

The Corporation of the Municipality of West Nipissing

Contract No. 2024-012

Eugene Road Bridge Replacement

Special Provisions

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**END OF SECTION**

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**Section 'A' – Tender and Bonding Requirements**

**1. Tender Requirements**

1. The correct Tender Form as supplied by the Owner for this Contract must be used and in the possession of the Owner's duly authorized representative before 11:00 a.m., Local Time, on the Tender Closing Date indicated on the Tender Form. Completed Bidder's Information Form must be submitted with the Tender Form
2. The Tender must be legible, and ALL ITEMS MUST BE BID with the unit price for every item and other entries being fully clear.
3. The bid must not be restricted by a statement added to the Tender Form or a covering letter, or alterations to the Tender Form provided by the Owner.
4. Adjustments by e-mail, facsimile or letter to a Tender already submitted will not be considered. A Bidder desiring to make adjustments to a Tender must withdraw the Tender and/or supersede it with a later Tender Submission.
5. Tender must be sealed in an envelope and marked:  
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6. The Tender Form must be signed and witnessed in the space provided on the form, with the signature of the Bidder or of a responsible official of the organization bidding. If a joint bid is submitted, it must be signed and witnessed on behalf of each of the Bidders and if the signing authority for each Bidder is vested in one individual, they shall sign separately on behalf of each Bidder.
7. The Tender must be accompanied by a Bid Bond or a certified cheque made payable to the Corporation of the Municipality of West Nipissing in an amount equal to or greater than shown in the following table:

<b>Total Amount of Contractor's Tender</b>	<b>Minimum Deposit Required</b>
\$ 20,000.00 or less	\$ 500.00
\$ 20,000.01 to \$ 50,000.00	\$ 1,000.00

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\$ 50,000.01 to \$ 100,000.00	\$ 2,000.00
\$ 100,000.01 to \$ 250,000.00	\$ 9,000.00
\$ 250,000.01 to \$ 500,000.00	\$ 19,000.00
\$ 500,000.01 to \$ 1,000,000.00	\$ 40,000.00
\$ 1,000,000.01 to \$ 2,000,000.00	\$ 75,000.00
\$ 2,000,000.01 and over	\$ 150,000.00

8. The Tenderer shall include with their tender the Agreement to Bond in the form enclosed herewith executed under its corporate seal by the Surety Company from which they propose to obtain the required bond.
9. A maximum period of 30 calendar days between receipt and acceptance of Tender shall be allowed for this contract. The tender deposit of both the lowest and next lowest bidder shall be retained for this period.

**2. Procurement Policy**

1. Bidders are advised that the Municipality functions through its Policy 2006/332 “Validity of Tenders” and its Bylaw 2016/89 “By-Law to Establish Purchasing Policies and Procedures for the Municipality of West Nipissing”, including revisions to those policies passed by Municipal Council.
2. In case of a corporation that has a corporate seal, the corporate seal shall be affixed to the tender form.

**3. Bonding Requirements**

1. A Performance Bond for 100% of the amount of Tender issued by an approved Guarantee Company, OR 100% of the amount of Tender in cash or acceptable collateral must be furnished by the Contractor when the Contract is signed.

**4. Validity of Tenders**

	<b>Irregularity</b>	<b>Response</b>
1	Late Bids	Automatic rejection and not opened or read publicly
2	Unsealed Envelopes	Automatic rejection
3	Insufficient Financial Security (No Bid Security or agreement to bond or insufficient Bid bond or agreement to bond)	Automatic rejection

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4	Bids completed and/or signed in erasable medium	Automatic rejection
5	All required sections of Bid documents not completed.	Automatic rejection unless, in the opinion of the Owner, the incomplete nature is trivial or insignificant.
6	Qualified Bids (Bids qualified or restricted by an attached statement).	Automatic rejection unless, in the opinion of the Owner, the qualification or restriction is trivial or not significant
7	Bids received on documents other than those provided or specified by the Owner.	Automatic rejection
8	Bids containing minor obvious clerical errors.	24 hours to correct and initial errors
9	Failure to execute Agreement to Bond (Surety's Consent) or Bonding company corporate seal or signature missing from Agreement to Bond	Automatic rejection
10	Failure to execute bid Bond by Bidder and Bonding Company	Automatic rejection
a)	Corporate seal to the Bidder and Bonding Company, missing.	24 hours to correct
11	Documents - Execution	
a)	Corporate seal or signature missing; signatory's authority to bind the corporation or signature missing.	24 hours to rectify situation
b)	Corporate seal and signature missing; signatory's authority to bind the corporation and signature missing.	Automatic rejection
12	Erasures, Overwriting or Strike-Outs which are not Initialled:	
a)	Uninitialed changes to the Tender documents, other than unit prices, which are trivial or not significant;	24 hours to initial. The determination of what constitutes trivial or insignificant uninitialed changes shall be made by the Owner.
b)	Unit prices in the Schedule of Prices have been changed but not initialled and the Contract totals are consistent with the price as changed;	24 hours to initial change in unit price.
c)	Unit prices in the Schedule of Prices which have been changed but not initialled and the Contract totals are inconsistent with the price as changed;	Automatic rejection
13	Mathematical errors which are not consistent with unit prices.	24 hours to initial corrections to the unit price or to the extension and to the corresponding subtotal, HST and

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		total as made by the Owner.
14	Documents, in which all necessary Addenda, which have financial implication, have not been acknowledged.	Automatic rejection.
15	Any other irregularities	The Owner shall have authority to waive other irregularities or grant 24 hours to initial other irregularities, which it considers to be minor.

**5. Insurance**

1. The successful tender shall, within (7) calendar days after receipt of the owner’s notice of award, deliver to the owner one (1) copies of certificates attesting to the fact that the required policies of insurance have been obtained by the bidder
  - a. General Commercial Liability in the amount of \$2,000,000 (two million)
  - b. The Municipality of West Nipissing shall be included as additionally insured, but only in respect of and for the duration of the services to be performed under this agreement.

**6. Ability and Experience of Bidder and Subcontractors**

1. The Bidder shall, if requested by the Municipality, provide evidence of experience, ability, capacity, and financial resources and reputation deemed necessary by the Municipality for the performance of the Contract. The Municipality reserves the right to investigate a Bidder’s Claim or background at any time and in any manner deemed appropriate by the Municipality and shall not be required to disclose the information obtained or the source.

**7. Subcontractors**

1. The Successful Bidder agrees to submit a complete list of any subcontractors who will be carrying out any part of the Contract. The list shall show the names of the proposed subcontractors and for what work each subcontractor will be responsible. The Municipality reserves the right to approve and reject any and all proposed subcontractors. In this event, the Contractor shall arrange to have the work done by such other subcontractors as may be approved by the Municipality.

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2. Subcontractors may be changed by the Contractor but only on written approval by the appropriate Director or consultant of the Municipality.
3. Subcontractors shall be supervised on the job site at all times by a representative of the Contractor. The Contractor shall notify the Municipality in writing of the names and positions of the person or persons so representing the Contractor.
4. Should the Contractor cease their operations in regards to any Contract, **under no circumstances shall the subcontractors be allowed to continue their work on site unless an authorized representative of the Contractor is present on the site at all times.**
5. As part of this Bid Request, standard forms for listing any subcontractors have been included. The Bidder should include the completed forms with their submission of the Bid.

**END OF SECTION**



## Special Provisions

### Section 'B' – Special Provisions for Contracts

#### 1. General Requirements

1. Be familiar with the General Requirements listed which apply to this Contract in its entirety. Be familiar with all Contract Documents and report any discrepancies or differences between individual parts to Contract Administrator for clarification.

#### 2. Commencement and Completion

1. Time
  - a. Time shall be of the essence in the Contract.
2. Progress of the Work and Time for Completion
  - a. The Contractor shall begin Work within one week of written instructions to do so (**June 17<sup>th</sup>, 2024**) and shall diligently prosecute their Work on this Contract to completion by **November 17<sup>th</sup>, 2024. Working days do not apply to this contract.**
  - b. If the time limit specified elsewhere in the Contract is not sufficient to permit Completion of the Work by the Contractor, working a normal number of hours each day or week on a single shift basis, it is expected that additional shifts will be required throughout the life of the Contract to the extent deemed necessary by the Contractor to ensure that the Work will be completed within the time limit specified. Any additional costs occasioned by compliance with these provisions will be considered to be included in the prices bid for the various items of Work and no additional compensation will be allowed therefor.
  - c. Working time shall be charged until the date of acceptance of the Work by the Municipality, at which time all Work required in the Contract, including all final clean-up and trimming, shall be completed.
3. Liquidated Damages
  - a. The parties to the Contract hereto agree that the Contractor will pay to the Corporation the sum of **\$1,000.00 per day Liquidated**

**Damages** for each and every calendar day's delay in finishing the Work in excess of **November 17<sup>th</sup>, 2024**. Working days do not apply to this contract.

