all information which may be necessary for proper execution of Contract.

#### 1.6 SITE

- .1 Confine work, including temporary structures, plant, equipment and materials to established limits of site.
- .2 Locate temporary buildings, roads, walks, drainage facilities, services as directed and maintain in clean and orderly manner.

#### 1.7 CONSTRUCTION & STORAGE AREA

- .1 The limits of the Construction and Storage Area will be designated by the Departmental Representative prior to commencement of work unless otherwise shown on the Drawings.

#### 1.8 DOCUMENTS

- .1 Keep on site one copy of contract documents and reviewed shop drawings.

#### 1.9 MEASUREMENT PROCEDURES

- .1 Items measured for payment are in metric (SI) units.
- .2 Submit requests for payment in metric units corresponding with items on the Unit Price Table.
- .3 Submit supporting documents in metric units. Perform all necessary conversions required.

#### 1.10 AS-BUILT RECORD DRAWINGS

- .1 As work progresses, neatly record significant deviations from the Contract drawings using fine, red marker on full size white prints.
- .2 Neatly print lettering and numbers in size to match original. Lines may be drawn free-hand but shall be neat and accurate. Add at each title block note: "AS BUILT RECORD".
- .3 Record following significant deviations:
  - .1 Depths of various elements and foundations.
  - .2 Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvement.
  - .3 Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.

- .4 Field changes of dimension.
- .5 Other significant deviations which are concealed in construction and cannot be identified by visual inspection.
- .4 Turn one set of As-Built Record Drawings over to Departmental Representative on completion of work.
- .5 If project is completed without significant deviations from contract drawings declare this in writing and submit to Departmental Representative in lieu of As-Built Record Drawings.

#### 1.11 SHOP DRAWINGS

- .1 Prior to submission check and certify as correct, shop drawings and product data sheets. Issue to Departmental Representative each submission at least 14 days before dates reviewed submission will be needed.
- .2 Submit 1 electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .3 Where technical sections specify that shop drawings bear the stamp of a Registered Professional Engineer, registered in the Province of Ontario, this shall also include the Ontario Building Code BCIN number.
- .4 Submit 1 electronic copy 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.
- .5 Shop drawings of structural items shall bear the stamp of a Registered Professional Engineer.
- .6 Responsibility for errors, omissions or deviations from requirements of Contract Documents is not relieved by Departmental Representative's review of submittals.
- .7 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept. This review shall not mean that PWGSC 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 all requirements of construction and Contract Documents. 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 all sub-trades.

1.12 ADDITIONAL DRAWINGS

- .1 Departmental Representative may furnish additional drawings to clarify work.
- .2 Such drawings become part of Contract Documents.

1.13 LAYOUT OF 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.
- .2 Supply stakes and other survey markers required for this work. Employ competent personnel to lay out work in accordance with lines and grades provided.
- .3 Maintain all reference points and markers for duration of contract.

1.14 CO-OPERATION & PROTECTION

- .1 Execute work with minimum disturbance to occupants, public, and normal use of site and work area. Make arrangements with Departmental Representative to facilitate execution of work.
- .2 Maintain access and exits.
- .3 Provide necessary barriers, warning lights and signs. Protect work from damage. Replace damaged existing work with material and finish to match original.
- .4 Execute work within hours of 7am to 7pm

1.15 EXISTING UTILITIES

- .1 Establish location, protect and maintain existing utility lines.
- .2 Connect to existing utilities with minimum disturbance to pedestrian and vehicular traffic.

1.16 MATERIAL AND EQUIPMENT

- .1 Use new products unless otherwise specified.
- .2 Deliver and store material and equipment to manufacturer's instructions with manufacturer's labels and seals intact.
- .3 When material or equipment is specified by standard or performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.



1.17 INSPECTION AND TESTING

- .1 The Departmental Representative may employ an Inspection and Testing company to ensure work conforms with Contract Documents.
- .2 When initial tests and inspections reveal work not to contract requirements, pay for tests and inspections required by Departmental Representative on corrected work.

1.18 SCHEDULING OF WORK

- .1 On award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion.
- .2 When schedule has been reviewed by the Departmental Representative take necessary measures to complete work within scheduled time. Do not change schedule without notifying Departmental Representative.

1.19 FIRES AND TEMPORARY HEATERS

- .1 Burning of rubbish on site not permitted.
- .2 Only fires for temporary heaters are permitted on site.
- .3 Maintain temperature required to prevent frost damage to work.

1.20 PROGRESS PHOTOGRAPHS

- .1 As soon as work commences, take monthly progress photographs from all work location(s).
- .2 Viewpoints, which will best illustrate progress of work, will be selected by Departmental Representative.
- .3 Forward duplicate 200 mm x 250 mm glossy mounted prints of each progress photograph to Departmental Representative each month. Provide white patch in lower right-hand corner marked with project name and date of exposure.

1.21 DATUM

- .1 Elevations shown on Drawings are expressed in metres relative to chart datum.
- .2 Chart datum for Lake Ontario is 74.2 metres I.G.L.D (1985).
- .3 Drawing 1501, Water Level Chart, for Lake Ontario is bound together with these specifications.

1.22 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 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and make good damage resulting from Contractors' use of roads.
- .4 Clean all roadways where Contractor's equipment is used on a weekly basis.

## PART 1 - GENERAL

### 1.1 ACCESS AND EGRESS

- .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

### 1.2 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Closures: protect work temporarily until permanent works are completed.

### 1.3 EXISTING SERVICES

- .1 Notify, Departmental Representative utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3 Provide for personnel pedestrian and vehicular traffic.
- .4 Construct barriers in accordance with Section 01 56 00.

### 1.4 SPECIAL REQUIREMENTS

- .1 Carry out noise generating Work in compliance with local noise restriction bylaws.
- .2 Submit schedule in accordance with Construction Progress Schedule - Bar (GANTT) Chart.
- .3 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .4 Keep within limits of work and avenues of ingress and egress.

- .5 Ingress and egress of Contractor vehicles at site is limited to parking area except for equipment necessary to be moved into the wildlife area which shall be under the direction of the Department Representative.

#### 1.5 SECURITY

- .1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.
- .2 Security clearances:
  - .1 All personnel under contractor's employment or responsibility related to this Work will sign in daily for institutional tracking purposes.
- .3 Security escort:
  - .1 Personnel employed on this project must be escorted when executing work in non-public areas during normal working hours. Personnel must be escorted in all areas after normal working hours.
  - .2 Submit an escort request to Departmental Representative at least [14] days before service is needed. For requests submitted within time noted above, costs of security escort will be paid for by Departmental Representative. Cost incurred by late request will be Contractor's responsibility.
  - .3 Any escort request may be cancelled free of charge if notification of cancellation is given at least 4 hours before scheduled time of escort. Cost incurred by late request will be Contractor's responsibility.
  - .4 Calculation of costs will be based on average hourly rate of security officer for minimum of 8 hours per day for late service request and of 4 hours for late cancellations.

#### 1.6 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions. Smoking area to be assigned by institution at project kick-off meeting.

### PART 2 - PRODUCTS

#### 2.1 NOT USED

- .1 Not Used.

### PART 3 - EXECUTION

#### 3.1 NOT USED

- .1 Not Used.

## PART 1 - GENERAL

### 1.1 ADMINISTRATIVE

- .1 Schedule and administer project meetings throughout the progress of the work at the call of Departmental Representative.
- .2 Prepare agenda for meetings.
- .3 Distribute written notice of each meeting 4 days in advance of meeting date to Departmental Representative.
- .4 Preside at meetings.
- .5 The Contractor shall record minutes of meetings. Minutes shall be circulated to attending parties and affected parties not in attendance.
- .6 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

### 1.2 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 Agenda to include:
  - .1 Appointment of official representative of participants in the Work.
  - .2 Schedule of Work: in accordance with Construction Progress Schedule.
  - .3 Schedule of submission of shop drawings, samples, mock-ups, colour chips. Submit submittals in accordance with Section 01 33 00.
  - .4 Requirements for temporary facilities, offices, storage sheds, utilities, fences in accordance with Section 01 52 00.
  - .5 Site security in accordance with Section 01 56 00.
  - .6 Health and safety in accordance with Section 01 35 29.
  - .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
  - .8 Record drawings and specifications in accordance with Section 01 78 00.
  - .9 Maintenance manuals in accordance with Section 01 78 00.
  - .10 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00.

- .11 Monthly progress claims, administrative procedures, photographs, hold backs.
- .12 Appointment of inspection and testing agencies or firms.
- .13 Insurances, transcript of policies.

### 1.3 PROGRESS MEETINGS

- .1 During course of Work and 2 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 minimum 4 days prior to meetings.
- .4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 5 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.

## 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 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
- .10 Keep one reviewed copy of each submission on site.
- .11 Submit number of hard copies specified for each type and format of submittal and also submit in electronic format as pdf files. Forward pdf, MS Word, MS Excel, MS Project and AutoCAD dwg files on USB compatible with PWGSC encryption requirements or through email or alternate electronic file sharing service such as ftp, as directed by Departmental Representative.

### 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 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Ontario of 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 5 working 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 shall include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
  - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
  - .5 Details of appropriate portions of Work as applicable:
    - .1 Fabrication.
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .3 Setting or erection details.
    - .4 Performance characteristics.
    - .5 Standards.
    - .6 Relationship to adjacent work.
- .9 After Departmental Representative's review, distribute copies.



- .10 Submit one electronic copy of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.
- .11 Submit one electronic copy 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.
- .12 Submit one electronic copy of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
  - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
  - .2 Testing must have been within 3 years of date of contract award for project.
- .13 Submit one electronic copy 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.
- .14 Submit and one electronic copy 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.
- .15 Submit one electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by 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 Submit one electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .18 Delete information not applicable to project.
- .19 Supplement standard information to provide details applicable to project.

- .20 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, electronic copy will be returned, and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .21 The review of shop drawings by Public Works and Government Services Canada (PWGSC) is for sole purpose of ascertaining conformance with general concept.
  - .1 This review shall not mean that PWGSC 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 Departmental Representative's business address.
- .3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

#### 1.4 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workplace Safety and Insurance Board Experience Report.

1.5 FEES, PERMITS AND CERTIFICATES

- .1 Provide authorities having jurisdiction with information requested.
- .2 Pay fees and obtain certificates and permits required.
- .3 Furnish certificates and permits.
- .4 Contractor to apply/obtain a Canada Wildlife Act Permit from Environment and Climate Change Canada (ECCC).

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not Used.

## PART 1 - GENERAL

### 1.1 REFERENCES

- .1 Ministry of Transportation, Ontario (MTO)
  - .1 Ontario Traffic Manual, Book 7: Temporary Conditions, January 2014.

### 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 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.
- .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 Ontario Traffic Manual, Book 7: Temporary Conditions
- .4 Keep travelled way graded, free from potholes and of sufficient width for required number of lanes of traffic.
- .5 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.

### 1.3 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, delineators, barricades and miscellaneous warning devices to Ontario Traffic Manual, Book 7: Temporary Conditions.
- .3 Place signs and other devices in locations recommended in Ontario Traffic Manual, Book 7: Temporary Conditions.
- .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.

#### 1.4 CONTROL OF PUBLIC TRAFFIC

- .1 Provide competent flag personnel, trained in accordance with, and properly equipped to Ontario Traffic Manual, Book 7: Temporary Conditions 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 portable traffic signal system.
  - .1 Adjust, as necessary, and regularly maintain system during period of restriction.
  - .2 Ensure signal system meets requirements of Ontario Traffic Manual, Book 7: Temporary Conditions.

#### 1.5 OPERATIONAL REQUIREMENTS

- .1 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken as specified and approved by Departmental Representative to protect and control public traffic.

## PART 2 - PRODUCTS

### 2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not Used.

## PART 1 - GENERAL

### 1.1 PURPOSE

- .1 To ensure that both the construction project and the institutional operations may proceed without undue disruption or hindrance and that the security of the Institution is maintained at all times.

### 1.2 DEFINITIONS

- .1 "Contraband" means:
  - .1 An intoxicant, including alcoholic beverages, drugs and narcotics.
  - .2 Tobacco or associated tobacco products.
  - .3 An igniting device, lighter or matches.
  - .4 A weapon or a component thereof, ammunition for a weapon, and anything that is designed to kill, injure or disable a person or that is altered so as to be capable of killing, injuring or disabling a person, when possessed without prior authorization.
  - .5 An explosive or a bomb or a component thereof.
  - .6 Currency over any applicable prescribed limit, \$250 when possessed by an inmate without prior authorization.
  - .7 Any item not described in paragraphs 1.2.1.1 to 1.2.1.6 that could jeopardize the security of a Penitentiary or the safety of persons, when that item is possessed without prior authorization.
- .2 "Unauthorized Smoking and related Items" means all smoking items including, but not limited to, cigarettes, cigars, tobacco, chewing tobacco, cigarette making machines, matches and lighters.
- .3 "Commercial Vehicle" means any motor vehicle used for the shipment of material, equipment and tools required for the construction project.
- .4 "CSC" means Correctional Service Canada.
- .5 "Director" means Director, Warden or Superintendent of the Institution as applicable.
- .6 "Construction Employees" means persons working for the General Contractor, the sub-contractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies.
- .7 "Departmental Representative" means the project manager from Public Works and Government Services Canada.
- .8 "Perimeter" means the fenced or walled area of the Institution that restrains the movement of the inmates.
- .9 "Construction Limits" means the area as shown on the contract drawings that the Contractor will be allowed to work. This area may or may not be isolated from the security area of the Institution. The Construction Limits will be restricted to the areas identified for resurfacing throughout the site.

Use of additional area and/or roads will only be granted at the authorization of the Departmental Representative.

#### 1.3 PRELIMINARY PROCEEDINGS

- .1 Prior to the commencement of work, the Contractor shall meet with the Director or his/her representative to:
  - .1 Discuss the nature and extent of all activities involved in the Project.
  - .2 Establish mutually acceptable security procedures in accordance with this instruction and the institution's particular requirements.
- .2 Contractor shall:
  - .1 Ensure that all Construction Employees are aware of the security requirements.
  - .2 Ensure that a copy of the security requirements is always prominently on display at the job site.
  - .3 Co-operate with institutional personnel in ensuring that security requirements are observed by all Construction Employees.