- b. It is agreed by the parties to the Contract that in case all the Work called for under the Contract is not finished or completed within the completion date as set forth in the Special Provisions, damage will be sustained by the Municipality, and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the Municipality will sustain in the event of and by any reason of such delay and the parties hereto agree that the Contractor will pay to the Municipality the liquidated damages as specified in the Special Provisions for each and every calendar day's delay in finishing the Work beyond the completion date and it is agreed that this amount is an estimate of the actual damage to the Municipality which will accrue during the period beyond the completion date.
- c. The Municipality may deduct any amount due under this Section from any monies that may be due or payable to the Contractor on any account whatsoever the liquidated damages payable under this Section are in addition to and without prejudice to any other remedy, action or other alternative that may be available to the Municipality.
- d. The Contractor shall not be assessed with liquidated damages for any delay caused by acts of God, or of the Public Enemy, acts of the Province or of any Foreign State, or by fire, flood, epidemics, quarantining restrictions, embargoes or delays of Sub-contractors due to such causes.

### **3. Warranty**

- 1. The Performance Bond in the amount of 100% of Tender shall be endorsed to include the warranty period specified in the General Conditions of the contract and shall remain in force until the expiration of such warranty period.

### **4. Taxes – Harmonized Sales Tax**

- 1. The HST Sales Tax shall not be included in the tendered sums and rates. Instead, the total HST Tax due shall be entered separately on the Form of Tender.

## 5. Pre-Qualification of Contractor and Construction Safety

1. Contractor or all sub-contractors working for the contractor must pre-qualify with the Municipality of West Nipissing health and safety officer before starting work.
2. **General:** Contractor must comply with the Occupational Health and Safety Act (OHSA), the Regulations for Construction Projects, the Municipality of West Nipissing safety policy and as well as complying with the prescribed requirements legislated in the Regulations for Industrial Establishments. In event of a conflict between any provisions of the above authorities the most stringent provision shall apply.
3. **Competent person:** Contractor is responsible using their training, knowledge and experience to protect the health and safety of their workers and others, reporting to their supervisor the absence of, or defect in any protective equipment or device, and reporting to their supervisor, any circumstances or conditions that may limit their ability to comply with the requirements of the OHSA and the Municipality of West Nipissing Safety policy.
4. **Equipment & tools:** All equipment and tools used by the contractor shall conform to Canadian Standards Association (CSA) or manufacture specifications. The Municipality Of West Nipissing reserves the right to prohibit the use of any equipment and methods or practices that do not conform to acceptable standards. Defective equipment and tools shall be removed from the work site premises immediately.
5. **PPE:** All workers must wear appropriate CSA approved eye protection, hearing protection, CSA approved hard hats, CSA approved foot protection and CSA approved gloves at all time while working on the job site.
6. **Reporting:** Contractor must report immediately to the contract administrator all workplace incidents, near misses, injuries and illnesses and environmental damages. Contractor shall also report accidents/incidents to the ministry of labour or any other appropriate authority required by legislation.
7. **Supervision:** Contractor shall comply with OHSA regulations.
8. **WSIB:** Contractor shall provide the Municipality with a current WSIB Clearance Certificate within five(5) days of contract award.

## 6. Work Schedule

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1. Provide within ten (10) working days after Contract Award, a construction schedule showing anticipated progress stages and final completion of work within the time period required by Contract documents.
2. Prepare a construction schedule in form of a horizontal bar chart. Provide a separate bar for each trade or operation. Provide a horizontal time scale identifying the first work day of each week.
3. Review the construction schedule weekly and record the actual progress made.
4. Interim reviews of work progress based on work schedule will be conducted as decided by Contract Administrator and schedule updated by Contractor in conjunction with and to the approval of Contract Administrator.
5. When the schedule has been reviewed by the Contract Administrator, take necessary measures to complete work within the scheduled time. Do not change the schedule without notifying the Contract Administrator.

Pay the extra cost which may be incurred as a result of:

- a. Increasing the labour force .
- b. Increasing the working hours either by working overtime or adding extra shifts.
- c. Using more equipment and machinery.
- d. Any other procedure that may be used by the Contractor to complete the work within the specified time period.

## **7. Submittals**

1. Make submittals in an orderly sequence so as to not cause a delay in the Work. The Contractor shall make submittals at least ten (10) working days that a decision needs to be made. The ten (10) working days will include the allowance in the scheduling of submittals for possible re-submittals. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for an extension by reason of such default will be allowed.
2. Contract Administrator will review submittals and return to Contractor within 5 working days following receipt.
3. Work affected by the submittal shall not proceed until a review is complete.
4. Review submittals prior to submission to Contract Administrator. The review represents those necessary requirements have been determined

and verified, or will be, and that each submittal has been checked and coordinated with the requirements of the Work and the Contract Documents. Sign and stamp each copy of submittal to verify that Contractor has reviewed and agrees with content of submittal. Submittals not stamped, signed, dated and identified as to the specific project will be returned without being examined and shall be considered rejected.

5. Contractor's responsibility for errors and omissions in submission and/or for deviations from requirements of Contract Documents is not relieved by Contract Administrator's review of submittals.

## **8. Shop Drawings**

1. The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by the Contractor to illustrate details of a portion of the Work.
2. Shop drawings for submittals that require an engineered design shall be signed and sealed by an Engineer qualified to do that practice in the Province of Ontario.
3. Shop drawings shall be submitted to the Engineer for review at least ten (10) working days prior to installation or fabrication. The Contractor shall not proceed with works as described in the shop drawings without approval from the Engineer. The Engineer's review and approval shall not relieve the Contractor's responsibility to ensure the accuracy of the shop drawings and the conformance to the Contract Drawings and Specifications.
4. Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of the Section under which the adjacent items will be supplied and installed. Indicate cross-references to design drawings and specifications.
5. Adjustments made on shop drawings by the Engineer are not intended to change the Contract Price.
6. Make changes in shop drawings as the Engineer may require, consistent with Contract Documents. When resubmitting, notify the Engineer in writing of any revisions other than those requested.

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7. Submit four (4) white prints of each shop drawing for each requirement requested in specification Sections and as the Engineer may reasonably request.
8. Submit four (4) copies of product data sheets or brochures for requirements requested in specification Sections and as the Engineer may reasonably request where shop drawings will not be prepared due to standardized manufacture of the product.
9. If upon review by the Engineer, no errors or omissions are discovered or if only minor corrections are made, two (2) copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, a noted copy will be returned and resubmission of corrected shop drawings, through the same procedure indicated above, shall be performed before fabrication and installation of Work may proceed

#### **9. Availability of Products**

1. Immediately upon signing the Contract, review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify the Contract Administrator in writing in order that substitutions or other remedial measures may be authorized in ample time to prevent delay in performance of Work.
2. In the event of failure to notify Contract Administrator at the commencement of Work, and should it subsequently appear that Work may be delayed for such reason, then Contract Administrator reserves the right to substitute more readily available products with similar characteristics, at no increase in Contract Price.
3. The Municipality will not consider any claims for significant changes to construction scheduling critical path as a result of material delays.

#### **10. Material and Equipment**

1. Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in work shall be new unless noted otherwise, not damaged or defective, and of the best quality (compatible with specifications) for the purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
2. Defective products, will be rejected, regardless of previous inspections. An inspection does not relieve responsibility but is a precaution against oversight or error. Remove and replace defective products at the

Contractor's own expense and be responsible for delays and expenses caused by rejection.

3. Should any dispute arise as to quality or fitness of Products, the decision rests strictly with the Contract Administrator based upon requirements of Contract Documents.
4. Handle and store products in a manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable. Deliver and store to manufacturer's instructions and with manufacturer's labels and seals intact.
5. Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with Products. Obtain written instructions directly from manufacturers. Notify Contract Administrator in writing, of conflicts between specifications and manufacturer's instructions, so that Contract Administrator may establish a course of action.
6. Workmanship shall be the best quality, executed by workers experienced and skilled in respective duties for which they are employed. Do not employ any unfit person or anyone unskilled in their required duties.

#### **11. Project Coordination and Cooperation**

1. Coordinate all Work and workers to ensure the requirements of this Contract are executed expeditiously.
2. Coordinate progress of the Work, progress schedules, submittals, use of site, temporary utilities, construction facilities.

#### **12. Specification Format**

1. Specifications are not intended as a detailed description of all installation methods but serve to indicate particular requirements in completed Work.
2. These Specifications are divided for convenience only, and not as a guide to sub-trade work. The Contractor shall be entirely responsible for harmony between sub-trades and shall ensure that Work is performed in an orderly and scheduled manner.
3. The various work items are shown on the Drawings and specified herein. The Specifications provide general specifications for materials and methods, but each item of work is not necessarily specified. The Contractor shall provide all items necessary for the complete installation or the Works.

### **13. Codes and Standards**

1. Provide all products and materials and execute Work to meet or exceed the requirements of all codes and standards specified within the text of this Specification and as required by all authorities having jurisdiction over the Project.
2. Be familiar with and conform to the latest issues of codes and standards specified, as amended and revised on the date for receipt of Tenders. Requirements of codes and standards are not rewritten within the text of this Specifications.
3. Perform work in accordance with Ontario Provincial Standard Specifications (OPSS), Canadian Standard Association (CSA), Ontario Regulations (O.Reg.), and other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.

### **14. Documents Required**

1. Maintain at the job site, one copy each of following:
  - a. Contract drawings.
  - b. Specifications.
  - c. Addenda.
  - d. Reviewed shop drawings.
  - e. Change orders.
  - f. Other modifications to Contract.
  - g. Field test reports.
  - h. Copy of approved work schedule.
  - i. Manufacturers' installation and application instructions.

### **15. Employment**

1. The Contractor and any Sub-Contractor of the Contractor will, respective of the construction to be carried out under this contract,
  - a. employ only residents with a Canadian home address, and
  - b. in employing person, refrain from discriminating against any person by reason of race, religious views, or political affiliations.

### **16. Public Relations**

1. It is crucial in undertaking this contract that good public relations be maintained between the Municipality and the Public. All efforts shall be



made by the Contractor so that enquiries, complaints, and problems can be responded to immediately.

2. The Bidder shall include in tender prices all costs necessary to ensure that the contract is carried out in accordance with the above requirements.

#### **17. Protection of Work, Public and Property**

1. Provide hoardings, barricades, signs and warning lights as necessary for the protection of the public, all persons on site, adjoining property and works in progress. Alter, adapt, maintain during the contract period and remove on completion of work.
2. Provide and maintain adequate temporary fire protection equipment during the performance of Work and as required by local authorities having jurisdiction and insurance companies.
3. Adequately protect work completed or in progress. Any work damaged or defaced due to failure in providing such protection is to be removed and replaced, or repaired, as directed by the Contract Administrator at no additional cost to the the Municipality.
4. Prevent overloading of any part of structures. Do not cut, drill, or otherwise sleeve any load-bearing structural member without the written approval of the Contract Administrator.

#### **18. Project Meetings**

1. The Contractor shall attend such meetings with the Owner, Municipal Authorities and Public Utility Companies as may be required by the Contract Administrator to co-ordinate services affected by the Contract.
2. Contractor Administrator will schedule and chair project progress meetings throughout the progress of the work. Contract Administrator will record and distribute meeting minutes within one (1) business day.
3. Project meetings will be minimum one (1) hour duration and held on a bi-weekly basis.
4. Meetings may be held on MS Teams or in-person.

#### **19. Existing Site Conditions and Site Survey**

1. Prior to commencing Work, check and examine site conditions. Conduct a topographic survey of the project areas. The Contractor shall notify the

Contract Administrator in writing of any discrepancies and all other matters that could prejudice the proper execution of the Work.

2. Commencement of Work, or any part thereof, constitutes acceptance of site conditions, and indicates existing site conditions and clearances are acceptable.
3. Repair and make good to the Municipality's satisfaction any damage to existing structures and facilities caused by Contractor's operations.
4. Be aware of the presence of utilities as indicated.

## **20. Subsurface Conditions**

1. Results of geotechnical investigations at site are bound into these Specifications.
2. Promptly notify Contract Administrator in writing if subsurface conditions at differ materially from those indicated in Contract Documents, or reasonable assumption of probable conditions based thereon.
3. After prompt investigation, should Contract Administrator determine that conditions do differ materially, instructions will be issued for changes in the Work as provided for in General Conditions.

## **21. Excess Soil Management Including Testing, Reporting and Tracking (Provisional)**

### **Scope**

1. It is the Contractor's responsibility to establish a suitable Certified Disposal Site for Excess Soils from the contract in accordance with Ontario Regulation 406/19, as described in the Special Provision.
2. It is the Contractor's responsibility to provide any additional documentation required to remove material and place it at a receiving site, as per the Regulation and this Special Provision.

### **Summary**

1. This Section covers the Contractor's responsibility for management of on-site and Excess Soils during earthwork activities.
2. The Contractor shall comply with Ontario Regulation 406/19 On-Site and Excess Soil Management (O.Reg. 406/19), as amended, and all other documents applicable to O.Reg. 406/19 including, but not limited to, the

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Soil Rules and Excess Soil Standards. Any reference throughout the document to O.Reg. 406/19 also refers to the Soil Rules and the Excess Soil Standards, as applicable.

3. The Contractor shall review this section and ensure that all requirements are met prior to starting the construction work.
4. The Contractor shall be the operator of the Project Area.
5. The Contractor shall adhere to the procedure, included in the Contract Documents and/or further provided by the Contract Administrator, that outlines what must occur if any person in the Project Area observes Soil being excavated that may be affected by the discharge of a contaminant.
6. The work specified herein shall be considered incidental to the work for other Project components as specified elsewhere in the Contract Document, and the costs shall be apportioned to the appropriate component as outlined in the Schedule of Prices.
7. The Owner shall have the right to withhold payment on applicable items within the Schedule of Prices, as deemed appropriate by the Contract Administrator, if the Contractor fails to provide the information/documentation as outlined in O.Reg. 406/19 and the Contract Documents.
8. Material excavated in carrying out the work of the various tender items included in this Contract, and which is unsuitable for or which is surplus to the requirements for backfill or embankment construction, shall be disposed of in conformance with OPSS 180 and as directed by the Contract Administrator.
9. The Contract price for the item requiring such work shall include compensation in full for excavating, loading, hauling, placing and trimming and for all other work which may be required to dispose of the unsuitable or surplus material.

**Definitions**

1. Best Management Practices (BMP): refers to the MECP's document entitled "Management of Excess Soil - A Guide for Best Management Practices", 2019 and as amended.
2. Crushed Rock: a naturally occurring aggregation of one or more naturally occurring minerals that is mechanically broken down into particles that are smaller than 2 millimetres in size or that pass the US #10 sieve.

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3. Environmental Controls: measures to mitigate potentially negative impacts to the environment, including control of chemicals, spills and wastes, the minimization of noise and dust, the protection of fauna and flora, the conservation of forests and landscapes and the protection of heritage values, all in accordance with Applicable Laws and Good Industry Practice.
4. Excess Soil: Soil, Crushed Rock or Soil mixed with Rock or Crushed Rock, that has been excavated as part of the Project and removed from the Project Area for the Project.
5. Excess Soil Standards: means the document entitled “Part II: Excess Soil Quality Standards”, published by the Ministry and as periodically amended, available on a Government of Ontario website as Part II of the document entitled “Rules for Soil Management and Excess Soil Quality Standards”.
6. Ministry or MECP: The Ontario Ministry of the Environment, Conservation and Parks.
7. Project: means the construction of the Work as detailed in the Contract Documents.
8. Project Area: all lands on which the Project is carried out.
9. Qualified Person (QP): has the meanings given in section 5 of O. Reg. 153/04 under the Environmental Protection Act (Ontario).
10. Receiving Sites: refers to sites that can accept Excess Soil, including Reuse Sites, Class 1 Soil Management Sites, Class 2 Soil Management Sites, local waste transfer facilities, landfilling sites and dumps, as defined by O.Reg. 406/19 and as permitted by O.Reg. 406/19 and Applicable Laws.
11. Reuse Site: a site at which Excess Soil is used for a beneficial purpose and does not include a waste Certified Disposal Site.
12. Rock: a naturally occurring aggregation of one or more naturally occurring minerals that is 2 millimetres or larger in size or that does not pass the US #10 sieve.
13. Soil Rules: the document entitled “Part I: Rules for Soil Management”, published by the Ministry and as periodically amended, available on a Government of Ontario website as Part I of the document entitled “Rules for Soil Management and Excess Soil Quality Standards”.

14. Soil: unconsolidated naturally occurring mineral particles and other naturally occurring materials resulting from the natural breakdown of Rock or organic matter by physical, chemical, or biological processes that are smaller than 2 millimetres in size or that pass the US #10 sieve.
15. Source Site: the place where soil is excavated.

### **Contractor's Responsibilities**

1. The Contractor shall be responsible for the management of all Soil and Rock, including Crushed Rock, associated with this Project, including, but not limited to, excavation, handling, storage, sampling and analysis, transportation, placement, and disposal, whether it is reused on-site, removed off-site, or imported to the Project Area for use as fill.
2. The Contractor shall be responsible for finding appropriate Receiving Sites for all Excess Soil associated with the Project, and for obtaining and submitting to the Contract Administrator at least 20 Business Days prior to removing Excess Soil from the Project Area, written consent from the owners and/or operators of the Receiving Sites in accordance with O.Reg. 406/19 and in a format acceptable to the Contract Administrator.
3. The Contractor shall retain the services of a QP for the purposes of completing on-site, Excess Soil and imported fill management based on the BMP, O.Reg. 406/19 and applicable supporting regulations. The Contractor's QP shall be familiar with the O.Reg. 406/19 objectives which encourages the beneficial reuse of Excess Soil in a manner promoting sustainability and the protection of the environment and make every reasonable effort to meet the objectives of O.Reg. 406/19 and as a minimum includes the following requirements:
  - a. Review the Contract Documents and advise and/or confirm with the Municipality if the Project is exempt from certain planning documentation listed in O.Reg. 406/19 before removing Excess Soil from a Project Area. Any exemptions identified does not relieve the Contractor from complying with the requirements specified in this provision and/or elsewhere in the Contract Documents.
  - b. Preparation of a Soil Management Plan for the Project Area.
  - c. Preparation of a Fill Management Plan for the Project Area if Excess Soils are intended to be received for beneficial reuse at the Project Area as part of the Work (also referred to as imported fill material).
  - d. Preparation of a Traffic and Transportation Management Plan.