#### 1.4 CONSTRUCTION EMPLOYEES

- .1 Submit to the Director a list of the names with date of birth of all Construction Employees to be employed on the construction site.
- .2 Employees will not be admitted to the Institution without a recent picture identification such as a provincial driver's license.
- .3 The Director may require that facial photographs may be taken of Construction Employees and these photographs may be displayed at appropriate locations in the Institution or in an electronic database for identification purposes. The Director may require that Photo ID cards be provided for all Construction Employees. ID cards will then be left at the designated entrance to be picked upon arrival at the institution and shall be displayed prominently on the Construction Employees' clothing at all time while Construction Employees are in the institution.
- .4 Entry to Institutional Property will be refused to any person there may be reason to believe may be a security risk.
- .5 Any person employed on the construction site will be subject to immediate removal from Institutional Property if they:
  - .1 Appear to be under the influence of alcohol, drugs or narcotics.
  - .2 Behave in an unusual or disorderly manner.
  - .3 Are in possession of contraband.

#### 1.5 VEHICLES

- .1 All unattended vehicles on CSC property shall have windows closed; doors and trunks shall be locked and keys removed. The keys shall be securely in the possession of the owner or an employee of the company that owns the vehicle.



- .2 The Director may limit at any time the number and type of vehicles allowed within the Institution.
- .3 Drivers of delivery vehicles for material required by the project will not require security clearances but must remain with their vehicle the entire time that the vehicle is in the Institution. The Director may require that these vehicles be escorted by Institutional Staff or Commissionaires while in the Institution.
- .4 If the Director permits trailers to be left inside the secure perimeter of the Institution, these trailer doors will be locked at all times. All windows will be securely locked when left unoccupied. All trailer windows shall be covered with expanded metal mesh. All storage trailers inside and outside the perimeter shall be locked when not in use.

#### 1.6 PARKING

- .1 Parking area(s) to be used by Construction Employees will be designated by the Director. Parking in other locations will be prohibited and vehicles may be subject to removal.

#### 1.7 SHIPMENTS

- .1 All shipments of project material, equipment and tools shall be addressed in the Contractor's name to avoid confusion with the Institution's own shipments. The Contractor must have his/her own employees on site to receive any deliveries or shipments. CSC staff will NOT accept receipt of deliveries or shipments of any material, equipment or tools.

#### 1.8 TELEPHONES

- .1 There will be no installation of telephones, Facsimile machines and computers with Internet connections permitted within the perimeter of the Institution unless prior approval of the Director is received.
- .2 The Director will ensure that approved telephones, facsimile machine and computers with internet connections are located where they are not accessible to inmates. All computers will have an approved password protection that will stop an internet connection to unauthorized personnel.
- .3 Wireless cellular and digital telephones, including but not limited to devices for telephone messaging, pagers, BlackBerries, telephone used as 2-way radios, are not permitted within the Institution unless approved by the Director. If wireless cellular telephones are permitted, the user will not permit their use by any inmate.
- .4 The Director may approve but limit the use of two way radios.

#### 1.9 WORK HOURS

- .1 For information purposes, the Work hours within the Institution are: Monday to Friday 07:30 hrs. to 16:00 hrs.

- .2 Work will be permitted during weekends and statutory holidays with the permission of the Director. A minimum of seven days advance notice will be required to obtain the required permission. In case of emergencies or other special circumstances, this advance notice may be waived by the Director.

#### 1.10 OVERTIME WORK

- .1 No overtime work will be allowed without permission of the Director. Give a minimum forty-eight (48) hours advance notice when overtime work on the construction project is necessary and approved. If overtime work is required because of an emergency such as the completion of a concrete pour or work to make the construction safe and secure, the Contractor shall advise the Director as soon as this condition is known and follow the directions given by the Director. Costs to the Crown for such events may be attributed to the Contractor.
- .2 When overtime work, weekend, or statutory holiday work is required and approved by the Director, extra staff members may be posted by the Director or his/her designate, to maintain the security surveillance. The Departmental Representative may post extra staff for inspection of construction activities. The actual cost of this extra staff may be subject to reclamation by the Crown.

#### 1.11 TOOLS AND EQUIPMENT

- .1 Maintain a complete list of all tools and equipment to be used during the construction project. Make this inventory available for inspection when required.
- .2 Throughout the construction project maintain up-to-date the list of tools and equipment specified above.
- .3 Keep all tools and equipment under constant supervision, particularly power-driven and cartridge-driven tools, cartridges, files, saw blades, rod saws, wire, rope, ladders and any sort of jacking device.
- .4 Store all tools and equipment in approved secure locations.
- .5 Lock all tool boxes when not in use. Keys to remain in the possession of the employees of the Contractor. Scaffolding shall be secured and locked when not erected and when erected, will be secured in a manner agreed upon with the Institutional designate.
- .6 All missing or lost tools or equipment shall be reported immediately to the Director.
- .7 The Director will ensure that the security staff members carry out checks of the Contractor's tools and equipment against the list provided by the Contractor. These checks may be carried out at the following intervals:
  - .1 At the beginning and conclusion of every construction project.
  - .2 Weekly, when the construction project extends longer than a one week period.

- .3 The Contractor may be subject to random checks by security staff to ensure proper storage and security of tools throughout the project.
- .8 If propane or natural gas is used for heating the construction, the Institution will require that an employee of the Contractor supervise the construction site during non-working hours.
- .9 If torches or grinders are required tools to perform Work, Contractor must complete a Hot Work Permit as supplied by CSC. Completed original form(s) are copied and posted on the work site in a conspicuous location. Original documents are to remain with the Institutional Fire Chief.

#### 1.12 PRESCRIPTION DRUGS

- .1 Employees of the Contractor who are required to take prescription drugs during the workday shall obtain approval of the Director to bring a one day supply only into the Institution.

#### 1.13 SMOKING RESTRICTIONS

- .1 Contractors and construction employees are not permitted to smoke inside correctional facilities or outdoors within the perimeter of a correctional facility and must not possess unauthorized smoking items within the perimeter of a correctional facility.
- .2 Contractors and construction employees who are in violation of this policy will be requested to immediately cease smoking or dispose of any unauthorized smoking items and, if they persist, will be directed to leave the institution.
- .3 Smoking is only permitted outside the perimeter of a correctional facility in an area to be designated by the Director.

#### 1.14 CONTRABAND

- .1 Weapons, ammunition, explosives, alcoholic beverages, drugs and narcotics are prohibited on Institutional Property.
- .2 Discovery of Contraband on the construction site and the identification of the person(s) responsible for the Contraband shall be reported immediately to the Director.
- .3 Contractors shall be vigilant with both their staff and the staff of their sub-contractors and suppliers that the discovery of Contraband may result in cancellation of the security clearance of the affected employee. Serious infractions may result in the removal of the company from the Institution for the duration of the construction.
- .4 Presence of arms and ammunition in vehicles of Contractors, sub-contractors and suppliers or employees of these will result in the immediate cancellation of security clearances for the driver of the vehicle.

#### 1.15 SEARCHES

- .1 All vehicles and persons entering Institutional property may be subject to search.
- .2 When the Director suspects, on reasonable grounds, that an employee of the Contractor is in possession of Contraband or unauthorized items, he/she may order that person to be searched.
- .3 All employees entering the Institution may be subject to screening of personal effects for traces of Contraband drug residue.

#### 1.16 ACCESS TO AND REMOVAL FROM INSTITUTION PROPERTY

- .1 Construction personnel and commercial vehicles will not be admitted to the Institution after normal working hours, unless approved by the Director.

#### 1.17 MOVEMENT OF VEHICLES

- .1 The Contractor shall advise the Director twenty four (24) hours in advance to the arrival on the site of heavy equipment such as concrete trucks, cranes, etc.
- .2 Vehicles being loaded with soil or other debris, or any vehicle considered impossible to search, must be under continuous supervision by CSC Staff or Commissionaires working under the authority of the Director.
- .3 Commercial Vehicles will only be allowed access to Institutional Property when their contents are certified by the Contractor or his/her representative as being strictly necessary to the execution of the construction project.
- .4 Vehicles shall be refused access to Institutional Property if, in the opinion of the Director, they contain any article which may jeopardize the security of the Institution.
- .5 Private vehicles of Construction Employees will not be allowed within the security wall or fence of medium or maximum security Institutions without the permission of the Director.
- .6 With prior approval of the Director, a vehicle may be used in the morning and evening to transport a group of employees to the work site. This vehicle will not remain within the Institution the remainder of the day.
- .7 With the approval of the Director, certain equipment may be permitted to remain on the construction site overnight or over the weekend. This equipment must be securely locked, with the battery removed. The Director may require that the equipment be secured with a chain and padlock to another solid object.

1.18 MOVEMENT OF CONSTRUCTION EMPLOYEES ON INSTITUTIONAL PROPERTY

- .1 Subject to the requirements of good security, the Director will permit the Contractor and his/her employees as much freedom of action and movement as is possible.
- .2 However, notwithstanding paragraph above, the Director may:
  - .1 Prohibit or restrict access to any part of the Institution.
  - .2 Require that in certain areas of the Institution, either during the entire construction project or at certain intervals, Construction Employees only be allowed access when accompanied by a member of the CSC security staff.
- .3 During the lunch and coffee/health breaks, all employees will remain within the construction site. Employees are not permitted to eat in the officer's lounge and dining room.

1.19 SURVEILLANCE AND INSPECTION

- .1 Construction activities and all related movement of personnel and vehicles will be subject to surveillance and inspection by CSC security staff members to ensure that established security requirements are met.
- .2 CSC staff members will ensure that an understanding of the need to carry out surveillance and inspections, as specified above, is established among Construction Employees and maintained throughout the construction project.

1.20 STOPPAGE OF WORK

- .1 The Director may request at any time that the Contractor, his/her employees, sub-contractors and their employees not enter or leave the work site immediately due to a security situation occurring within the Institution. The Contractor's site supervisor shall note the name of the staff member making the request and the time of the request and obey the order as quickly as possible.
- .2 The Contractor shall advise the Departmental Representative within 24 hours of this delay to the progress of the work.

1.21 CONTACT WITH INMATES

- .1 Unless specifically authorized, it is forbidden to come into contact with inmates, to talk with them, to receive objects from them or to give them objects. Any employee doing any of the above will be removed from the site and his/her security clearance revoked.
- .2 It is forbidden to take pictures of inmates, of CSC staff members or of any part of the Institution other than those required as part of this Contract.

1.22 COMPLETION OF CONSTRUCTION PROJECT

- .1 Upon completion of the construction project or, when applicable, the takeover of a facility, the Contractor shall remove all remaining construction material, tools and equipment that are not specified to remain in the Institution as part of the construction contract.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not used.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not used.

## PART 1 - GENERAL

### 1.1 REFERENCES

- .1 Canadian Standards Association (CSA): Canada
  - .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.
- .2 National Building Code 2015 (NBC):
  - .1 NBC 2015, Division B, Part 8 Safety Measures at Construction and Demolition Sites.
- .3 National Fire Code 2015 (NFC):
  - .1 NFC 2015, Division B, Part 5 Hazardous Processes and Operations, subsection 5.6.1.3 Fire Safety Plan.
- .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.
  - .2 O. Reg. 490/09, Designated Substances.
  - .3 Workplace Safety and Insurance Act, 1997.
  - .4 Municipal statutes and authorities.
- .5 Treasury Board of Canada Secretariat (TBS):
  - .1 Treasury Board, Fire Protection Standard April 1, 2010  
[www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316&section=text](http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=17316&section=text).

### 1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00.
- .2 Submit site-specific Health and Safety Plan: Within 5 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
  - .1 Results of site specific safety hazard assessment.
  - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
  - .3 Measures and controls to be implemented to address identified safety hazards and risks.
- .3 Provide a Fire Safety Plan, specific to the work location, in accordance with NBC, Division B, Article 8.1.1.1.3 prior to commencement of work. The plan shall be coordinated with, and integrated into, the existing Emergency Procedures and Evacuation Plan in place at the site. Departmental Representative will provide Emergency Procedures and Evacuation Plan.

Deliver two copies of the Fire Safety Plan to the Departmental Representative not later than 14 days before commencing work.

- .4 Contingency and Emergency Response Plan addressing standard operating procedures specific to the project site to be implemented during emergency situations. Coordinate plan with existing Emergency Response requirements and procedures provided by Departmental Representative.
- .5 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 2 working days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 2 working days after receipt of comments from Departmental Representative.
- .6 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.
- .7 Submit names of personnel and alternates responsible for site safety and health.
- .8 Submit records of Contractor's Health and Safety meetings when requested.
- .9 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative daily.
- .10 Submit copies of orders, directions or reports issued by health and safety inspectors of the authorities having jurisdiction.
- .11 Submit copies of incident and accident reports.
- .12 Submit Safety Data Sheets (SDS).
- .13 Submit Workplace Safety and Insurance Board (WSIB)- Experience Rating Report.

#### 1.3 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to commencement of Work.

#### 1.4 WORK PERMIT

- .1 Obtain building permits related to project prior to commencement of Work.
- .2 Obtain Hot Work Permit from Departmental Representative.

#### 1.5 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.



#### 1.6 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

#### 1.7 REGULATORY REQUIREMENTS

- .1 Comply with the Acts and regulations of the Province of Ontario.
- .2 Comply with specified standards and regulations to ensure safe operations at site.

#### 1.8 GENERAL REQUIREMENTS

- .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 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns either accepting or requesting improvements.
- .3 Relief from or substitution for any portion or provision of minimum Health and Safety standards specified herein or reviewed site-specific Health and Safety Plan shall be submitted to Departmental Representative in writing.

#### 1.9 COMPLIANCE REQUIREMENTS

- .1 Comply with Ontario Occupational Health and Safety Act, R.S.O. 1990 Chapter O.1, as amended.

#### 1.10 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
- .3 Where applicable the Contractor shall be designated "Constructor", as defined by Occupational Health and Safety Act and Regulations for Construction Projects for the Province of Ontario.

#### 1.11 UNFORSEEN HAZARDS

- .1 Should any 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 Occupational Health and Safety Act for the Province of Ontario.