- e. Undertake additional Soil sampling and analysis, management of Soil activities and deliverables in accordance with O.Reg. 406/19 and the Contract Documents, if necessary to deposit the soil at the receiving site.
  - f. Preparation of an Excess Soil Destination Assessment Report for the Excess Soil.
  - g. Complete the applicable declarations as outlined in the Soil Rules.
4. The Contractor shall complete management of Excess Soil generated from the Project on-site prior to removing it from the Project Area.
5. The Contractor is responsible for the transportation and deposition of Excess Soil at Receiving Sites.
6. The Contractor is responsible for management of the imported fill and on-site Soil material, to ensure that the Soil Quality Standards of any imported fill and on-site Soil material is in accordance with O.Reg. 406/19, Applicable Laws and the Contract Documents.
7. The Contractor shall provide Excess Soil Management Monthly Monitoring Reports to the Contract Administrator.
8. Prior to removing excess soil from the Project Area and/or receiving imported fill material, the Contractor shall develop and implement a digital tracking system as stipulated in Section 1.5 (Submittals) under Soil Tracking System.
9. The Contractor shall provide written confirmation to the Contract Administrator ensuring that a person who is operating a vehicle for the purpose of transporting Excess Soil is complying with O.Reg. 406/19 and has all required information and records related to the Excess Soil.
10. Prior to Completion, the Contractor shall provide every document and record created or acquired under O.Reg. 406/19 to the Contract Administrator and Owner, including, but not limited to, all reports prepared, hauling records, and any contracts the Contractor entered into relating to the management of Excess Soil from the Project Area including transportation of Excess Soil. The Contractor shall also retain these documents and records for a period of at least seven years after Completion and provide to the Contract Administrator and Owner as requested at any time during this period.

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11. All costs associated with sampling, analysis, reporting and management of Excess Soil, imported fill and on-site Soil material shall be covered in the appropriate pay item.
12. The Contractor shall be solely responsible for the cost of all Work carried out to correct any environmental contamination and/or on-site and Excess Soil management inconsistencies caused by the Contractor, their subcontractors and/or their employees at the Project Area, on Municipality property, Receiving Sites, transportation routes or otherwise. The Contractor shall promptly advise the Contract Administrator, the Municipality. and the applicable regulatory bodies should such a situation occur. If the Contractor fails to correct any environmental contamination resulting from the Work, the Municipality may perform such work by its employees or agent(s) and charge the Contractor for all costs incurred in correcting such environmental contamination, plus thirty percent (30%) for overhead. At the Municipality's discretion, the Contractor shall pay the Municipality directly for such costs within 28 days upon receipt of the Municipality's invoice, or the Municipality may choose to set-off such costs as allowed under the Contract. In the event such remedial work is carried out by any public authority or third party, the cost shall be borne by the Contractor.

#### **QP Qualifications and Responsibilities**

1. The QP retained by the Contractor shall have the minimum following qualifications:
  - a. a minimum 10 years of work-related experience for projects of similar size, scope, and complexity to the Project.
  - b. a current licence with a public body within Ontario such as Professional Engineers of Ontario or Professional Geoscientists of Ontario.
  - c. knowledge of relevant Federal and Ontario environmental policies, procedures, and legislation/regulations.
  - d. experience liaising with other speciality consultants, Contractors, and Governmental Authorities.
  - e. experience with similar projects in Ontario.
2. The responsibilities of the Contractor's QP shall include but are not limited to:

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- a. Review the Contract Documents and other documentation provided by the Contract Administrator and supplement, as needed, based on the Contractor's construction plans.
- b. Prepare documents required by BMP, O.Reg. 406/19, and applicable supporting regulations as specified in Section 1.3.3.
- c. If the owner or operator of the Receiving Site(s) require additional Soil sampling and analysis beyond what has been provided in the Contract Documents, the Contractor's QP shall carry out all additional sampling, analysis, and reporting as required. All costs associated with this effort shall be borne by the Contractor.
- d. Comprehending and approving all Soil management related submittals prepared by other personnel on the Contractor's project team prior to submitting to the Contract Administrator and coordinating all such submittals and activities to provide a coherent process.
- e. Review Soil documentation from the Source Site where material will be imported from in advance of receipt of materials, and shall provide written approval for acceptance at least 7 business days prior to receiving Soil. Each load shall be accompanied by documentation, signed by the Contractor's QP, which includes appropriate and representative Soil analysis from the Soil at the Source Site(s), and confirms that the Soil quality is acceptable for the designated Project Area receiving location, in accordance with O.Reg. 406/19 and the Contract Documents.
- f. Ensuring regulatory compliance to applicable environmental legislation and laws for Soil management.
- g. Retain any document or record prepared by the QP or prepared under the oversight of the QP under this Contract for a period of at least seven years after the date that the document or record is prepared.
- h. Enforcing adherence within the Contractor's organization, including subcontractors and suppliers, to the accepted Environmental Controls, Contingency Plan, Traffic and Transportation Management Plan, Fill Management Plan, and Soil Management Plan, including appropriate management of imported fill and management and/or disposal of Excess Soil.
- i. Resolving recommended actions to mitigate hazards.



- j. Advising the Municipality of recommended actions that would affect areas which are outside the contractual limits.
- k. Documenting all environmental and compliance issues and the resolution of follow-up actions related to Soil management.

### **Submittals**

1. All submittals shall be maintained and updated by the Contractor for the duration of the Project.
  - a. Submittals and updates shall be reviewed, commented, and/or accepted by the Contract Administrator prior to implementation.
2. Submit the following documentation in accordance with the requirements of O.Reg. 406/19 at least 20 business days before removal of any Excess Soil from the Project Area.
  - a. an Excess Soil Destination Assessment Report for each Receiving Site.
  - b. written consent from the owners and/or operators of the Receiving Sites.
3. Submit a Traffic and Transportation Management Plan that complies with BMP, O.Reg. 406/19, all Applicable Laws, and shall describe and include, at a minimum, the following:
  - a. location and configuration of site entrances;
  - b. truck queuing and parking;
  - c. dust control and mud-tracking prevention / truck cleaning; and
  - d. haul routes between Source Sites and Receiving Sites.
4. Soil Management Plan – Project Area
  - a. Submit the Soil Management Plan, prepared by the Contractor's QP, at least 20 business days before commencement of any operations that will result in the generation of Excess Soil.
  - b. The Soil Management Plan for the Work shall incorporate all pertinent details, background information, recommendations, mitigation, and monitoring measures presented herein and/or by the Contract Administrator or Contractor's own investigations. The Soil

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Management Plan shall comply with BMP, O.Reg. 406/19, all Applicable Laws, and shall describe and include, at a minimum, the following:

- a. a copy of the detailed sampling and analysis plan for all excavated Soil and Rock from the Project Area (as required).
- b. the estimated volume of Excess Soil to be managed off-site and proposed methods for minimizing these quantities.
- c. a site plan that identifies all the areas to be excavated, with the estimated volume, Soil type, and quality of each area, along with a copy of the detailed instructions to on-site contractors identifying the area and depth of Soil to be excavated for off-site management.
- d. protocols for further characterization of Soil and excavated material quality (as required) and determining management, including re-use and/or disposal requirements.
- e. how Soil and excavated materials will be temporarily staged or stored at the Project Area or other worksites for re-use or subsequent transfer to disposal with regard for potential environmental effects and impacts to human health and safety.
- f. methods for minimizing the quantity of material requiring excavation and management.
- g. methods to maximize the re-use of excavated material within the Project Area.
- h. how Excess Soil and excavated material generated by the Work will be managed using best management practices and comply with the Soil Rules.
- i. how areas of known contamination (i.e. Soil that have been determined by the QP not to be reusable) will be managed and estimated quantities of contaminated material to be disposed outside of the Project Area at an applicable licensed facility.
- j. Waste designation in accordance with Soil Rules.
- k. Contractor's plan shall take into account all material characterization, temporary stockpiling, and haulage timing

restrictions.

5. Fill Management Plan for Project Area
  - a. Submit the Fill Management Plan for the Project Area, prepared by the Contractor's QP, at least 20 business days prior to receiving Soil.
  - b. The Fill Management Plan for the Work shall incorporate all pertinent details, background information, recommendations, mitigation, and monitoring measures presented herein and/or by the Contract Administrator or Contractor's own investigations. The Fill Management Plan shall comply with BMP, O.Reg. 406/19 and all Applicable Laws, and shall describe and include, at a minimum, the following:
    - a. procedures to prevent the introduction of invasive plant or animal species.
    - b. copies of any documentation regarding municipal or Conservation Authority licences/permits, provisions of provincial plans which apply to the Project Area, and any requirements of provincial ministries.
    - c. identification of appropriate Soil quality and Soil types for Excess Soil to be received at the Project Area as determined by the Contractor's QP based on site location/sensitivity, anticipated land use, ground water use/sensitivity, pre-existing site conditions, or other factors as to ensure that there is no likelihood of adverse effect.
    - d. dust and noise control measures in accordance with the Contract Documents.
    - e. erosion and sedimentation control measures in accordance with the Contract Documents.
    - f. Project Area security measures.
6. Submit a protocol for imported fill material, prepared by the Contractor's QP, at least 7 business days prior to receiving Soil specifying:
  - a. that each incoming load has documentation signed by the Source Site QP that includes appropriate and representative Soil analyses confirming the Soil quality is acceptable for the Project Area.

- b. soil placement/segregation protocol sufficient to identify where incoming Excess Soil from each Source Site has been placed, such that it can be assessed if required.
  - c. that visual and olfactory inspections will be conducted of all incoming loads to screen for odour, visible staining, and debris.
  - d. contingency measures for load rejections.
- 7. The Contractor's QP shall review Soil documentation from Source Site where material will be imported from in advance of receipt of materials and shall provide written approval for acceptance at least 7 business days prior to receiving Soil.
- 8. Soil Tracking System: In advance of removing Soil from the Project Area that will become Excess Soil once removed and/or receiving imported fill material, develop and implement a digital tracking system for Excess Soil and imported fill material, in accordance with O.Reg. 406/19 and accessible to the Contract Administrator and Owner, to track each load of Excess Soil and imported fill material during its transportation and deposit at the Receiving Sites, and provide this information to the Contract Administrator in a format approved and frequency requested by the Contract Administrator. The tracking system shall provide:
  - a. The location at which the Excess Soil or imported fill material were loaded for transportation.
  - b. The date and time the Excess Soil or imported fill material were loaded for transportation.
  - c. The quantity of Excess Soil or imported fill material in the load.
  - d. The name of an individual who may be contacted to respond to inquiries regarding the load, including inquiries regarding the Soil quality.
  - e. The name of the corporation, partnership, or firm transporting the Excess Soil or imported fill and the name of the driver of the vehicle and the number plates issued for the vehicle under the Highway Traffic Act.
  - f. Name and location of the Receiving Site(s) and Source Site(s).

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- g. Date and time of arrival of the load to the Receiving Site and Source Site(s).
  - h. Volume of Excess Soil or imported fill material received.
  - i. Documentation from the Receiving Site(s) and Source Site(s) signed by their representative QPs, including Soil analytical results.
  - j. Confirmation by the Receiving Site QP acknowledging that the incoming Excess Soil are acceptable for receipt at the Receiving Site.
  - k. Rejections of any loads of Excess Soil due to visual inspection or review of analytical results.
  - l. Daily tracking, hauling records, and documentation related to Excess Soil management, including bills of landing.
  - m. Documentation to the Municipality and Contract Administrator, once Excess Soil materials are received, confirming the Soil was received and the type, quality, and quantity was appropriate.
  - n. Confirmation that the vehicle who removed the excavated material, the volume of the material received was the same as the volume of material that left the Project Area.
9. Audit sampling protocols consisting of:
- a. sampling protocols (designed by Contractor's QP) sufficient to produce results that would be representative of the volume of imported fill material that is being received from each Source Site with a minimum of one (1) sample for every 1,000 m<sup>3</sup> from each Source Site or as further specified in the Contract Documents; and
  - a
  - b. contingency plan to identify actions that are to be taken in the event that audit sampling or other information identifies concerns with Soil quality from a Source Site.
10. Quality Control Plan
- a. The Contractor is responsible for quality control procedures and shall submit a Quality Control Plan addressing the testing program and procedures in accordance with the Contract Documents and O.Reg. 406/19, before commencing Work.

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11. Soil Management Monthly Monitoring Report: The Contractor's QP shall prepare and submit Monthly Monitoring Reports to the Contract Administrator, a summary from the preceding month that contains:
  - a. the total quantities of Soil and of excavated material resulting from the Work.
  - b. the total quantities of Soil and of excavated material that was re-used in the Work.
  - c. the total quantities of Soil and of excavated material that was re-used on-site and transported from the Project Area to a Receiving Site, including a detailed location plan for all amounts re-used on-site and transported to each Receiving Site.
  - d. the date and time the excavated material left the Project Area if being removed and transported to a Receiving Site.
  - e. The name of the corporation, partnership, or firm transporting the excavated material, including the name of the driver and the licence plate, if being removed and transported to a Receiving Site.
  - f. the total quantity of Soil imported to the Project Area, the provenance of the imported Soil and aggregate, the location of imported Soil and aggregate placement, and the analytical results of testing conducted on the imported Soil.
  - g. an up to date and complete inventory of all Receiving Sites of Excess Soil generated by the Work that cannot be reused on-site. This inventory shall include the following details and shall be updated on a monthly basis until such time as the Work has been completed:
    - a. the municipal address of the Receiving Site.
    - b. the name of Receiving Site owner and operator.
    - c. if the material is being sent for re-use, the contact information of the person that acknowledged the receipt of the load on behalf of the Receiving Site.
    - d. the name of the QP overseeing the Receiver Site activities.
    - e. the Governmental Authority having jurisdiction over the Receiver Site.

- f. the type of approval under which the Receiving Site is operating.
  - g. the total volume of Excess Soil deposited at the Receiving Site.
- 12. Submit a copy of the Environmental Compliance Approvals for all Receiving Sites, if applicable.
- 13. Prior to the transportation and disposal of Excess Soil off-site, submit to the Contract Administrator for record purposes, a copy of the agreement(s) with the Receiving Site(s) outside of the Project Area, with such agreements to include: a release and indemnification of the owner or operator of the Receiving Site(s); and the quantity and quality of the material that may be disposed of at the Receiving Site(s).

### **Execution**

- 1. The Contractor shall execute the work in accordance with their Traffic and Transportation Management, Soil Management, and Fill Management Plans, as accepted and approved by the Contract Administrator.
- 2. The Contractor's QP shall complete waste designation in accordance with Soil Rules.
- 3. The Contractor shall not remove Soil from the Project Area that will become Excess Soil once removed until a notice is filed on the Registry, if required by the Owner, per O.Reg. 406/19.
- 4. The Contractor is encouraged to re-use (rather than remove or replace) as much Soil as possible at the Project Area in a manner that is consistent with the BMP, O.Reg. 406/19, and the Ontario Environmental Protection Act, and provided that the Contractor complies with its obligations under the Contract, while ensuring the integrity of environmental and geotechnical considerations.
- 5. There is the potential that excavated Soil may potentially be utilized from one portion of the Project to another portion of the Project across the Project Area (such as for final grading purposes) where feasible.
- 6. No Soil movement shall occur without prior written approval being obtained from the Contract Administrator.
- 7. Contractor shall comply with the requirements outlined in a Receiving Sites' Fill Management Plan and/or site-specific Instrument as applicable.

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- a. If the owner or operator of the Receiving Site(s) require additional Soil sampling and analysis, beyond what has been provided in the Contract Documents, the Contractor shall carry out all additional sampling, analysis, and reporting as required. All costs associated with this effort shall be borne by the Contractor.
8. The implementation of the Soil and Fill Management Plans shall be overseen by the Contractors QP and all records of Soil management activities shall be consolidated in a Soil Management Monthly Monitoring Report prepared by the Contractors QP and provided to the Contract Administrator for review.
9. Obtain written consent from the operator of the Reuse Site at which the Excess Soil will be deposited.
10. Within 5 business days after all Soil that will become Excess Soil is removed from the Project Area, the Contractor shall provide the Contract Administrator and the Owner with written notice as to the amount of Excess Soil removed from the Project Area, the amount deposited at each Receiving Site, the date on which the last load of Excess Soil was removed from the Project Area, and any other information requested by the Contract Administrator.
11. If the Contractor, their sub-contractor or employees, working in the Project Area makes an observation during Soil and Rock excavation within the Project Area, including any visual or olfactory observation, that suggests that the Soil and Rock being excavated may be affected by the discharge of a contaminant, all Soil and Rock excavations in the Project Area must immediately cease and the Contract Administrator be notified upon the observation being made.
  - a. All excavated Soil or excavated Crushed Rock that is affected by the discharge of a contaminant shall be identified and shall be segregated from other excavated Soil or excavated Crushed Rock in the Project Area.
  - b. Assessment, delineation, treatment, and/or removal of impacted or suspected impacted material shall take place only under the direction of the Contract Administrator and the Municipality.
12. The Contractor shall notify the Contract Administrator immediately, and provide all required information and documents including, but not limited to, an updated Excess Soil Destination Assessment Report prepared by the Contractor's QP, if applicable, within 5 business days if the following occurs:



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- a. The Contractor becomes aware that the Soil Characterization Report included as part of the Contract Documents, or the Geotechnical Report and/or other environmental reports included as part of the Contract Documents that provide Soil quality information in the absence of a Soil Characterization Report, does not accurately reflect the quality of the Excess Soil.
  - b. The Contractor identifies a new area of potential environmental concern.
  - c. The Contractor becomes aware that the notice filed on the Registry, if applicable, or any information and/or documents provided to the Contract Administrator as a result of O.Reg. 406/19, is no longer complete or accurate.
  - d. The Excess Soil that is intended to be transported to a Receiving Site for final placement is not identified in the Excess Soil Destination Assessment Report.
13. In addition to ensuring that records of the tracking system requirements are available at all times during the transportation, the haulers of Excess Soil shall also verbally provide key information on the load of Excess Soil if asked by MECP officers. This information includes:
- a. The location at which the excess soil was loaded for transportation.
  - b. The date and time the excess soil was loaded for transportation.
  - c. The quantity of excess soil in the load.
  - d. The name of an individual who may be contacted to respond to inquiries regarding the load, including inquiries regarding the soil quality.
  - e. The name of the corporation, partnership, or firm transporting the excess soil, the name of the driver of the vehicle and the number plates issued for the vehicle under the Highway Traffic Act.
  - f. The location at which the excess soil is to be deposited.
14. If on-site stockpiling or Soil processing is permitted, comply with O.Reg. 406/19 and other Applicable Laws.
- a. Coordinate stockpile location with Contract Administrator based on Soil characteristics, available space, schedule, and environmental site conditions at stockpile location.