#### 1.12 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province of Ontario, and in consultation with Departmental Representative.
  - .1 Contractor's Safety Policy.
  - .2 Constructor's Name.
  - .3 Notice of Project.
  - .4 Ministry of Labour Orders and reports.
  - .5 Occupational Health and Safety Act and Regulations for Construction Projects for Province of Ontario.
  - .6 Address and phone number of nearest Ministry of Labour office.
  - .7 Material Safety Data Sheets.
  - .8 Written Emergency Response Plan.
  - .9 Site Specific Safety Plan.
  - .10 Valid certificate of first aider on duty.
  - .11 WSIB "In Case of Injury at Work" poster.
  - .12 Location of toilet and cleanup facilities.

#### 1.13 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.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

#### 1.14 BLASTING

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

#### 1.15 POWDER ACTUATED DEVICES

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

#### 1.16 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 Competent Supervisor to stop or start Work when, at Competent Supervisor's discretion, it is necessary or advisable for reasons of health or safety. Departmental Representative may also stop Work for health and safety considerations.

## PART 2 - PRODUCTS

### 2.1 NOT USED

.1 Not used.

## PART 3 - EXECUTION

### 3.1 NOT USED

.1 Not used.

## PART 1 - GENERAL

### 1.1 RELATED REQUIREMENTS

- .1 Mitigation Measures and Report Form. Complete Mitigation Measures and Report Form per Section 01 35 43.01.
- .2 Section 01 74 20 Waste Management and Disposal.
- .3 Section 01 74 20 Cleaning

### 1.2 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 humans; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.

### 1.3 REFERENCE STANDARDS

- .1 US Environmental Protection Agency (EPA)/Office of Water
  - .1 US EPA 832/R-92-005-[92], Storm Water Management for Construction Activities, Chapter 3.
  - .2 US EPA General Construction Permit (GCP) [2012].
- .2 Canadian Environmental Protection Act and associated Regulations
- .3 Fisheries Act and associated Regulations
- .4 Impact Assessment Act and associated Regulations
- .5 Correctional Service of Canada Commissioner's Directive 318 "Environmental Programs" and associated Internal Service Directives
  - .1 ISD 318-7 "Environmental Management of Waste"
  - .2 ISD 318-8 "Environmental Management of Petroleum Storage Tanks"
- .6 Species at Risk Act and associated Regulations, Recovery Strategies, etc.
- .7 Migratory Birds Convention Act and associated Regulations
- .8 Treasury Board Greening Government Strategy
- .9 Federal Sustainable Development Strategy
- .10 *Transportation of Dangerous Goods Act* and pursuant regulations.

- .11 Council of Ministers of the Environment *Canadian Environmental Quality Guidelines, Canadian Water Quality Guidelines for the Protection of Aquatic Life, Total Particulate Matter*, 2002.
- .12 Statutes of Ontario 1990, Chapter O.40. "Ontario Water Resources Act".
- .13 Statutes of Ontario 2000, Chapter 16. "Technical Standards and Safety Act, 2000" and pursuant regulations, codes, and standards.
- .14 Revised Statutes of Ontario 1990, Chapter E.19. "Environmental Protection Act".
- .15 Revised Regulations of Ontario 1990, Regulation 347 "General-Waste Management".
- .16 Ontario Regulation 362. "Waste Management - PCB's"
- .17 Revised Statutes of Ontario 1990, Chapter O.1. "Occupational Health and Safety Act".
- .18 Ontario Regulation 490/09 "Designated Substances"
- .19 Ontario Regulation 278/05 "Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations".
- .20 Ontario Ministry of Labour 2004, "Lead on Construction Projects"
- .21 Ontario Ministry of Labour, 2004, "Silica on Construction Projects"
- .22 OPSS 518 "Construction Specification for Control of Water from Dewatering Operations".
- .23 OPSS 805 "Construction Specification for Temporary Erosion and Sediment Control Measures".
- .24 OPSS.MUNI 801, April 2018, "Construction Specification for the Protection of Trees".

#### 1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00.
- .2 Propose the name(s), qualifications, and experience of a qualified Biologist responsible for ensuring adherence to the Contractor's Environmental Protection Plan to the Departmental Representative for approval.
- .3 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative. Contractor shall allow a minimum of two (2) weeks for Departmental Representative review.
- .4 Environmental Protection Plan (EPP) must:

- .1 Include a comprehensive overview of known or potential environmental issues to be addressed during construction.
- .2 Consider and respond to the requirement to identify and mitigate against adverse environmental effects as described in the Basic Project Mitigation Measures Form dated included in Appendix B.
- .3 Include, at a minimum, the items identified in the Mitigation Measures and Report Form at Section 01 35 43.01.
- .4 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5 Include in Environmental Protection Plan:
  - .1 Name[s] and qualifications of qualified Biologist[s] responsible for ensuring adherence to Environmental Protection Plan.
  - .2 Name[s] and qualifications of person[s] responsible for Construction Demolition Waste Management.
  - .3 Name[s] and qualifications of person[s] responsible for manifesting hazardous waste to be removed from site.
  - .4 Name[s] and qualifications of person[s] responsible for training site personnel in environmental matters.
  - .6 List of project activities and potential environmental impacts.
  - .7 Description of specific ways that mitigation measures will be implemented (can be done by completing the "Method of Implementation" column in the Mitigation Measures and Report Form.
  - .8 Description of environmental protection personnel training program and means by which they will provide proof of training.
  - .9 Description of how training on Species at Risk will be logged and submitted
  - .10 Copy of the client signed Basic Project Mitigation Measures Form and blank Mitigation Measures and Report Form.
  - .11 Erosion and Sediment Control Plan and procedures 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 the erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations. Plan shall include drawings indicating 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.
  - .12 Traffic Control Plan and procedures including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan to include measures to minimize amount of material transported by vehicles or runoff onto paved public roads and existing on-site routes that will remain in use by facilities personnel.
  - .13 Work Area Plan showing proposed activity in each portion of assigned areas and identifying areas of limited use or non-use. Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
  - .14 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance, including potential leaks from service vehicles.
  - .15 Non-Hazardous and Hazardous Solid and Liquid Waste Disposal Plan and

- procedures identifying methods and locations for waste storage, clearing debris, providing proof of disposal of all waste streams, and, assuring that debris, materials, and trash, are contained in assigned areas on project site.
- .16 Air Pollution Control Plan and procedures detailing provisions to assure that dust, debris, and other airborne materials are contained on project site.
  - .17 Contaminant Prevention Plan and procedures 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.
  - .18 Waste Water Management Plan and procedures identifying methods and procedures for management and 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. Including de-chlorination of water prior to discharging.
  - .19 Historical, Archaeological, Cultural Resources, Biological Resources and Wetlands Plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.
  - .20 Pesticide Treatment Plan and procedures to be included and updated, as required and documentation of any pesticides/herbicides/fertilizers applied must be provided.
  - .21 The Mitigation Measures Matrix and/or Mitigation Matrix Framework from the Environmental Effects Evaluation or Environmental Review
  - .22 Submit proof of how mitigation measures are applied
  - .23 Description of how Petroleum Storage Tank Regulations will be complied with, if applicable
- .6 Allow minimum of two weeks for review of Environmental Protection Plan
- .7 Submit Mitigation Measures and Report Form as detailed in Section 01 35 43.01.

#### 1.5 GENERAL

- .1 The Contractor shall comply with all federal, provincial, and municipal regulatory requirements and guidelines for environmental protection and natural resource conservation, including the References noted above.
- .2 Comply with all federal, provincial, and municipal regulatory requirements and guidelines for environmental protection and natural resource conservation, including the References noted above.
- .3 The Work site is subject to inspection by the Department Representative without prior notice.
- .4 Failure to comply with environmental requirements may result in a stop work order or assessment of damages commensurate with repair of damage.

- .5 The Contractor will be unable to request extra funding to meet environmental requirements.
- .6 It is the Contractor's responsibility to be aware of environmental requirements and the best management practices and pollution control measures necessary to meet them.
- .7 Blasting is not permitted.
- .8 No fixed or temporary fuel storage tanks are permitted.
- .9 The Contractor will be responsible for the payment of testing of materials for disposal.
- .10 Follow requirements of Ontario Regulation 278/05 (Asbestos on Construction Projects in Buildings and Repair Operations) when replacing/handling/disposing of asbestos cement pipes.

#### 1.6 FIRES

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

#### 1.7 DRAINAGE

- .1 Implement Erosion and Sediment Control Plan Per 1.4.5.11 above
- .2 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .3 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

#### 1.8 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties as indicated.
- .2 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of two [2] m minimum.
- .3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage.
  - .1 Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .4 Minimize stripping of topsoil and vegetation.
- .5 Restrict tree removal to areas indicated or designated by Departmental Representative.



1.9 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 kept free of excavated fill, waste material and debris.
- .4 Do not skid logs or construction materials across waterways.
- .5 Where permitted by Departmental Representative, design and construct temporary crossings to minimize erosion to waterways.
- .6 Avoid indicated spawning beds when constructing temporary crossings of waterways.

1.10 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.
- .3 Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area.
  - .1 Provide temporary enclosures where directed by Departmental Representative.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads. No chemicals are to be used for dust control. Install "rattle grates" as required to reduce material tracking from vehicles and equipment.
- .5 Landfilling, disposing of, or allowing the landfill or disposal of wastes or contaminated soils on site is prohibited.
- .6 Protect any environmental monitoring wells or water wells within the work area from damage.
- .7 If environmental monitoring wells need to be removed to facilitate the project, this must be discussed first with Departmental Representative and client, and they must be decommissioned in accordance with federal guidance and provincial regulation O. Reg 903.
- .8 No chemicals are to be used for dust control.

1.11 HISTORICAL/ARCHAEOLOGICAL CONTROL

- .1 Provide in the Historical, Archaeological, Cultural Resources, Biological Resources, and Wetlands Plan:
  - .1 Procedures for identifying and protecting historical, archaeological, cultural resources, biological resources (including

- species at risk and their habitat) known to be on project site.
- .2 Procedures to be followed if historical archaeological and cultural resources not previously known to be onsite or in area are discovered during construction.
- .3 Methods to assure protection of known or discovered resources.
- .4 Identification of lines of communication between Contractor personnel and Departmental Representative.

#### 1.12 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,
  - .1 Stop work related to issue of non-compliance.
  - .2 Acknowledge receipt of such notice to Departmental Representative.
  - .3 Immediately implement appropriate mitigation measures.
    - .4 Inform Departmental Representative of proposed additional corrective action
    - .5 Implement additional corrective action only after receipt of written approval by Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory mitigation or corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

#### 1.13 DESIGNATED SUBSTANCES

- .1 In accordance with Section 30 of Ontario's *Occupational Health and Safety Act*, following is a list of designated substances present at the project site:
  - .1 Asbestos-containing materials are present within the work site.
    - .1 Disturbance to asbestos-containing materials shall be conducted in accordance with Ontario Regulation 278/05.
  - .2 Silica may be present in concrete materials throughout the project site.
    - .1 Disturbance of materials containing silica shall be conducted in accordance with the Ministry of Labour Guidelines "*Silica on Construction Projects*" (2011).

#### 1.14 HAZARDOUS MATERIALS ABATEMENT AND MANAGEMENT PLAN

- .1 Establish and submit a Hazardous Materials Abatement and Management (HMAM) Plan prior to work on-site.
- .2 The HMAM Plan will address the details of how designated substance(s) and hazardous material(s) will be abated and managed.

- .1 Identify all municipal, provincial and federal permits and notifications required to complete the Work.
- .2 Detail the approach to the execution of abatement work, including the equipment, tools, materials and actions to be employed for each type of hazardous material.
- .3 Inform all workers and sub trades of the presence of designated substances and hazardous materials identified in the Contract documents.
- .4 Immediately notify the Contract Administrator of potentially containing asbestos material discovered during the work and not apparent from the drawings, specifications, or reports pertaining to the Work. Do not disturb such material.

#### 1.15 WASTE MANAGEMENT AND DISPOSAL PLAN

- .1 Submit a Waste Management and Disposal (WMD) Plan before construction work begins at the site.
- .2 The WMD Plan is to encompass:
  - .1 Regular waste,
  - .2 Construction waste,
  - .3 Hazardous materials used in the course of the work, and
  - .4 Hazardous materials and designated substance waste.
- .3 The Plan is to comply with legislation, best practices, and with the requirements of the specifications.
- .4 Provide evidence in the WMD Plan that all proposed temporary storage procedures, transport methods, and disposal sites are licensed where applicable.
  - .1 Include copies of licenses.
- .5 The WMD Plan is to include handling, storage, transportation, disposal, and emergency response. Specific minimum requirements to be addressed are listed below.
- .6 Handling:
  - .1 Ensure that staff are properly trained and equipped, in accordance with regulatory requirements.
  - .2 Minimize handling and exposure to hazardous materials. Use control measures such as PPE and best practice procedures to address potential risks.
  - .3 All waste products will be placed in suitable containers and labeled clearly.
  - .4 Waste products are to be segregated by commodity and placed in separate containers based on class.
  - .5 Similar waste products are not to be mixed together without prior approval from the Contract Administrator.

- .7 Storage:
  - .1 Identify location(s) on site where wastes and hazardous materials wastes will be stored.
  - .2 Store all petroleum, oil, lubricants, and other hazardous materials within secondary containment, or in an appropriate metal clad storage building with containment.
  - .3 Store incompatible materials separated to prevent reaction.
  - .4 Access to hazardous waste storage areas must be controlled through appropriate physical barriers, and limited to authorized personnel.
  - .5 Site is to be kept neat and orderly at all times.
- .8 Transportation:
  - .1 Transportation of hazardous material must be in accordance with the *Transportation of Dangerous Goods Act*, by a licensed hauler and in approved containers.
  - .2 Hazardous Materials Waste shall not be released from a work site to a carrier that is not registered as a carrier for the specific Hazardous Materials Waste, nor shall it be released for delivery to a consignee that is not registered as a receiver for the specific Hazardous Materials Waste.
- .9 Disposal:
  - .1 Identify the proposed waste receiver facilities and the anticipated waste shipment frequency for all wastes.
  - .2 Dispose of all materials that are removed as asbestos-containing materials as asbestos waste.
  - .3 Payment for disposal of asbestos waste in accordance with measurement procedures in PART 1.6.
- .10 Shipment and Disposal of Hazardous Waste and Designated Substances:
  - .1 Provide written notification of intent to transport of hazardous materials or designated substances off site, including but not limited to hazardous and liquid industrial waste (i.e. oils, solvents, waste fuels, used spill clean-up materials) or designated substance waste (i.e. asbestos, leachate toxic lead paint, mercury vapour in fluorescent light tubes).
- .11 Disposal of Mechanical Flushing Liquids:

- .1 Mechanical flushing liquids and mechanical liquids include any mechanical systems (piping, units, etc.) such as HVAC, glycol and includes residual liquid in current systems, cleaning with chemical inhibitors or cleaners, and flushing of new piping.
- .2 Mechanical flushing liquids are to be assumed for bidding purposes to be hazardous waste and shall be transported and disposed of at a licensed facility in accordance with O. Reg. 347, and as described in this specification for Shipment and Disposal of Hazardous Waste and Designated Substances.
- .3 Do not proceed with any discharge into sanitary sewer without written authorizations from both the Departmental Representative and the designated authority for Loyalist Township.
- .4 In the event the Contractor wants to discharge to a sanitary sewer the contractor must undertake the following items:
  - .1 *Provide Departmental Representative written notification of intent to discharge mechanical flushing liquids to sanitary sewer.*
  - .2 *Submit a sample of the liquid for laboratory analysis of all parameters in the City of Kingston Sewer Bylaw Schedule A including pH to a licensed laboratory.*
  - .3 *Mechanical flushing liquids and mechanical liquids that are not authorized to be discharged to sanitary sewer shall be transported and disposed of at a licensed facility in accordance with O. Reg. 347, and as described in this specification for Shipment and Disposal of Hazardous Waste and Designated Substances.*
- .12 Do not dispose of waste into any waterways, storm or sanitary sewers, drainage system, or onto land.
- .13 Divert unused asphalt material from landfill to be reused offsite or recycled.
- .14 All solid and liquid hazardous waste material generated by work are to be taken off site and disposed of in a lawful manner and at appropriately accredited facilities.
- .15 All expenses incurred for the handling, storage, analysis, transport and disposal/recycling of all wastes will be incurred by the Contractor.

## PART 2 - PRODUCTS

### 2.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- .1 Erosion and sedimentation control measures are to be as per the contract drawings and are to include but are not limited to the following:
  - .1 Siltation fencing.
  - .2 Filter logs (or approved equivalent).
  - .3 Catchbasin sediment trap (or approved equivalent).
- .2 Payment for Erosion and sedimentation control measures are to include all costs associated with installation, maintenance, and removal. Measurement for payment shall be as follows:

- .1 Siltation fencing to be measured per metre installed.
- .2 Filter logs to be measured per each installed.
- .3 Catchbasin sediment trap to be measured per each installed.

### 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.
- .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.

#### 3.2 CLEANING

- .1 Progress Cleaning: clean in accordance with Section [01 74 00].
- .2 Leave Work area clean at end of each day.
- .3 When permitted by Departmental Representative, clean equipment only in designated areas and where appropriated mitigation measures are in place.
- .4 Do not bury rubbish and waste materials on site.
- .5 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.
- .6 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 20.
- .7 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 20.
- .8 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
- .9 If any evidence of contamination (odours, staining, sheen on water surface, presence of debris or waste) is identified during trenching, excavating, boring, removal or installation of poles, etc:
  - 1. CSC- Environment should be notified and consulted,
  - 2. Any excavated soil with evidence of contamination should be containerized or stockpiled on a lined surface and covered appropriately, and
  - 3. It is the contractor's responsibility to arrange for sampling and analysis of the suspected contaminated soil to determine its suitability for reuse on-site or for off-site disposal.

- .10 If excavated soil is to be taken off-site, it is the contractor's responsibility to perform sampling and ensure that it is disposed of appropriately following applicable regulations and at a certified location

### 3.3 CONTAMINATED SOIL

- .1 If any evidence of soil or water contamination (odours, staining, sheen on water surface, presence of debris or waste) is identified during trenching, excavating, boring, removal or installation of poles, or similar works:
  - .1 Immediately stop work and notify Departmental Representative.
  - .2 Protect area of excavation and any excavated soil with evidence of contamination with a water impermeable covering and await direction of Departmental Representative.
- .2 Departmental Representative will arrange for inspection of suspect contaminated material by Departmental Environmental personnel and seek their direction on whether the suspect material is to be tested or work is to resume.
- .3 Where testing is indicated the Departmental Representative will:
  - .1 Provide direction regarding resumption of work while testing proceeds.
  - .2 Arrange for testing of suspected contaminated soil to determine its suitability for reuse on-site or for off-site disposal with costs borne by the client.
  - .3 Consult with Departmental Environmental personal and Contractor then provide direction regarding resumption of work.
- .4 Where removal from site of contaminated soil is agreed to it will be the Contractor's responsibility to arrange for sampling and analysis of the suspected contaminated soil adequately to permit Contractor's disposal at an approved facility or certified location with costs borne by the client.

## PART 1 - GENERAL

### 1.1 REQUIREMENTS

- .1 Mitigation Measures and Report Form. Complete Mitigation Measures and Report Form (found in Appendix B at the end of specifications) weekly, on Monday of each work week when the contractor has had personnel or subcontractors working at the site in the previous calendar week. Submit completed form to Departmental Representative for review, approval and further direction if necessary.

## PART 2 - PRODUCTS

### 2.1 NOT USED

- .1 Not Used.

## PART 3 - EXECUTION

### 3.1 NOT USED

- .1 Not Used.



## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- .1 Inspection and testing, administrative and enforcement requirements.
- .2 Tests and mix designs.
- .3 Mill tests.

### 1.2 INSPECTION

- .1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, 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 Departmental Representative may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

### 1.3 INDEPENDENT INSPECTION AGENCIES

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

1.4 ACCESS TO WORK

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

1.5 PROCEDURES

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

1.6 REJECTED WORK

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

1.7 REPORTS

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

1.8 TESTS AND MIX DESIGNS

- .1 Furnish test results and asphalt/concrete mix design.
- .2 The cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work shall be appraised by Departmental Representative and may be authorized as recoverable.

1.9 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.

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- .1 Temporary utilities.

### 1.2 RELATED SECTIONS

- .1 Section 01 52 00 - Construction Facilities.
- .2 Section 01 56 00 - Temporary Barriers and Enclosures.

### 1.3 SUBMITTALS

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

### 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 Provide supply of water for construction use.

### 1.7 FIRE PROTECTION

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

## PART 2 - PRODUCTS

### 2.1 NOT USED

- .1 Not Used.

## PART 3 - EXECUTION

### 3.1 NOT USED

- .1 Not Used.

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- .1 Construction aids.
- .2 Office and sheds.
- .3 Parking.

### 1.2 REFERENCES

- .1 U.S. Environmental Protection Agency (EPA)/ Office of Water
  - .1 EPA 833-R-06-004, May 2007, Developing Your Stormwater Pollution Prevention Plan - A Guide for Construction Sites.

### 1.3 SUBMITTALS

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

### 1.4 INSTALLATION AND REMOVAL

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation. This is to also include a separate weatherproof site trailer for the sole use of the Departmental Representative which is to be a minimum 30 square metres. The site trailer is to include: full hydro servicing, One (1) side table desk with drawer, one (1) office chair), one (1) drawing table or counter top equivalent, one (1) high speed internet (with WiFi) connection for use by the Departmental Representative, one (1) lockable filing cabinet, eight (8) chairs and one (1) table sufficient to seat 8 people, heating and cooling to maintain temperature between 20°C and 22°C, thermometer, garbage can, locking door with four (4) sets of keys, First Aid box complete with portable eye wash station. Additionally, a portable restroom meeting the requirements of the Occupational Health & Safety Act shall be provided in the area of the field office for the exclusive use of the Departmental Representative. The Contractor shall maintain and service the portable toilet.
- .2 Identify areas which have to be graveled to prevent tracking of mud.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

#### 1.5 HOISTING

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

#### 1.6 SITE STORAGE/LOADING

- .1 Confine work and operations of employees to areas defined by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

#### 1.7 CONSTRUCTION PARKING

- .1 Parking on site will be restricted. Departmental Representative may allow limited use of parking, if available. Contractor will make arrangements as required.
- .2 Provide and maintain adequate access to project site.
- .3 If authorized to use existing roads for access to project site, maintain such roads for duration of Contract and repair any damage resulting from Contractors' use of roads.
- .4 Clean construction roads and parking areas where used by Contractor's equipment.

#### 1.8 OFFICES

- .1 Bi-weekly construction progress meetings to be held at the site trailer or virtually via online meeting service as required.

#### 1.9 EQUIPMENT, TOOL AND MATERIALS STORAGE

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

#### 1.10 SANITARY FACILITIES

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

1.11 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 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 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .8 Dust control: adequate to ensure safe operation at all times.

1.12 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.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not Used.

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- .1 Barriers.
- .2 Environmental Controls.
- .3 Traffic Controls.
- .4 Fire Routes.

### 1.2 RELATED SECTIONS

- .1 Section 01 51 00 - Temporary Utilities.
- .2 Section 01 52 00 - Construction Facilities.

### 1.3 INSTALLATION AND REMOVAL

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

### 1.4 HOARDING

- .1 Erect temporary site enclosure using modular freestanding fencing: galvanized, minimum 1.8 m high, chain link or welded steel mesh, pipe rail. Provide one lockable truck entrance gate and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys. Maintain fence in good repair.
- .2 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

### 1.5 ACCESS TO SITE

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

### 1.6 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 the public.

### 1.7 FIRE ROUTES

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



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#### 1.8 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.

#### PART 2 - PRODUCTS

##### 2.1 NOT USED

- .1 Not Used.

#### PART 3 - EXECUTION

##### 3.1 NOT USED

- .1 Not Used.

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- .1 The Contractor may require the services of a field engineering survey company to support construction related activity and layout.

### 1.2 REFERENCES

- .1 Departmental Representatives identification of existing survey control points and property limits.

### 1.3 QUALIFICATIONS OF SURVEYOR

- .1 Surveyor acceptable to Departmental Representative.

### 1.4 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 Departmental Representative.
- .4 Report to 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.

### 1.5 SURVEY REQUIREMENTS

- .1 Establish permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
- .2 Establish lines and levels, locate and lay out, by instrumentation.
- .3 Stake for grading, fill and topsoil placement and landscaping features.
- .4 Stake slopes and berms.

### 1.6 EXISTING SERVICES

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

#### 1.7 LOCATION OF FIXTURES

- .1 Location of fixtures, outlets, signs, fence c/w gates and benches indicated or specified are to be considered as approximate.
- .2 Inform Departmental Representative of impending installation and obtain approval for actual location.
- .3 Submit field drawings to indicate relative position of various services and equipment when required by Departmental Representative.

#### 1.8 RECORDS

- .1 Maintain a complete, accurate log of control and survey work as it progresses.

#### 1.9 SUBMITTALS

- .1 Submit name and address of Surveyor to Departmental Representative.
- .2 On request of Departmental Representative, submit documentation to verify accuracy of field engineering work.

#### 1.10 SUBSURFACE CONDITIONS

- .1 Promptly notify Departmental Representative 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 Departmental Representative 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.

## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- .1 Progressive cleaning.
- .2 Final cleaning.

### 1.2 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Departmental Representative or other Contractors.
- .2 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .3 Provide on-site containers for collection of waste materials and debris.
- .4 Provide and use clearly marked separate bins for recycling.
- .5 Remove waste material and debris from site and deposit in waste container at end of each working day.
- .6 Dispose of waste materials and debris off site.
- .7 Store volatile waste in covered metal containers and remove from premises at end of each working day.
- .8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

### 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 Departmental Representative or other Contractors.
- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site.

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.6 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

.7 Remove dirt and other disfiguration from exterior surfaces.

## PART 2 - PRODUCTS

### 2.1 NOT USED

.1 Not Used.

## PART 3 - EXECUTION

### 3.1 NOT USED

.1 Not Used.

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## PART 1 - GENERAL

### 1.1 CONSTRUCTION & DEMOLITION WASTE

- .1 Source separate waste and maintain waste audits in accordance with the Environmental Protection Act, Ontario Regulation 102/94 and Ontario Regulation 103/94.
  - .1 Provide facilities for collection, handling and storage of source separated wastes.
  - .2 Source separate the following waste:
    - .1 Brick and Portland cement concrete.
    - .2 Corrugated cardboard.
    - .3 Wood, not including painted or treated wood or laminated wood.
    - .4 Gypsum board, unpainted.
    - .5 Steel.
- .2 Submit a waste reduction workplan indicating the materials and quantities of material that will be recycled and diverted from landfill.
  - .1 Indicate how material being removed from the site will be reused, recycled, composted or anaerobically digested.
- .3 Submit proof that all waste is being disposed of at a licensed land fill site or waste transfer site. A copy of the disposal/waste transfer site's license and a letter verifying that said landfill site will accept the waste must be supplied to Departmental Representative prior to removal of waste from the demolition site.

### 1.2 WASTE PROCESSING SITES

- .1 Province of: Ontario.
  - .1 Ministry of Environment Conservation and Parks, Client Services and Permissions Branch, 135 St. Clair Avenue West, 1st Floor, Toronto, ON, M4V 1P5.
  - .2 Telephone: 800-565-4923 or 416-323-4321.
  - .3 Fax: 416-323-4682.
- .2 Recycling Council of Ontario: 55 University Ave #1500, Toronto, ON M5J 2H7.
  - .1 Telephone: 416-657-2797 or 1-888-501-9637.
  - .2 Fax: 416-960-8053.
  - .3 Email: rco@rco.on.ca.
  - .4 Internet: <http://www.rco.on.ca/>.

## PART 2 - PRODUCTS

### 2.1 NOT USED

- .1 Not Used.

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### PART 3 - EXECUTION

#### 3.1 CANADIAN GOVERNMENTAL DEPARTMENTS CHIEF RESPONSIBILITY FOR THE ENVIRONMENT

##### .1 Government Chief Responsibility for the Environment.

<u>Province</u>	<u>Address</u>
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Ontario	Ministry of Environment Conservation and Parks, Client Services and Permissions Branch, 135 St. Clair Avenue West, 1 <sup>st</sup> Floor, Toronto, ON, M4V 1P5
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General Enquiries

1-800-461-6290

or in Toronto 416-314-8001

## PART 1 - GENERAL

### 1.1 INSPECTION AND DECLARATION

- .1 Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor to correct Work accordingly.
- .2 Completion: submit written certificate that following have been performed:
  - .1 Work has been completed and inspected for compliance with Contract Documents.
  - .2 Defects have been corrected and deficiencies have been completed.
  - .3 Equipment and systems have been tested and are fully operational.
  - .4 Operation of systems have been demonstrated to Departmental Representative.
  - .5 Work is complete and ready for final inspection.
- .3 Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative and Contractor. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.