- b. Stockpiling is not permitted in environmentally sensitive areas and Conservation Authority regulated areas.

## **22. Damages to Utilities**

1. The Contractor, when performing any work pertaining to this Contract, must not in any way damage any utilities such as gas lines, poles, hydro cables, telephone cables, municipal plant or other works that may be in existence, and care must be taken to prevent injury to or affecting them in any way.
2. It will be the Contractor's responsibility to contact the various departments concerned such as Union Gas, Ontario Hydro, Bell Canada and the Municipality to arrange for the location in the field of any underground utility or buried cables. The Contractor will be responsible for all precautions necessary to safeguard all utilities and buried cables including method of support where necessary, and no extra payment will be allowed therefor.

## **23. Environmental Protection**

1. The Contractor shall comply with applicable Federal and Provincial and Municipal laws, orders, and regulations concerning the control and abatement of water pollution. All required permits and approvals shall be the Contractor's responsibility.
2. The Contractor's construction activities shall be performed by methods that will prevent entrance, or accidental spillage, of solid matter, contaminants and waste into surface waters and ground water sources, including but not restricted to, refuse, garbage, cement, concrete, industrial waste, oil and other petroleum products, heavily mineralized rock and thermal pollution. Sanitary wastes shall be disposed of on land by burial at approved sites or by other approved methods.
3. Dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, a body of water shall be conducted in a manner to prevent muddy water and eroded materials from entering the body of water by construction of intercepting ditches, bypass channels, barriers, settling ponds, or by other approved means.
4. Turbidity increases in a body of water that are caused by construction activities shall be limited to the increases above the natural turbidities permitted under prescribed water quality standards. When necessary to perform required construction work in the body of water, the prescribed turbidity limits may be exceeded, if approved by the D.F.O., for the

shortest practicable period required to complete such work. This required construction work may include such work as diversion of a watercourse, construction or removal of cofferdams, specified earthwork in or adjacent to the body of water and construction of turbidity control structures. Mechanized equipment shall not be operated in flowing water except as necessary to construct crossings or to perform the required construction.

5. Waste waters from all construction operations shall not enter watercourses or other surface waters without the use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, approved flocculating processes which are not harmful to fish, recirculation systems for washing of aggregates, or other approved methods. Any such waste waters discharged into surface waters shall be essentially free of settleable material. For the purpose of these specifications, settleable material is defined as that material which will settle from the water by gravity during a 1-hour quiescent detention period.
6. At the pre-construction meeting, the contractor will be required to outline their sequence of operations and proposed environmental protection measures.
7. Payment to comply with the above requirements shall be deemed to be included in the tender items requiring such environmental protection and shall include all costs associated with acquiring permits and approvals.

#### **24. Spills Reporting**

1. Spills or discharges of pollutants or contaminants under the control of the Contractor, and spills or discharges of pollutants or contaminants that are a result of the Contractor's operations that cause or are likely to cause adverse effects shall forthwith be reported to the Contract Administrator. Such spills or discharges and their adverse effects shall be as defined in the Environmental Protection Act R.S.O. 1980.
2. All spills or discharges of liquid, other than accumulated rain water, from luminaries, internally illuminated signs, lamps, and liquid type transformers under the control of the contract, and all spills or discharges from this equipment that are a result of the Contractor's operations shall, unless otherwise indicated in the contract, be assumed to contain PCB's and shall forthwith be reported to the Contract Administrator as well as the Ministry of the Environment and Energy (MOEE).
3. This reporting will not relieve the Contractor of their legislated responsibilities regarding such spills or discharges.

**25. Identification of Local MOEE Office**

1. Notification of the Ministry of the Environment and Energy (MOEE) that is required elsewhere in the contract shall be provided to:

191 Booth Road  
Unit 16 - 17  
North Bay, Ontario Phone: (705) 497-6865

2. For 24-hour environmental spill reporting, phone 1-800-268-6060.

**26. Watercourse / Fisheries Protection**

1. Deleterious materials, such as petroleum products, debris, waste, silt, rubble, concrete or other shall not be allowed into a watercourse, unless otherwise specified in the contract. All activities shall be controlled to prevent the entry of such materials into a watercourse.
2. Controls shall include but not be restricted to the following:
  - a. All vegetated cover not specified for removal shall be preserved in order to minimize erosion and sedimentation.
  - b. Watercourses shall not be diverted or blocked and temporary water crossings shall not be constructed or utilized unless otherwise specified in the contract.
  - c. Water and sediments discharged as part of unwatering operations shall be controlled to prevent sediment from entering water.
  - d. Construction material, surplus material, construction debris and empty containers shall be stored away from watercourses.
  - e. Vehicular maintenance and refueling shall be conducted away from watercourse banks.
  - f. Construction equipment shall not be permitted to work from within a watercourse or ford a watercourse at any time, unless otherwise specified in the contract.
  - g. The contractor shall complete the work in a timely and diligent manner to minimize the impacts on the watercourse.

**27. Restriction on Open Burning**

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1. The Contractor shall not be permitted to use burning to remove any debris, Styrofoam or wood used as concrete formwork.

## **28. Maintenance of Traffic**

1. Eugene Road at the bridge location will be closed to all traffic during construction.
2. Flagging, signals, signage, and other traffic control devices for this contract shall be in conformance with the Ontario Traffic Manual as applicable.
3. Prior to closing the bridge, the Contractor shall give at least forty-eight (48) hours prior notice to the Public Works, Contract Administrator, Ambulance Service, Fire and Police Services of this intention to close the road. They shall also erect at their own cost, closure advisory signs at least one (1) week in advance of closing the bridge.
4. The Contractor shall give the Contract Administrator fourteen (14) days advance notice prior to the road closure. The Contractor shall at their own expense supply, erect and maintain traffic control devices, in accordance with the Ontario Traffic Manual – Book 7, barricades, lights, and such other protection as may reasonably be required at all points where traffic might enter on that portion of the road so closed to traffic, outside and within the limits of the Contract or within other public roads which may be used during the said closure of the road.
5. The Contractor shall supply flagmen to direct traffic at each end of the construction limits during material deliveries.
6. The Contractor shall at their own expense erect and maintain advisory signs of the temporary closure and associated dates, at least one (1) week in advance of the first day of the closure. The sign configurations, locations and detours shall be approved by the Contract Administrator. All signs shall be removed immediately following the completion of the Work. Without limiting the responsibility of the Contractor to properly notify the public of and protect it from traffic hazards, the Contract Administrator may require the Contractor to provide additional notification or protection for the public.

## **29. Inspection and Testing**

1. The Contract Administrator will employ an independent Inspection and Testing company to verify the Contractor's work. All rectified works shall be reinspected and retested to confirm the conformance to the Specifications herein.

2. If it is the Contract Administrator's opinion that works and / or rectified works are not constructed as per the Specifications, the Contract Administrator will employ their Inspection and Testing company for verification. Should the results determine the deficiency of works and / or rectified works, the Contractor shall be responsible for the costs of the Contract Administrator employing their Inspection and Testing company and the costs for rectification. Otherwise, the Contractor will not be responsible for the Contract Administrator's Inspection and Testing costs.

### **30. Contractor's Use of Site**

1. Site of Work is limited to areas for work and storage as indicated or directed. Operation of land-based construction equipment is restricted to the immediate area where work is required.

### **31. Fencing of The Construction Area**

1. To restrict access by the public, the right-of-way adjacent to working areas shall be fenced before work commences. Where the contract documents do not require chain link fence or where it is impractical to erect chain link fence before work commences, the Contractor shall erect, maintain, remove and dispose of the temporary snow fence required to restrict access.