### 1.2 CLEANING

- .1 In accordance with Section 01 74 11.
- .2 Remove waste and surplus materials, rubbish and construction facilities from the site in accordance with Section 01 74 20.

## PART 2 - PRODUCTS

### 2.1 NOT USED

- .1 Not Used.

## PART 3 - EXECUTION

### 3.1 NOT USED

- .1 Not Used.



## PART 1 - GENERAL

### 1.1 SECTION INCLUDES

- .1 As-built, samples, and specifications.
- .2 Product data, materials and finishes, and related information.
- .3 Operation and maintenance data.
- .4 Warranties and bonds.
- .5 Final site survey.

### 1.2 RELATED SECTIONS

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

### 1.3 SUBMISSION

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

### 1.4 FORMAT

- .1 Organize data in the form of an instructional manual.
- .2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.
- .3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.
- .4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.

- .5 Arrange content by work type under Section numbers and sequence of Table of Contents.
- .6 Text: Manufacturer's printed data, or typewritten data.
- .7 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- .8 Provide 1:1 scaled CAD files in dwg format. Forward pdf, MS Word, MS Excel, MS Project and AutoCAD dwg files on USB compatible with PWGSC encryption requirements or through email or alternate electronic file sharing service such as ftp, as directed by Departmental Representative.

#### 1.5 CONTENTS - EACH VOLUME

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

#### 1.6 AS-BUILTS AND SAMPLES

- .1 In addition to requirements in General Conditions, maintain at the site for Departmental Representative one record copy of:
  - .1 Contract Drawings.
  - .2 Specifications.
  - .3 Amendments and addenda.
  - .4 Change Orders and other modifications to the Contract.
  - .5 Reviewed shop drawings, product data, and samples.
  - .6 Field test records.
  - .7 Inspection certificates.
  - .8 Manufacturer's certificates.

- .2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.
- .6 Turn one set, paper copy and electronic copy, of AS-BUILT drawings and specifications over to Departmental Representative on completion of work. Submit files on USB compatible with PWGSC encryption requirements or through email or alternate electronic file sharing service such as ftp, as directed by Departmental Representative.
- .7 If project is completed without significant deviations from Contract drawings and specifications submit to Departmental Representative one set of drawings and specifications marked "AS-BUILT".

#### 1.7 RECORDING ACTUAL SITE CONDITIONS

- .1 Record information on set of black line opaque drawings, and in copy of Project Manual, provided by Departmental Representative.
- .2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
  - .1 Measured depths of elements of foundation in relation to finish first floor datum.
  - .2 Measured horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.
  - .3 Measured locations of internal utilities and appurtenances referenced to visible and accessible features of construction.
  - .4 Field changes of dimension and detail.
  - .5 Changes made by change orders.
  - .6 Details not on original Contract Drawings.
  - .7 References to related shop drawings and modifications.
- .5 Specifications: legibly mark each item to record actual construction, including:

- .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
- .2 Changes made by Amendments and change orders.
- .6 Other Documents: maintain manufacturer's certifications, inspection certifications, and field test records, required by individual specifications sections.

#### 1.8 FINAL SURVEY

- .1 Submit final site survey certificate in accordance with Section 01 71 00, certifying that elevations and locations of completed Work are in conformance, or non-conformance with Contract Documents.

#### 1.9 MATERIALS AND FINISHES

- .1 Products, Applied Materials, and Finishes: include product data, with catalogue number, size, composition, and colour and texture designations. Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and Weather-exposed Products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional Requirements: as specified in individual specifications sections.

#### 1.10 STORAGE, HANDLING AND PROTECTION

- .1 Store materials in a manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.

#### 1.11 WARRANTIES AND BONDS

- .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
- .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

- .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work.
- .4 Except for items put into use with Departmental Representatives permission, leave date of beginning of time of warranty until the Date of Certificate of Substantial Performance is determined.
- .5 Verify that documents are in proper form, contain full information, and are notarized.
- .6 Co-execute submittals when required.
- .7 Retain warranties and bonds until time specified for submittal.

## PART 2 - PRODUCTS

### 2.1 NOT USED

- .1 Not Used.

## PART 3 - EXECUTION

### 3.1 NOT USED

- .1 Not Used.

## PART 1 - GENERAL

### 1.1 MEASUREMENT AND PAYMENT

- .1 Pulverization in place of existing asphalt pavement will be measured in square metres of surface actually pulverized regardless of depth or number of operations required.
- .2 Payment under this item will include operations involved in pulverizing, mixing and recompacting in place designated pavement and base granular, and cleaning of remaining pavement surface.

### 1.2 REFERENCES

- .1 OPSS.PROV 330, November 2014, Construction Specification for In-Place Full Depth Reclamation of Bituminous Pavement and Underlying Granular.

## PART 2 - PRODUCTS

### 2.1 EQUIPMENT

- .1 Use cold milling, planning or grinding equipment with automatic grade controls capable of operating from string line, and capable of pulverizing pavement surface to depths or grades indicated.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- .1 Prior to beginning pulverization operation, inspect and verify with Departmental Representative areas, depths and lines of asphalt pavement to be pulverized.
- .2 Protection: protect existing pavement not designated for pulverization, light units and structures from damage. In event of damage, immediately replace or make repairs to approval of Departmental Representative at no additional cost.

### 3.2 REMOVAL

- .1 Pulverize existing asphalt pavement to lines and grades as indicated in the contract drawings.
- .2 Suppress dust generated by pulverization process.

### 3.3 FINISH TOLERANCES

- .1 Finished surfaces in areas where asphalt pavement has been pulverized to be within +/- 10 mm of grade specified but not uniformly high or low.

### 3.4 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11.
- .3 Sweep remaining asphalt pavement surfaces clean of debris resulting from pulverization operations using rotary power brooms and hand brooming as required.

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## PART 1 - GENERAL

### 1.1 REFERENCE STANDARDS

- .1 Ontario Provincial Standard Specifications (OPSS)
  - .1 OPSS.PROV 180, November 2016, General Specifications for the Management of Excess Material.
  - .2 OPSS.PROV 206, November 2014, Construction Specification for Grading.
  - .3 OPSS.PROV 410, November 2015, Construction Specification for Pipe Sewer Installation in Open Cut.
  - .4 OPSS.PROV 1010, April 2013, Ontario Provincial Standard Specification, Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.

### 1.4 UTILITY LINES

- .1 Before commencing work, establish location and extent of underground utility lines in area of excavation. Notify Departmental Representative of findings.
- .2 Known underground and surface utility lines are indicated.
- .3 Advise Departmental Representative and/or utility company to remove/re-route existing lines in area of excavation.
- .4 Maintain existing lines in areas of excavation which must remain active as indicated. Pay costs for this work.
- .5 Record locations of maintained, re-routed and abandoned underground utility lines if any.
- .6 Make good damage to existing utility lines resulting from work.

### 1.5 PROTECTION

- .1 Protect excavated earth from freezing by approved method.
- .2 Grade around excavations to prevent surface water runoff into excavated area.
- .3 Protect bottoms of excavations from weather. Should softening in bottoms occur due to water or other causes, remove softened soil and replace with structural concrete at no additional cost.

### 1.6 MEASUREMENT PROCEDURES

- .1 Excavated materials will be measured in cubic metres in their original location.
- .2 Measurement will be volume of material removed from within limits of neat lines indicated.



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- .3 Materials removed from beyond limits specified will be measured only when Departmental Representative authorizes additional excavation to obtain satisfactory bearing surfaces.
- .4 Backfill materials will be measured as indicated on the Unit Price Table accepted in the work. Compaction is considered incidental to the work and will not be measured separately for payment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- .1 Materials for backfill shall be as per the specification relating to the bid item, as well as OPSS.PROV 1010.If no material is specified, Granular A as per Section 32 11 20 shall be used.

## PART 3 - EXECUTION

### 3.1 STOCKPILING

- .1 Stockpile fill materials in areas designated by Departmental Representative. Stockpile granular materials in manner to prevent segregation.

### 3.2 DEWATERING

- .1 Provide pumps and other equipment and materials necessary to keep excavations free of water while work is in progress.
- .2 Do not pump during placing of concrete, or for a period of at least 24 hours thereafter, unless from a pump separated from concrete work by means of watertight wall or other effective means.
- .3 Dispose of water in such a manner as not to be detrimental to public health, environment, public and private property, or any portion of work completed or under construction.
- .4 Protect open excavations against flooding and damage due to surface run-off.
- .5 When conditions are encountered which render it impracticable to dewater excavations before placing concrete, Departmental Representative may order additional excavation and placing underwater of a concrete seal of such dimensions as may be necessary to resist any possible uplift. Do not commence pumping until seal has set sufficiently to withstand hydrostatic pressures.

### 3.3 EXCAVATING

- .1 Excavate to elevations and dimensions indicated or required for construction of work.
- .2 Make excavation to clean lines to minimize quantity of fill material required.

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Region Project	AND BACKFILLING	Page 3
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- .3 Earth bottoms of excavations to be dry undisturbed soil, reasonably level, free from loose or organic matter.
- .4 When complete have Departmental Representative inspect excavations to verify soil bearing capacity, depths and dimensions.
- .5 Excavation exceeding that shown on drawings, if authorized in writing by Departmental Representative, will be paid as extra to Contract price in accordance with General Conditions. Quantities will be calculated in place, compaction included. Truck load measurements not acceptable.
- .6 Remove obstructions encountered in the course of excavation.
- .7 Dispose of surplus excavated material off site.

#### 3.4 EXCAVATION REQUIRED BY OTHER SECTIONS

- .1 Excavation for work of other sections is included in this Section and shall be carried out in accordance with provisions specified herein and indicated. This work to be laid out and supervised by trade concerned.
- .2 Excavate trenches to lines and grades shown to a minimum of 150 mm below pipe invert. Provide recesses for bell and spigot pipe to ensure bearing will occur along barrel of pipe.

#### 3.5 BACKFILLING

- .1 Do not commence backfilling until areas of work to be backfilled have been inspected and approved by Departmental Representative.
- .2 Backfill all spaces excavated and not occupied by parts of the structure, or other permanent works, with specified material placed as shown on the drawings.
- .3 Areas backfilled to be free from debris, snow, ice, water or frozen ground.
- .4 Prior to placing fill, compact existing subgrade to obtain same compaction as for specified fill. Cut out "soft" areas and fill with suitable material until specified compaction can be obtained.
- .5 Place and compact fill materials in continuous horizontal layers not exceeding 150 mm loose depth. Use methods to prevent disturbing or damaging any part of the work. Make good any damage.
- .6 Maintain optimum moisture content to enable compaction to attain specified density.
- .7 Compact each layer to 100% Standard Proctor Density. Where working space is limited, employ approved mechanical hand operated tamping devices. When such devices are employed, deposit backfill material in layers not exceeding 150 mm in thickness.
- .8 In accordance with OPSS.PROV 180, OPSS.PROV.206, and OPSS.PROV 410.

## PART 1 - GENERAL

### 1.1 REFERENCE STANDARDS

- .1 Ontario Provincial Standard Specification.
  - .1 OPSS.PROV 511, November 2018, Construction Specification for Rip-Rap, Rock Protection, and Granular Sheeting.

### 1.2 MEASUREMENT PROCEDURES

- .1 Rip-rap will be measured in cubic metres of material placed, and shall include the geotextile material as specified in OPSS.PROV 511.

## PART 2 - PRODUCTS

### 2.1 STONE

- .1 Hard, dense, angular stone, free from seams, cracks or other structural defects. Meet following size distribution for use intended:
  - .1 Armour rip-rap:
    - .1 Meets definition of R-50 as defined by OPSS.PROV 1004 Table 8.

## PART 3 - EXECUTION

### 3.1 PLACING

- .1 Place rip-rap to thickness and details indicated on the Contract Drawings or as directed by the Departmental Representative. Prior to placement of rip-rap, geotextile is to be placed as per the detail provided on the Contract Drawings.
- .2 Place stones to secure surface and provide a stable mass, with largest dimension perpendicular to the wall unless such dimension is greater than the specified thickness. Place larger stones at bottom of slopes.
- .3 Hand placing:
  - .1 Use larger stones for lower courses and as headers for subsequent courses.
  - .2 Stagger vertical joints and fill voids with rock spalls.
  - .3 Finish surface even, free of large openings and neat in appearance.

## PART 1 - GENERAL

### 1.1 REFERENCE STANDARDS

- .1 Ontario Provincial Standard Specifications (OPSS)
  - .1 OPSS.MUNI 314, November 2019, Construction Specification for Untreated Granular Subbase, Base, Surface, Shoulder, and Stockpiling.
  - .2 OPSS.PROV 1010 April 2013, Ontario Provincial Standard Specification, Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.

### 1.2 MEASUREMENT PROCEDURES

- .1 Granular base course will be measured in tonnes of aggregate incorporated into the work.
- .2 Compaction, hauling, and water for compaction are considered included in the producing and placing and will not be measured separately for payment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- .1 Granular A: to OPSS.PROV 1010. Maximum size to be 19.0 mm.

## PART 3 - EXECUTION

### 3.1 PLACING

- .1 Place on a clean surface, properly shaped and compacted and free from snow or ice.
- .2 Place material in layers not exceeding 150 mm when compacted.
- .3 Spread each layer uniformly using approved grading equipment and methods.

### 3.2 COMPACTING

- .1 Compact each layer to minimum 100% Standard Proctor Density.
- .2 Add water as required to maintain material at or near optimum moisture content while compacting.

### 3.3 FINISHING

- .1 Finish compacted surface to within 12 mm of established grade as indicated by a 3 m straightedge placed in any direction

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- .2 Correct irregularities greater than 12 mm by loosening the surface and adding or removing material until surface is within specified tolerance.

#### 3.4 FIELD QUALITY CONTROL

- .1 The Departmental Representative may perform field and laboratory tests for control of moisture, density and aggregate gradation. Results will control Contractor's operations.