### **32. Seasonal Shutdown**

1. Prior to demobilizing for a winter shutdown, the following requirements must be met at the Contractor's expense:
  - a. All excavations shall be backfilled
  - b. The site must be left clean, tidy and safe
  - c. Roadways must have appropriate traffic signage installed in accordance with Ontario Traffic Manual (OTM) Book 7, and any construction work areas shall be properly protected from the travelled lanes;
  - d. Cut or fill slopes left without vegetative cover or erosion control blankets shall be treated before the onset of winter with hydraulic mulch ground cover
  - e. If catchbasin and maintenance hole grates are protruding above the surrounding road grade due to asphalt milling, the Contractor shall add asphalt ramps around all such hazards in order to ensure

public vehicle safety and permit snow removal operations. The asphalt ramps are to be removed prior to permanent paving in the spring.

- f. Any missing curb segments that cannot be permanently replaced shall be repaired with temporary asphalt curbs. The temporary asphalt curbs are to be removed in the spring to allow for permanent concrete curb replacement.
2. Repairs to the roadway, interim drainage conditions, erosion control, signage and delineations shall be performed by the Contractor, as required, throughout the winter shutdown.
3. The Contractor may be requested to provide winter maintenance works, such as snow clearing and perform de-icing operations, for the temporary and permanent roads open to the public during the winter shutdown. The cost for winter maintenance shall be considered for this Contract will shall not be paid separately. The Municipality's Winter Maintenance Contract begins on November 1st, 2024.

### **33. Pre-Construction Meeting**

1. Following Contract execution, a pre-construction meeting shall be scheduled with the successful Bidder. The successful Bidder will be required to submit to the Owner the following information at that time and prior to commencement of any Work, namely:
  - a. A construction schedule in accordance with General Condition GC 7.01.07.
  - b. Any plans or other documentation required by the Occupational Health and Safety Act or the regulations adopted thereunder;
  - c. A listing of subcontractors, where permitted, and suppliers that the Bidder wishes to utilize for completing the Work; and,
  - d. The name, address, phone number and email of the successful Bidder's representative who will be handling claims from the general public.
  - e. The Owner's receipt of any document or record required to be provided by the Contractor shall not be deemed to connote acceptance or approval of its content, or derogate from or diminish a Contractor's obligations contained therein. The Owner shall not be liable or be under any obligation to a Contractor or any person

whatsoever merely by reason of receipt of a Contractor's document or record.

**34. Project Closeout**

1. At the end of a construction season, or when the Work is Substantially Performed, remove surplus products, tools construction machinery and equipment not required for the performance of remaining Work
2. Remove dirt and other disfigurations from exterior surfaces.

**35. Construction Record Data**

1. Scope
  - a. This specification covers the requirements for Construction Record Data submittals.
2. Submittals
  - a. The Contractor shall provide Construction Record Data in the following formats:
    - a. One set of marked up construction drawings/red line drawings, including field notes and/or any supporting documentation.
    - b. Digital survey files (AutoCAD 2010 format) including text files.
  - b. Red line drawings shall be recorded neatly and accurately, in red ink and shall indicate any deviations from the contract documents. Contractor shall also confirm all inverts that were installed "as designed" with a check mark.
  - c. Surveys must be integrated into the existing horizontal and vertical control network and must be geographically referenced to the Ontario Coordinate System (MTM Zone 81 NAD83-CSRS).
  - d. Submittals shall be provided to Contract Administrator. The submittals shall include, at a minimum, the data outlined in the following tables.

**Transportation**



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<b>Features</b>	<b>Construction Record Data</b>	<b>Features</b>	<b>Construction Record Data</b>
Pavement	Material, depth, width	Horizontal location and elevation of center line and E/P	Yes
Curb and gutter	Location of curb, type	Horizontal location and elevation of gutter, E/P	Yes
Driveways & commercial entrances	Location, width, type up to Property Line		No commercial
Signage	Location, size, type	Horizontal location	Within R.O.W. entrances only
Sidewalk	Location, material, width	Horizontal location and elevation of edges	Horizontal only
Street lighting	Height, wattage, material	Horizontal location	Yes
Traffic signals		Horizontal location	No
Monument cases	Location, materials	Horizontal location	Yes
Conduit	Location, depth, materials, sizes	Horizontal/vertical location	Horizontal only
Junction boxes	Location, type, conduit entrance	Horizontal/vertical location	Yes
Granular materials	Type, width, depth	Top of material	Yes
Bridge/Large Diameter Culvert	General Arrangement, foundation, superstructure, approaches	Horizontal/vertical location	yes

**Other Utilities**

<b>Features</b>	<b>Construction Record Data</b>	<b>Features</b>	<b>Construction Record Data</b>
Any buried utilities encountered	Pipe size, type, dimensions (if duct bank); material, direction of travel	Top of pipe / duct bank. Horizontal location.	Yes

3. Linear Features

- a. The survey interval for linear features shall be as follows:

- a. Transportation Features: 15 m or sudden change in grade.
    - b. Pipe Work: Any change in grade or direction, maximum interval of 15 m.
  - b. Where the length of the feature is less than the stipulated survey interval, a minimum of two survey points will be required.
  - c. Minimum survey accuracy shall be as follows:
    - a. Horizontal:  $\pm 50$  mm
    - b. Vertical:  $\pm 20$  mm
4. Submission Schedule
- a. The Contractor shall submit all Construction Record Data within thirty (30) calendar days of placing base asphalt.
  - b. Contractor shall maintain up to date red lines and supporting documentation throughout construction. The Contractor shall provide updates at all progress meetings.
5. Acceptance of Record Data
- a. Upon receipt from the Contractor, the Owner will conduct a Quality Assurance review and confirm all requirements for Construction Record Data has been met. Submissions that do not meet requirements of this Special Provision will be returned to the Contractor to remedy. The Contractor shall have fourteen (14) calendar days to remedy any deficiencies with the Construction Record Data.
6. Measurement for Payment
- a. There will be no measurement for payment for this item.
7. Basis of Payment
- a. Costs for all work completed under this Special Provision shall be deemed to be included in the tender prices for the items requiring the work or any revisions that are required.

**36. Control of Concrete Temperature**

1. Payment for any work related to control the concrete temperature per the requirements of specification shall be deemed to be included in the tender prices for the items requiring the work.

**37. Measurement of Payment**

1. No measurement will be made for work under all above Sections. All costs shall be included in the Contract Price unless otherwise stated in the Form of Tender.

**38. Cancellation of Work**

1. The Contractor is hereby informed that the Municipality reserves the rights to cancel parts (provisional or non-provisional work items) or the entirety of this Contract. The Municipality also reserves the rights to award some, all, or no provisional works. The Contractor will not be permitted to file claims against the Municipality for any profit loss.

**39. General Conditions**

1. General conditions shall be as per Ontario Provincial Standard General Conditions of Contract, OPSS MUNI 100, latest edition, unless otherwise amended by the sections above.

**40. Tender Items**

1. The items in the Schedule of Unit Prices are intended to cover and include the supplying of all labour, equipment and materials (except as noted in the Information to Bidders and Special Provisions) necessary for the completion of the various works called for in this contract and the prices set out in the Schedule of Unit Prices for the said items shall be full compensation for the labour, equipment, material and equipment supplied to do all the Work covered by the said items.
2. Following are special provisions pertaining to items listed in the Schedule of Unit Prices.

**SP 1. Temporary Flow Passage System Including Cofferdams and Dewatering**

**PART 1 – GENERAL**

**1. Measurement Procedures**

1. Measurement for payment shall be made on a Lump Sum basis.

**2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.

**3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 180, November 2021, General Specifications for Management of Excess Materials
  - b. OPSS.MUNI 182, November 2021, General Specifications for Environmental Protection for Construction In Waterbodies and On Waterbody Banks
  - c. OPSS.MUNI 517, November 2021, Miscellaneous Specifications for Dewatering
  - d. OPSS.MUNI 805, November 2021, Construction Specifications for Temporary Erosion and Sediment Control Measures

**4. Description**

1. This item includes designing, supplying, placing, relocating between stages and removing at the end of the construction period, the temporary flow passage system, cofferdam water diversion system and dewatering system. The Contractor shall verify all dimensions of the work and all affiliated related details on site with the Contract Administrator prior to proceeding with the work. It should be noted that during large storm events, the height of the water in the bridge location increases rapidly. Work shall be in accordance with OPSS.MUNI 182, 517, and 805.
2. The in-water window for this Contract is between July 16<sup>th</sup> to March 31<sup>st</sup> of any given year.

**5. Design and Submittal**

1. The Contractor shall design and provide Working Drawing submissions per OPSS.MUNI 517. Three (3) sets of Working Drawings shall be submitted to the Contract Administrator at least 7 Days prior to commencement of the dewatering system installation, for information purposes only. Prior to final approval of Working Drawings, the seal and signature of a design Engineer shall be affixed on the Working drawings, verifying that the drawings are consistent with the Contract Documents.
2. Contractor shall design and install the de-watering system based on low flow channel flow, as necessary to facilitate all construction operations. The Contractor shall also implement contingency measures in the event that larger storm events take place.
3. The diversion and dewatering system shall be designed to control water at the locations specified in the Contract Documents and at any other location where a system is necessary to complete the work. The design of the system shall be sufficient to permit the work at each location to be carried out as specified in the Contract Documents.
4. Contractor shall design and install a de-watering system. The de-watering concept in the drawing is for informational purposes only. Prior to construction the contractor shall submit a de-watering plan to the engineer for approval, stamped and signed by a professional engineer licensed in the Province of Ontario.