## PART 1 - GENERAL

### 1.1 REFERENCE STANDARDS

- .1 Ontario Provincial Standard Specifications (OPSS)
  - .1 OPSS.MUNI 314, November 2019, Construction Specification for Untreated Granular Subbase, Base, Surface, Shoulder, and Stockpiling.
  - .2 OPSS.PROV 1010 April 2013, Ontario Provincial Standard Specification, Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.

### 1.2 MEASUREMENT PROCEDURES

- .1 Granular sub-base course will be measured in tonnes of aggregate incorporated into the work.
- .2 Compaction, hauling, and water for compaction are considered included in the producing and placing and will not be measured separately for payment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- .1 Granular B: to OPSS.PROV 1010. Maximum size to be Type 2, 26.5 mm.

## PART 3 - EXECUTION

### 3.1 PLACING

- .1 Place on a clean surface, properly shaped and compacted and free from snow or ice.
- .2 Place material in layers not exceeding 150mm when compacted.
- .3 Spread each layer uniformly using approved grading equipment and methods.

### 3.2 COMPACTING

- .1 Compact each layer to minimum 100% Standard Proctor Density.
- .2 Add water as required to maintain material at or near optimum moisture content while compacting.

### 3.3 FINISHING

- .1 Finish compacted surface to within 12mm of established grade as indicated by a 3 m straightedge placed in any direction

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- .2 Correct irregularities greater than 12mm by loosening the surface and adding or removing material until surface is within specified tolerance.

#### 3.4 FIELD QUALITY CONTROL

- .1 The Departmental Representative may perform field and laboratory tests for control of moisture, density and aggregate gradation. Results will control Contractor's operations.

## PART 1 - GENERAL

### 1.1 REFERENCE STANDARDS

- .1 Ontario Provincial Standard Specifications (OPSS)
  - .1 OPSS 308, April 2012, Construction Specifications for Tack Coat and Joint Painting.
  - .2 OPSS.PROV 1103, November 2016, Material Specification for Emulsified Asphalt.

### 1.2 SAMPLES

- .1 Make samples of the materials available to the Departmental Representative.

### 1.3 PROTECTION

- .1 Exclude traffic until tack coat has cured.

### 1.4 ENVIRONMENTAL CONDITIONS

- .1 Apply tack coat when air temperatures are 10°C or higher.
- .2 Do not apply when weather is foggy or rainy.
- .3 Apply tack coat within the temperature ranges recommended by the Canadian General Standards Board for the material supplied.

### 1.5 MEASUREMENT PROCEDURES

- .1 Asphalt tack coat will be measured in square metres at 15°C of diluted emulsified asphalt actually applied.
- .2 Preparation of surface and water used to dilute emulsified asphalts will not be measured separately for payment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- .1 Asphalt material: to OPSS 1103 for slowsetting type, grade SS-1.

### 2.2 EQUIPMENT

- .1 Pressure distributor:
  - .1 Distributer shall be so designed, equipped, maintained, and operated that the asphalt material at even heat may be applied uniformly on variable widths of surface up to 4.5m at readily determined and controlled rates from 0.23 to 9 L/m<sup>2</sup>, with uniform pressure, and with



an allowable variation from any specified rate not to exceed 0.09 L/m2.

- .2 Distributer equipment shall include a tachometer, pressure gauges, accurate volume measuring devices or a calibrated tank, and a thermometer for measuring temperatures of tank contents.
- .3 Equip distributors with a power unit for the pump, and full circulation spray bar, adjustable laterally and vertically.
- .2 Rotary power broom: self-propelled, pneumatic tired units, capable of vertical and horizontal angular adjustment, and of sufficient power and brushing capacity to completely clean the surface to be treated.

### PART 3 - EXECUTION

#### 3.1 PREPARATION OF SURFACES

- .1 Clean all surfaces to be treated immediately prior to application of tack coat.
- .2 Paint contact surfaces of curbs, gutters, headers, manholes and like structures with a thin, uniform coat of asphaltic material.

#### 3.2 APPLICATION

- .1 Apply asphalt material at a rate of 0.5L/m2 of surface or as directed by the Departmental Representative.
- .2 Exercise care in controlling the drying or curing period so that coating reaches a tacky or sticky condition before placing asphaltic pavement mixtures.

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## PART 1 - GENERAL

### 1.1 REFERENCE STANDARDS

- .1 Ontario Provincial Standard Specifications (OPSS)
  - .1 OPSS.PROV 313, April 2021, Hot Mix Asphalt - End Result
  - .2 OPSS.PROV 1010, April 2013, Ontario Provincial Standard Specification, Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.
  - .3 OPSS.PROV 1103, November 2016, Material Specification for Emulsified Asphalt.
  - .4 OPSS.MUNI 1150, November 2020, Material Specification for Hot Mixed Asphalt.

### 1.2 PROTECTION

- .1 Protect buildings, landscaping, roads, driveways, sidewalks, trees and shrubs on site and adjacent property that may be damaged by paving machinery, equipment or personnel. Make good property damaged due to paving operations.
- .2 Take necessary precautions to protect workmen and public from hazards of paving operations.
- .3 Keep vehicular traffic off newly paved areas until paving properly cured.
- .4 Provide access to all adjoining areas at all times. Arrange paving schedule so as not to interfere with normal use of premises.

### 1.3 MEASUREMENT PROCEDURES

- .1 Excavation will be measured in cubic metres of materials encountered of whatever nature position.
- .2 Granular sub-base will be measured in tonnes of aggregate incorporated into the work.
- .3 Granular base will be measured in tonnes of aggregate incorporated into the work.
- .4 Crushed rock screenings will be measured in tonnes of aggregate incorporated into the work.
- .5 Compaction is considered included in the supplying and placing of aggregates and will not be measured separately for payment.
- .6 Asphalt base course will be measured by the tonne used and accepted in the work.
- .7 Asphalt surface course will be measured by the tonne used and accepted in the work.

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- .8 Primer is considered included in the asphalt base course and asphalt surface course and will not be measured separately for payment.
- .9 Cleaning pavement surfaces will be measured in square metres of surface cleaned.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- .1 Asphalt base course: to OPSS 1150, type HL 8. Maximum size aggregate 26.5 mm.
- .2 Asphalt surface course: to OPSS 1150, type HL 3 . Maximum size aggregate 9.5 mm.
- .3 Primer: emulsified asphalt to OPSS 1103, rapid setting type.
- .4 Granular base: to OPSS.PROV 1010, Granular A. Maximum size 19.0 mm.
- .5 Granular sub-base: to OPSS.PROV 1010, Granular B. Maximum size 26.5 mm.
- .6 Crushed rock screenings: to OPSS.PROV 1010, for Granular M. Maximum size 9.5 mm.

## PART 3 - EXECUTION

### 3.1 CLEANING

- .1 Remove dust, contaminants, loose and foreign materials, oil and grease in designated areas.
- .2 Use rotary power brooms supplemented by hand brooming as required.
- .3 Where directed, remove to existing pavement level, sealing compound which has protruded excessively and dispose of removed material as directed.
- .4 Keep drainage system clear of loose and waste materials.

### 3.2 EXCAVATING

- .1 Excavate to elevations and dimensions indicated or required for construction of work.
- .2 Make excavation to clean lines to minimize quantity of fill material required.
- .3 Earth bottoms of excavations to be dry undisturbed soil, reasonably level, free from loose or organic matter.

### 3.3 INSPECTION

- .1 Check graded subgrade for conformity with elevations and cross-sections before placing granular base material.
- .2 Proof-roll base surface with mass and type of roller approved by Departmental Representative.
  - .1 Check for unstable areas.
  - .2 Check for areas requiring additional compaction.
- .3 Notify Departmental Representative of unsatisfactory conditions.
- .4 Do not begin paving work until such conditions have been corrected and are ready to receive paving.
- .5 When complete, have Departmental Representative inspect excavations to verify soil bearing capacity, depths and dimensions.
- .6 Excavation, beyond limits shown on drawings, if authorized in writing by Departmental Representative, will be paid for as extra to Contract Amount in accordance with General Conditions. Quantities will be calculated in place, compaction included. Truck load measurements not acceptable.
- .7 Correct unauthorized excavation at no extra cost by filling with Granular A material.

### 3.4 GRANULAR SUB- AND GRANULAR BASE

- .1 Place 450 mm compacted thickness of granular sub-base.
- .2 Place 150 mm compacted thickness of granular base.
- .3 Place in layers not exceeding 150 mm compacted thickness. Compact each layer to 100% Standard Proctor Density.

### 3.5 ASPHALT COURSE

- .1 Apply primer at approximately 0.5 L/m<sup>2</sup>.
- .2 Place 70 mm of compacted asphaltic concrete base course.
- .3 Place 40 mm of compacted asphaltic concrete surface course.
- .4 Minimum 7°C air temperature when placing mixture.
- .5 Minimum 118°C mixture temperature when spread.
- .6 Maximum 149°C mixture temperature at any time.
- .7 Compact each course with roller when it can support roller mass without undue cracking or displacement.
- .8 Roller, power driven, minimum mass 9 tonnes, minimum wheel width 600 mm.

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- .9 Roll until roller marks are eliminated. Compact to 96% laboratory density.
- .10 Keep roller speed slow enough to avoid mixture displacement.
- .11 Moisten roller wheels to prevent mixture adhesion.
- .12 Compact mixture with hot tampers in areas inaccessible to roller.
- .13 Finish surface true to grade and free from deviations exceeding 1:1000 when measured in any direction with a 3 m straight edge.

### 3.6 JOINTS

- .1 Cut back bituminous course to full depth in straight or curved lines as required to expose fresh vertical surfaces. Remove any broken or loose material.
- .2 Paint exposed edge of asphaltic joints, edges of manholes and catch basin frames, curbs and similar items with asphalt primer prior to placing asphalt courses.
- .3 Where paving comprises two courses overlap longitudinal joints not less than 600 mm.
- .4 Carefully place and compact hot asphaltic material against joints.

## PART 1 - GENERAL

### 1.1 REFERENCE STANDARDS

- .1 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-1.74-2001, Alkyd Traffic Paint.
- .2 Ministry of Transportation, Ontario Provincial Standard Specifications (OPSS):
  - .1 OPSS 710 November 2010, Construction Specification for Pavement Marking.
  - .2 OPSS 1712 February 1991, Organic Solvent Based Traffic Paving.
  - .3 OPSS 1713 February 1991, Material Specification for Thermoplastic Pavement Marking Materials.
  - .4 OPSS 1714 February 1991, Material Specification for Field Reacted Polymeric Pavement Marking Materials.
  - .5 OPSS 1715 February 1991, Material Specification for Preformed Plastic Pavement Marking Materials.
  - .6 OPSS 1716 February 1991, Material Specification for Water-Borne Traffic Paint.
  - .7 OPSS 1750 December 1983, Material Specification for Traffic Paint Reflectorizing Glass Beads.
- .3 Ministry of Transportation, Ontario Traffic Manual Book 15 June 2016, Pedestrian Crossing Treatments

### 1.2 ACCEPTANCE

- .1 Upon request, Departmental Representative will supply a qualified product list of paints applicable to work. Only paints listed may be used.

### 1.3 MEASUREMENT PROCEDURES

- .1 Traffic stripes will be measured in metres of single line acceptably painted. Broken traffic stripes will be measured from end to end of the stripe including gaps.
- .2 Traffic symbols and letters will be measured in square metres of symbols and letters acceptably painted.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- .1 Paint: to CAN/CGSB-1.74, alkyd traffic paint, OPSS 710. Colour yellow, white.

## 2.2 WEATHER CONDITIONS

- .1 Do not apply paint if the air temperature is below 8°C or if the weather or pavement conditions are considered unsuitable by the Departmental Representative.

## 2.3 MARKING

- .1 The centerline shall be pre-marked in an approved manner and is required to be reviewed and approved by the Departmental Representative prior to paint application.
- .2 Width of stripe to match Contract Drawings.
- .3 Traffic symbols and letters to conform to the Manual of Uniform Traffic Control Devices for Canada.

## PART 3 - EXECUTION

### 3.1 APPLICATION OF PAINT

- .1 Apply paint with a distributor that will Paint ensure uniform application and a positive means of shut-off.
- .2 Thoroughly clean the distributor tank before refilling with paint of a different colour.
- .3 Evenly apply paint at the rate of 4.5L/m2.
- .4 Protect freshly applied paint from traffic until it is dry.

## PART 1 - GENERAL

### 1.1 MATERIAL SUPPLIED BY CONTRACTOR

- .1 Contractor shall source topsoil and provide in writing the specifics of the source for approval by the Departmental Representative.

### 1.2 MEASUREMENT PROCEDURES

- .1 Preparation of sub-grade for placing of topsoil will be measured in cubic metres of area prepared. No separate payment will be made for this work.
- .2 Measure supply and application of soil amendments, including fertilizer, in standard commercial units of weight/volume as determined by Departmental Representative. No separate payment will be made for this work.
- .3 Measure supplying, placing and spreading topsoil, as well as the placement of Standard Roadside Seed Mix in square metres, to a depth of 150 mm, as determined from actual surface area covered.
  - .1 Specified depth of topsoil: measured and approved by Departmental Representative after settlement and consolidation as specified.

### 1.3 REFERENCES

- .1 Ontario Provincial Standard Specification (OPSS)
  - .1 OPSS.MUNI 802, November 2019, Construction Specification for Topsoil.
  - .2 OPSS.MUNI 804, November 2014, Construction Specification for Seed and Cover.

### 1.5 DEFINITIONS

- .1 Compost:
  - .1 Mixture of soil and decomposing organic matter used as fertilizer, mulch, or soil conditioner.
  - .2 Compost is processed organic matter containing 40% or more organic matter as determined by Walkley-Black or Loss On Ignition (LOI) test.
  - .3 Product must be sufficiently decomposed (i.e. stable) so that any further decomposition does not adversely affect plant growth (C:N ratio below 25 and contain no toxic or growth inhibiting contaminants.
  - .4 Composed bio-solids to: CCME Guidelines for Compost Quality, Category A.

### 1.6 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00.
- .2 Quality control submittals:
  - .1 Soil testing: submit certified test reports showing compliance with



- specified performance characteristics and physical properties as described in PART 2 - SOURCE QUALITY CONTROL.
- .2 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

#### 1.8 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 20.
- .2 Divert unused soil amendments from landfill to official hazardous material collections site approved by Departmental Representative.
- .3 Do not dispose of unused soil amendments into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

### PART 2 - MATERIAL

#### 2.1 TOPSOIL

- .1 Topsoil for seeded areas: mixture of particulates, microorganisms and organic matter which provides suitable medium for supporting intended plant growth.
  - .1 Soil texture based on The Canadian System of Soil Classification, to consist of 20 to 70% sand, minimum 7% clay, and contain 2 to 10% organic matter by weight.
  - .2 Contain no toxic elements or growth inhibiting materials.
  - .3 Finished surface free from:
    - .1 Debris and stones over 50 mm diameter.
    - .2 Course vegetative material, 10 mm diameter and 100 mm length, occupying more than 2% of soil volume.
  - .4 Consistence: friable when moist.

#### 2.2 SEED

- .1 Seed is to be Standard Roadside Mix as per OPSS.MUNI 804

#### 2.3 SOURCE QUALITY CONTROL

- .1 Advise Departmental Representative of sources of topsoil to be utilized with sufficient lead time for testing.
- .2 Contractor is responsible for amendments to supply topsoil as specified.
- .3 Soil testing by recognized testing facility for PH, P and K, and organic matter.

- .4 Testing of topsoil will be carried out by testing laboratory designated by Departmental Representative.
- .1 Soil sampling, testing and analysis to be in accordance with Provincial standards (OPSS.MUNI 802).

### PART 3 - EXECUTION

#### 3.1 STRIPPING OF TOPSOIL

- .1 Begin topsoil stripping of areas as indicated after area has been cleared of brush weeds and grasses and removed from site.
- .2 Strip topsoil to depths as indicated
  - .1 Avoid mixing topsoil with subsoil where textural quality will be moved outside acceptable range of intended application.
- .3 Stockpile in locations as directed by Departmental Representative
  - .1 Stockpile height not to exceed 2 m.
- .4 Disposal of unused topsoil is to be in an environmentally responsible manner but not used as landfill.
- .5 Protect stockpiles from contamination and compaction.

#### 3.2 PREPARATION OF EXISTING GRADE

- .1 Verify that grades are correct.
  - .1 If discrepancies occur, notify Departmental Representative and do not commence work until instructed by Departmental Representative.
- .2 Grade soil, eliminating uneven areas and low spots, ensuring positive drainage.
- .3 Remove debris, roots, branches, stones in excess of 50 mm diameter and other deleterious materials.
  - .1 Remove soil contaminated with calcium chloride, toxic materials and petroleum products.
  - .2 Remove debris which protrudes more than 75 mm above surface.
  - .3 Dispose of removed material off site.

#### 3.3 PLACING AND SPREADING OF TOPSOIL/PLANTING SOIL

- .1 Place topsoil after Departmental Representative has accepted subgrade.
- .2 Spread topsoil in uniform layers not exceeding 150 mm.

- .3 For sodded areas keep topsoil 15 mm below finished grade.
- .4 Spread topsoil to following minimum depths after settlement.
  - .1 150 mm for seeded areas.
- .5 Manually spread topsoil/planting soil around trees, shrubs and obstacles.

#### 3.4 SOIL AMENDMENTS

- .1 To be used as required in OPSS.MUNI 804

#### 3.5 FINISH GRADING

- .1 Grade to eliminate rough spots and low areas and ensure positive drainage.
  - .1 Prepare loose friable bed by means of cultivation and subsequent raking.
- .2 Consolidate topsoil to required bulk density using equipment approved by Departmental Representative.
  - .1 Leave surfaces smooth, uniform and firm against deep footprinting.

#### 3.6 SEEDING

- .1 Seed application to be completed as per OPSS.MUNI 804.

#### 3.7 ACCEPTANCE

- .1 Departmental Representative will inspect and test topsoil in place and determine acceptance of material, depth of topsoil and finish grading.

#### 3.8 SURPLUS MATERIAL

- .1 Dispose of excess topsoil off site.

#### 3.9 CLEANING

- .1 Proceed in accordance with Section 01 74 11.
- .2 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

## PART 1 - GENERAL

### 1.1 PRODUCTS INSTALLED BUT NOT SUPPLIED UNDER THIS SECTION

.1 Contractor will supply material as follows:

- .1 300mm Culvert
- .2 400mm Culvert
- .3 450mm Culvert
- .4 550mm Culvert
- .5 600mm Culvert
- .6 750mm Culvert

### 1.2 MEASUREMENT AND PAYMENT

- .1 Measure supply of pipe culvert in metres for each size, type and class of pipe supplied.
- .1 No separate measurement will be made for couplings and fittings for steel pipe and plastic pipe culverts.
- .2 Measure, supply and installation of pipe culvert including excavation and backfill in metres in place for each size, type and class of pipe.

### 1.3 REFERENCES

- .1 CSA International
- .1 CAN/CSA-G401-14, Corrugated Steel Pipe Products.
- .2 Ontario Provincial Standard Specification
- .1 OPSS.PROV 421, November 2015, Construction Specification for Pipe Culvert Installation in Open Cut.
- .2 OPSS.PROV 1801, April 2018, Material Specification for Corrugated Steel Pipe (CSP) Products.

### 1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00.
- .2 Product Data:
- .1 Submit manufacturer's instructions, printed product literature and data sheets for pipes and backfill and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Samples:

- .1 Inform Departmental Representative at least 4 weeks before beginning Work, of proposed source of bedding materials and provide access for sampling.

.4 Certification: to be marked on pipe.

.5 Test and Evaluation Reports:

- .1 Submit manufacturer's test data and certification at least 4 weeks prior to beginning Work.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

- .1 Store materials in accordance with manufacturer's recommendations.
- .4 Store and protect pipes from damage.
- .5 Replace defective or damaged materials with new.

PART 2 - PRODUCTS

2.1 CORRUGATED STEEL PIPE

- .1 Corrugated steel pipe: to CAN/CSA-G401.
- .2 Water-tight cut-off collars: as indicated.

2.2 GRANULAR BEDDING AND BACKFILL

- .1 Granular bedding and backfill material to the following requirements:
  - .1 Crushed pit run or screened stone, gravel or sand.
  - .2 Gradations to be within limits specified when tested to OPSS

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for pipe culvert installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative.

- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied.

### 3.2 BEDDING

- .1 Dewater excavation, as necessary, to allow placement of culvert bedding in dry condition.
- .2 Place 200 mm minimum thickness (after compaction) of approved granular material on bottom of excavation and compact to 95% minimum of corrected maximum dry density.
- .3 Shape bedding to fit lower segment of pipe exterior so that width of at least 50% of pipe diameter is in close contact with bedding and to camber as indicated or as directed by Departmental Representative, free from sags or high points.
- .4 Place bedding in unfrozen condition.

### 3.3 LAYING CORRUGATED STEEL PIPE CULVERTS

- .1 Begin pipe placing at downstream end.
- .2 Ensure bottom of pipe is in contact with shaped bed or compacted fill throughout its length.
- .3 Lay pipe with outside circumferential laps facing upstream and longitudinal laps or seams at side or quarter points.
- .4 Lay paved invert or partially lined pipe with longitudinal centre line of paved segment coinciding with flow line.
- .5 Do not allow water to flow through pipes during construction except as permitted by Departmental Representative.

### 3.4 JOINTS: CORRUGATED STEEL CULVERTS

- .1 Corrugated steel pipe:
  - .1 Match corrugations or indentations of coupler with pipe sections before tightening.
  - .2 Tap couplers firmly as they are being tightened, to take up slack and ensure snug fit.
  - .3 Insert and tighten bolts.
  - .4 Repair spots where damage has occurred to spelter coating by applying two coats of zinc rich paint.

### 3.5 BACKFILLING

- .1 Backfill around and over culverts as per OPSS or as directed by Departmental Representative.

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- .2 Place granular backfill material/backfill material, approved in writing by Departmental Representative, in 150 mm layers to full width, alternately on each side of culvert, so as not to displace it laterally or vertically.
- .3 Compact each layer to 95% corrected maximum dry density taking special care to obtain required density under haunches.
- .4 Protect installed culvert with minimum 600 mm cover of compacted fill before heavy equipment is permitted to cross.
  - .1 During construction, width of fill, at its top, to be at least twice diameter or span of pipe and with slopes not steeper than 1:2.
- .5 Place backfill in unfrozen condition.
- .6 Culverts under paved roadway shall be backfilled to match the pavement/granular structure.

### 3.13 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11.

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## PART 1 - GENERAL

### 1.1 PRODUCTS INSTALLED BUT NOT SUPPLIED UNDER THIS SECTION

- .1 Contractor will supply: 150mm Subdrain

### 1.2 MEASUREMENT AND PAYMENT

- .1 Supply of sub-drain pipe will be measured in metres, of each type and size indicated and in authorized quantities delivered to designated storage area.
- .2 Geotextiles will be measured as part of this item.
- .3 19 mm clearstone will be measured as part of this item.
- .4 Supply and installation of sub-drainage including, trenching, backfill, bedding, granular filter material and geotextile will be measured horizontally from manhole face to manhole face in metres of each pipe size and depth class installed.

### 1.3 REFERENCES

- .1 Ontario Provincial Standard Specification (OPSS)
  - .1 OPSS.PROV 405, November 2017, Construction Specification for Pipe Subdrain.
  - .2 OPSS.PROV 1840, November 2018, Material Specification for Non-Pressure Polyethylene Plastic Pipe Products.
  - .3 OPSS.PROV 1860, November 2019, Material Specification for Geotextiles.

### 1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Inform Departmental Representative of proposed source of bedding and filter materials and provide access for sampling at least 4 weeks prior to commencing work.

### 1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for pipes, pipe fittings, tiles, and aggregate and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Certificates:
  - .1 Submit manufacturer's certification that drain pipe materials meet requirements of this Section.
  - .2 Certification to be marked on pipe.



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.4 Test and Evaluation Reports:

- .1 Submit manufacturer's test data that drain pipe materials meet requirements of this Section.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials in accordance with manufacturer's recommendations.
  - .2 Store and protect pipes and tiles from damage.
  - .3 Replace defective or damaged materials with new.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Perforated plastic pipe and fittings: to OPSS.PROV 1840. Nominal pipe sizes 150mm.
- .2 Granular filter material in accordance with the following requirements:
  - .1 Screened stone or gravel.
  - .2 Gradations to be within limits specified when tested to ASTM C136/C136M. Sieve sizes to OPSS.PROV 1010
- .3 Geotextile material as per OPSS.PROV 1860.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for sub-drainage piping installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative.
  - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 TRENCHING

- .1 Do excavating and backfilling in accordance with Section 31 23 11.

- .2 Place bedding, filter material after approval of excavation by Departmental Representative.

### 3.3 BEDDING

- .1 Place 100 mm layer of material and compact to minimum 95% of corrected maximum dry density.

### 3.4 INSTALLATION OF PIPE SUB-DRAINS

- .1 Lay pipe drains on prepared bed, true to line and grade with inverts smooth and free of sags or high points.
  - .1 Ensure barrel of each pipe is in contact with bed throughout full length.
- .2 Begin laying at outlet and proceed in upstream direction.
- .3 Lay perforated pipes with perforations downwards
- .4 Lay bell and spigot pipe with bell ends facing upstream.
  - .1 Do not mortar joints.
- .5 Cover joints of bell and spigot pipe with two-ply tar paper strips not less than 150 mm wide.
  - .1 Use strips of sufficient length to permit ends to be laid flat on bedding and turned outward on either side of pipe for a minimum distance of 75 mm.
- .6 Make joints tight in accordance with manufacturer's instructions.
- .7 Make watertight connections to existing drains, new or existing manholes and catch basins where indicated or as directed by Departmental Representative.
- .8 Plug open upstream ends of pipes with watertight concrete, steel or wood bulkheads.
- .9 Surround pipe with bedding gravel.
- .10 Surround and cover drain with filter material in uniform 150 mm layers as indicated and compact to at least 95% of corrected maximum dry density
- .11 Wrap or sleeve perforated pipe with geotextile filter as indicated.
- .12 Backfill remainder of trench as indicated.
- .13 Do not place bedding surround and backfill materials in frozen condition.
- .14 Protect sub-drains against flotation during installation.

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### 3.5 CONNECTIONS TO MUNICIPAL FACILITIES

- .1 Connect pipe sub-drains to municipal storm sewer system where indicated.

### 3.6 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11.

PART 1 - GENERAL

1.1 EXECUTION

1. Stabilize soil and other material storage piles against wind/rainfall erosion
2. Minimize excessive dust (no chemical based dust suppressant - use only water)
3. Avoid idling vehicles/machinery/equipment
4. Any grading required will need to be completed following the project specifications and kept to a minimum in sensitive areas
5. Reduce soil compaction by restricting large machinery to the designated staging area
6. A project-specific Erosion and Sediment Control Plan must be developed and implemented based on specifications contained in contracting documents by the contractor to minimize the potential for loss of site soils to adjacent waterways. The plan must be approved by the Departmental Representative.
7. Spill response kit is kept to be on-site. Immediately contain and clean up any spills. Report spill to the Ontario Spills Action Centre (1-800-268-6060) and Environment and Climate Change Canada
8. Ensure hazardous substances (including fuel) are handled and applied in a manner to prevent release to the environment. All deleterious substances should be stored, mixed, and transferred on impermeable pads within a defined staging area to prevent water/soil contamination at least 30 m from water bodies
9. The operating, refueling, and maintenance of machinery/equipment and the handling and storage of toxic materials (i.e. oils, lubricants, fuels, and paints) will be carried out in such a way as to avoid contamination of soils and water
10. All compounds used for this project shall be utilized and stored according to the manufacturers' Product Technical Data Sheets
11. Recyclable materials and all waste debris shall be removed from the work area and disposed of off-site, in accordance with all federal, municipal, and provincial regulations to appropriate disposal facilities licensed to receive them. Waste will be removed at a minimum weekly from the site.
12. Exclusion fencing or new wildlife fencing must be in place prior to the removal of the existing wildlife fencing to ensure wildlife does not venture onto the road/parking lot.
13. Environment and Climate Change Canada staff and contractors will be diligent in monitoring for SAR/wildlife prior to, during, and after any work activities. Pre-work surveys will check for turtles and their nest and snake activity
14. Contractors are to be briefed on the appearance and potential presence of these SARA species.
15. If individuals are encountered during project activities, stop work, and allow the individuals to flee the area before commencing work.

16. Stockpiled or exposed soils must be closed off from the ground up to prevent turtle access (and possible nesting). Closure structures must be inspected regularly by the contractor.
17. If individuals and/or nests of turtles are encountered, work must halt while Environment and Climate Change Canada is consulted as to how to address the nest
18. Equipment left overnight or on-site for long periods of time must be checked before startup for any snakes that may have found their way into the equipment.
19. When possible, wildlife will be given the opportunity to escape the work site to the surrounding forest or elsewhere to seek new shelter. If any wildlife is discovered that cannot escape quickly enough, then all work in the immediate areas will cease until Environment and Climate Change Canada staff is consulted.
20. All machinery/equipment will be clean prior to use, in order to avoid the introduction of invasive, alien species into the park
21. Any vegetation species targeted for protection (outside of construction area so that it can be avoided), or removal (within area to be destroyed) will be marked using pink flagging tape
22. Workers will stay in the work areas as much as possible while conducting the decommissioning and construction to reduce overall damage to the surrounding vegetation, trampling, and ground compaction (stay in footprint)
23. Contractor will access work areas via established pathways (i.e., concrete, pavement, or gravel surfaces). If established pathways are not present, construction equipment will travel and work on established landscaped areas only and not disturb natural areas.
24. If any vegetation must be removed, Environment and Climate Change Canada must be contacted prior to removal to ensure there is no harm to migratory birds.
25. Trees and vegetation removal will be minimized to the extent necessary.
26. Protect existing trees by excluding any earth work within tree drip lines.
27. All work sites are to be restored to original or better conditions according to landscaping design.
28. If archaeological resources are uncovered during the project, then Environment and Climate Change Canada staff will be immediately notified and work will halt until further direction.
29. All work will abide by conditions set forth in the Canada Wildlife Act permit issued by Environment and Climate Change Canada.
30. All work will be done in accordance with applicable by-laws regarding noise.
31. Concrete curing water will not be directly released to the aquatic environment.
32. Concrete curing water will not be allowed to migrate to the aquatic environment.

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Appendix B - Mitigation Measures and Report Form

**Bath & Millhaven Institutions  
Roadway Resurfacing Project**

**Mitigation Measures and Report Form**



## Mitigation Measures and Report Form

**Department: Correctional Services Canada**  
**Project No.: R..087522.001 (CSC file 423-4510)**  
**Title: Bath & Millhaven Institutions – Roadway Resurfacing Project**

The following mitigation measures and best practices shall be followed during Construction. To prevent any adverse environmental effects during the course of the project the Project Manager/Contractor is responsible for documenting that mitigation measures have been implemented as applicable to the project. A copy of the completed Mitigation Measure Report form must be forwarded to the PWGSC Project Manager and CSC's Regional Coordinator, Environmental Services upon completion of the project.

### Valued Ecosystem/ Social Components:

Spill Response	Wildlife and Wildlife Habitat (Including Birds)
Air Quality	Species at Risk
Soil Quality	Acoustic Environment
Groundwater & Surface Water Quality	Waste Disposal
Terrain and Topography	Archaeology
Vegetation	General





## Spill Response

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
On-site petroleum storage tanks should be the last option for fueling or power during construction. If no other alternatives are available, any storage tanks brought on-site must be mobile and approval must be granted from Departmental Representative. Appropriate mitigation measures are to be included in the Spills Management and Emergency Response Plan.		
Develop and implement a Spills Management and Emergency Response Plan.		
Ensure hazardous substances, if required, are stored, handled and applied in accordance with applicable regulations and standards and in a manner which prevents release to the environment.		
A spill response kit to be on site in the event of a spill. Immediately contain and clean up any spills in accordance with provincial regulatory requirements. Report spill to the Ontario Spills Action Centre (1-800-268-6060)		
Ensure that absorbent materials are available on site in the event that a spill of deleterious substances should occur.		
Ensure that personnel are trained and fully informed in proper spill prevention and response procedures and for use of spill response kits. Provide proof of training.		

## Air Quality

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
Maintain trucks, and equipment in good condition, equipped with emission controls as applicable, and operated within regulatory requirements, including meeting local authority's emission requirements.		
Comply with operating specifications for equipment and machinery.		
Minimize vehicle traffic on exposed soils and stabilize high traffic areas with clean gravel surface layer or other suitable cover material.		
Minimize operation and idling of gas-powered equipment and vehicles.		



Cover or otherwise contain loose materials and excavated site that have potential to release airborne particulates during their transport, installation or removal. Transport vehicles must use tarps to cover soil during transportation.		
Undertake misting, create localized wind barriers or implement other methods particularly during dry, dusty conditions to avoid generating airborne or surface dust and particulates. No chemicals are to be used for dust control.		
Stabilize areas of stockpiled or exposed soils.		
Restore disturbed areas as soon as possible to minimize the duration of soil exposure.		
Avoid activities with potential to release airborne particulates during windy and prolonged dry periods.		
Work shall be carried out in compliance with the Canadian Environmental Protection Act (CEPA), and applicable air emission regulations and by-laws.		
Follow requirements of Ontario Regulation 278/05 (Asbestos on Construction Projects and in Buildings and Repair Operations) when replacing/handling/disposing of asbestos containing materials.		

## Soil Quality

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
Develop and implement erosion control procedures to re-vegetate or otherwise stabilize any loose soils after construction to prevent erosion and transport (e.g., erosion blanket seeded with native non-invasive species).		
To minimize land disturbance, the construction envelope will be clearly demarcated and kept as small as possible.		
Reduce soil compaction by restricting large machinery to the designated staging area.		
Avoid the movement of heavy machinery in areas of sensitive slopes, use wooden planks if necessary. Avoid using heavy machinery on land during wet weather.		
Ensure hazardous substances (including fuel) are handled and applied in a manner to prevent release to the environment. All deleterious substances must be stored, mixed and transferred at least 30 m from water bodies on impermeable pads within a defined and approved staging area to prevent soil contamination.		



Excavated soils are not to be stockpiled outside of the work area for future use either at the location or by the site at a later point without prior testing.		
Any imported soils must undergo soil quality testing prior to use at site.		
Any excavated soil must be tested to see whether it is suitable to be reused, spread on site, or requires removal/proper disposal. Consultation with Departmental Representative on options is required.		
Disposal of concrete wash water on site is prohibited.		
Construction vehicles operated on site to be subjected to regular, documented visual inspection for leaking tanks and lines to prevent vehicular fluid leaks, including hydraulic oils.		
Any on-site fuel storage must be in double-walled, approved fuel storage tank. Location and type requires prior approval.		

## Groundwater & Surface Water Quality

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
An erosion and sediment control plan must be developed to mitigate potential effects on water quality, and appropriate measures must be adopted to minimize any impacts of accidental spills during construction, operation and maintenance. Plan shall be in place prior to conducting work.		
Control measures must be inspected daily to ensure they are functioning and are maintained as required. If the control measures are not functioning properly, no further work will occur until the problem is resolved.		
Operate and store materials and equipment in a manner that prevents deleterious substances from entering water or contaminating wetland or ice surface.		
Stockpiled material must be stored at a safe distance from any waterway, drainage ditch, storm or sanitary sewer to ensure that no deleterious substances enter a watercourse.		
Minimize any runoff created through misting and wetting.		
Control disposal or runoff of water containing potentially harmful substances through the use of silt barriers, berms or other methods.		
Construction machinery and equipment is to arrive on-site in a clean condition and be maintained free of fluid leaks.		



Ensure hazardous substances (including fuel) are handled and applied in a manner to prevent release to the environment. All deleterious substances must be stored, mixed and transferred on impermeable pads within a defined staging area, at least 30 m from the water bodies on impermeable pads within a defined and approved staging area to prevent contamination.		
Maintenance of vehicles and equipment to be carried out on pre-designated location more than 30 m from any water bodies environments.		
Restore disturbed areas as soon as possible to minimize the duration of soil exposure. Restoration must be to a pre-disturbed state or better.		
Protect catch basins and manholes with inverted witch hats or drain socks rated for hydrocarbons for protection against accidental vehicular fluid leaks and for storm water management/sediment control.		

## Terrain and Topography

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
Grounds to be restored promptly upon construction completion and returned to original condition.		
Minimize period of disturbance.		

## Vegetation

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
Minimize damage and removal of vegetation to the extent possible including consideration of minimal road routing and restore vegetation where feasible.		
Vegetation selected for removal or protection will be identified and specific protection barriers will be installed where required prior to construction.		
Establish staging areas and site access routes away from existing trees/naturalized vegetation to the extent possible.		
All exposed soils must be stabilized and re-vegetated as soon as possible (during the growing season) and in conjunction with planting works.		
Vegetation will be restored upon completion of construction using native species, non-invasive species typical of the locality and soils to restore pre-construction conditions.		



Protect any trees (to the drip line) located immediately adjacent to the construction site.		
Avoid unnecessary traffic, dumping, and storage of materials over root zones.		

## Wildlife and Wildlife Habitats (Including Birds)

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
Should wildlife (mammals, reptiles, amphibians, birds, etc.) be encountered at any time during the project, measures are to be implemented to avoid destruction, injury, or interference with the species, wait for the individual to flee the site for alternative cover. Any encountered species must be reported to the Departmental Representative.		
Minimize duration and extent of disturbance to existing vegetation (inland and shoreline) and natural areas serving as habitat.		
Restore disturbed areas with native vegetation upon completion of construction to promote long term naturalization to original condition.		
In areas adjacent to sensitive wildlife areas or corridors, restrict operation to daylight hours to the extent practicable to avoid disturbance during prime periods for wildlife movement (i.e. dawn and dusk).		
Compliance with the Migratory Birds Convention Act guidelines for vegetation clearing. The Act states that vegetation clearing will be undertaken outside of the breeding season. Clearing is to be, and will be, avoided from April 1 to August 31. If vegetation removal has to take place within this window, then a search of the project area by a qualified biologist is required.		
To comply with the <i>Migratory Bird Convention Act</i> , if activities are proposed to occur within the breeding season in any given year, a bird survey must be undertaken (by the Contractors biologist and verified by the Client's biologist) prior to the construction activities to ensure that no nesting birds are located in the area. Should a nest be encountered, the area must be clearly staked or flagged, the Departmental Representative notified who will ask the Client to contact Environment Canada to determine the appropriate buffer area based on the species encountered. The Contractor must notify the Departmental Representative who will ask the Client to contact Environment Canada if they are proposing work during the breeding season to ensure compliance with the Migratory Bird Convention Act.		



## Species at Risk

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
Signage and education should be provided to workers on the site regarding the potential species at risk in the area and avoidance measures. Provide proof of instruction.		
Prior to construction, a search of the work site must be conducted to ensure there are no SAR, nesting SAR or SAR habitat present at the work site. If any are encountered, the Departmental Representative must be contacted to determine how to proceed.		
Each day prior to commencement of work, a search of the work site must be conducted to ensure that there are no SAR present at the work site. Provide proof.		
Each day prior to start up or after being left unattended for several hours, construction vehicles and other equipment must be checked for the presence of snakes to ensure they are not resting in the machinery. Provide proof.		
Should a species be encountered, measures are to be implemented to avoid destruction, injury, or interference with the species, its residence and/or its critical habitat (e.g. through siting, timing or design changes). Any encountered species must be reported to the Departmental Representative.		
In the event that it is determined that project may have unexpected adverse effects on species at risk (SAR), the Contractor is to notify the Departmental Representative who will have the Client notify the respective competent Minister (i.e., Environment Canada (EC) for migratory birds SAR and the Department of Fisheries and Oceans (DFO) for aquatic SAR).		
Remove/move any debris and rocks from the proposed construction zone to prevent snakes from using these items within the construction zone as cover during the summer and/or for hibernation during the winter.		
Vegetation clearing will be undertaken outside of the breeding season for birds. Clearing is to be, and will be, avoided from April 1 to August 31.		
Exclusion fencing should be maintained around the perimeter of the project site/construction areas to ensure that no sensitive terrestrial wildlife (such as turtles, snakes and frogs) can access the site. The site should then be checked to ensure no snakes are present. The fencing should be checked daily to ensure there are no tears or holes that may allow terrestrial wildlife into the site.		
Any stockpiled soil, gravel or sand left on the site for an extended period of time must be covered to prevent turtles and birds from nesting in the material.		





Conduct a survey of the milkweed (if present) for the presence of Monarch eggs or caterpillars. Monarch can still breed in the fall and migration is completed as late as the end of October.		
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## Acoustic Environment

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
All activities are to respect local By-laws.		
Use of new or well-maintained heavy equipment and machinery, preferably fitted with muffler/exhaust system baffles and engine covers.		
Conduct work during normal business hours in accordance with local noise bylaws, including the regulatory limit for operating machinery.		
If work is to be undertaken outside the specified period in the local noise by-law, then obtain approval for an exemption to the by-law from the municipality.		

## Waste Disposal

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
All waste generated will be disposed in a legal manner according to regulations (O. Reg. 347, and as amended).		
Disposal of any hazardous substances must be conducted in a legal manner according to regulations (O. Reg. 347, and as amended).		
The contractor is required to submit proof that a licensed waste hauler is transporting the waste to a facility certified to accept the material. The contractor must submit all waste manifests to the Departmental Representative.		
Contractor to submit proof (waste manifest) that all waste was disposed at a licensed landfill site or waste transfer site. A letter verifying that the proposed landfill site will accept the waste must be supplied to the Project Manager prior to the removal and transport of waste from the site.		
Excavated soils are not be stockpiled outside of work area for future use either at the location or by the site at a later point without prior testing.		



## Archaeology

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
Immediately suspend all work in the vicinity of the discovery, should human remains be found during construction. Notify the Ontario Provincial Police, or local police, for them to conduct a site investigation and to contact the district coroner. Also notify the Peterborough office of the Ministry of Culture 1-800-461-7629		
Should other un-recorded cultural heritage values (archaeological or historical features) be identified during the construction, suspend all activities in the vicinity of the discovery and contact the Ministry of Culture's archaeologist if discoveries are made.		

## General

Mitigation Measures	Compliance (Yes/No/NA)	Method of Implementation
Use products and processes that are least harmful to the environment, for example, lower toxicity paints, surface coatings (in accordance with applicable standards such as AWWA, ANSI, CSA), construction and cleaning materials.		

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**Completed by:**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Firm: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_