## **PART 2 – EXECUTION**

### **1. Temporary Flow Passage, Cofferdams, and Dewatering**

1. Site Preparation: Remove obstructions from surfaces that require full depth gravel removal within the limits indicated.
2. The Cofferdams shall only be installed for the duration of the in-water work. Upon completion of in-water work, all cofferdams and equipment must be immediately removed from the site.
3. A provision shall also be made for the dewatering system including pumps and all other necessary related works to pump existing water and sediment laden water through a filter bag to a vegetated area.
4. All equipment used for works in water bodies, on water banks, watercourse relocations and temporary water body crossings shall be free of earth material and excess, loose or leaking fuel, lubricants, coolant and other contaminants that could enter the water course. All works in the water shall be done in accordance with OPSS.MUNI 182.

5. All work is to be completed in the dry. Upon evidence of an inherent storm event, the Contractor shall cease in-water and near water operations. All equipment and loose materials shall be removed from the regional storm flood plain immediately.
6. The Contractor shall continuously monitor the dewatering system throughout construction to ensure that it is performing to the satisfaction of the Contract Administrator. The Contractor shall continuously monitor upcoming weather and should the forecast call for a large storm event, the Contractor shall have members of their staff inspect the cofferdams and dewatering devices continuously to ensure they are performing, including nights, and weekends. Should the dewatering not be sufficient during a large storm event, the Contractor shall be ready to move staff and equipment to the site to provide adequate dewatering.
7. When working in water bodies, on water body banks, and in temporary watercourse channels:
  - a. The work area shall be isolated from those portions of the water body or water body banks wherein work is not specified;
  - b. The extent of disturbance to water body bed and banks shall be kept to the minimum necessary for the construction specified in the Contract Drawings. The limit of the area to be disturbed shall be clearly marked prior to commencement of the work. The markings shall be maintained for the duration of the Contract. Trees, shrubs and other vegetation shall be preserved where possible;
  - c. The operation of equipment within such areas, the number of entry and exit points, plus the distance from the entry point to the work area, shall be kept to the minimum necessary to perform the specified work;
  - d. The work shall not commence while flows are in a flood stage;
  - e. The work shall be conducted so as to prevent harm to fish and aquatic wildlife and to allow fish passage. When pumping and piping is utilized, the intake hose shall be equipped with a screen to prevent entry of fish and aquatic wildlife. Fish and aquatic wildlife stranded by the work shall be captured and released without harm to the water body or wildlife; and
  - f. Protection measures and work are permitted only at the locations shown in the Contract Drawings, or as designated by the Contract Administrator on site.

8. Should the cofferdams installed not be adequate or installed incorrectly, at the sole discretion of the Contract Administrator, the Contractor shall rectify such deficiencies. Should these not be rectified to the satisfaction of the Contract Administrator in a timely manner, a portion of the payment will be held back from the Contractor.
  
9. This item shall also include a provision for collecting and relocating any fish trapped within the isolated work area prior to dewatering operations.

**END OF SECTION**

## **SP 2. Supply, Install, Maintain, and Removal of Heavy-Duty Silt Fence**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Measurement for payment shall be made on a Linear Metre basis.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.

#### **3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 805, November 2021, Construction Specifications for Temporary Erosion and Sediment Control Measures
  - b. OPSS.MUNI 1860, November 2018, Material Specifications for Geotextile
2. Ontario Provincial Standard Drawings (OPSD):
  - a. OPSD 219.130, November 2021, Heavy-Duty, Silt Fence Barrier

#### **4. Description**

1. The Contractor shall construct heavy-duty silt fence barrier specified in the contract drawings prior to any work commencing on the site.
2. The fabric material for the silt fence shall be a non-woven geotextile 270-R Filter Cloth or equivalent and according to OPSS.MUNI 1860.

### **PART 2 – EXECUTION**

#### **1. Quality Assurance**

1. The Contractor is responsible for ensuring that all heavy-duty silt fence are functional and is required to use additional appropriate measures if needed and as needed, to prevent the release of sediment into any adjacent watercourse, waterbody or other adjacent natural feature (i.e. forest, wetland).



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2. No excess earth or granular materials shall be left in areas where it will be subject to erosion into the creek channel.
3. The silt fence barrier is to be maintained by the contractor for the duration of construction, including the removal and disposal of accumulated silt and repair or replacement of any damaged fence segments. The fence is to be removed upon vegetation is developed, or as directed by the Contract Administrator.

**END OF SECTION**

### **SP 3. Hydro-Vac Excavation**

#### **PART 1 – GENERAL**

##### **1. Measurement Procedures**

1. For measurement purposes, time shall be recorded and be paid in accordance with the number of hours the Hydro Vacuum Truck and crew was on site completing the work described above.

##### **2. Basis of Payment**

1. Payment for this item shall be in full compensation for all labour, equipment, and materials necessary to complete the work as specified. Include all water required for hydro excavation, as well as disposal of excavated materials off-site to an approved location selected by the Contractor.
2. Payment for travel time to and from the site will not be considered separately.

##### **3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.PROV 127, April 2023, General Specifications for Schedule of Rental Rates for Construction Equipment
2. Ontario Regulation:
  - a. O.Reg. 406/19: On-Site and Excess Soil Management

##### **4. Description**

1. The Contractor shall furnish and operate a truck-mounted combo vacuum excavation truck. The truck shall be supplied with the following features and equipment (or approved equivalents):
  - a. Variable and regulated high pressure water pump rated at approximately 54 GPM @ 2000 PSI
  - b. Approximately 12 cu.yd. debris body
  - c. Approximately 1300 US gal. capacity water tanks

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- d. Hydraulic boom with large variable degree rotation and reach of 19 feet minimum
  - e. High pressure hand-held operated gun
  - f. Traffic arrow board mounted on rear door
  - g. Large debris hose
  - h. Debris body shall be equipped with a working drain port and valve assembly to drain liquids.
2. All labour, equipment and materials (including water) to complete the work as specified.

**PART 2 – EXECUTION**

**1. Surface Conditions**

- 1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the excavation or backfill may commence.
- 2. Site Preparation: Remove obstructions from surfaces to be excavated within the limits indicated.

**2. Clean Up**

- 1. Disposal of hydro excavated material to an approved location.

**END OF SECTION**

## **SP 4. Remove and Dispose of Existing Bridge Structure**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Measurement for payment shall be made on a Lump Sum basis.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
2. Payment shall include any protective measures for workers during removal and disposal of the structure.
3. Payment shall include disposal costs at certified landfill site(s) and any applicable hauling fees.

#### **3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 180, November 2021, General Specifications for Management of Excess Materials
  - b. OPSS.MUNI 510, November 2018, Construction Specifications for Removal

#### **5. Protection**

1. Existing buried and aerial utilities.
2. Existing infrastructure not intended for removal.
3. Size, depth and location of existing timber bridge as indicated are for guidance only. Completeness and accuracy are not guaranteed.
4. Prior to commencing any excavation and removal work, the Contractor shall obtain locates for the entire project area. The Contractor shall establish location and state of use of buried utilities and structures. Clearly mark such locations to prevent disturbance during work.
5. Confirm locations of buried utilities by daylighting excavations as required and hand excavations.

6. Maintain and protect from damage, water, sewer, gas, electric, telephone embedded sensors, and other utilities and structures encountered. Obtain direction of the Contract Administrator before moving or otherwise disturbing utilities or structures.
7. Surface Features: Protect surface features that may be affected by work from damage while work is in progress and repair damage resulting from work.

#### **4. Description**

1. This item includes remove and dispose of the existing Eugene Road Bridge, including the timber barrier rails, timber beams and deck, wooden crib abutments as shown on the contract drawings. Work shall be in accordance with applicable OPSS.
2. The Contractor shall be advised that chemicals such as creosote, arsenic, asbestos, PCBs, and others may be present in timber components of the structure.

### **PART 2 – EXECUTION**

#### **1. Surface Conditions**

1. Site Preparation: Remove obstructions from existing structure that require complete removal and disposal.

#### **2. Timber Bridge Removal**

1. This item includes the removal and disposal of the existing bridge structure and all required excavation for removal, as shown on the contract drawings. Work shall be in accordance with OPSS.
2. Loading, trucking and disposal of all generated material shall be placed at a suitable off – site location.

**END OF SECTION**

## **SP 5. Earth Excavation – Grading**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Excavated materials will be measured in per Cubic Metre basis in their original location.
  - a. Common excavation quantities measured will be actual volume removed within the following limits:
    - i. Depth from ground elevation immediately prior to excavation, to elevation as directed by Contract Administrator.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
2. A theoretical limit of excavation has been used to calculate the item quantity. No adjustments for bulking have been applied. Payment will be made based on plan quantities and any increase would need to be verified by survey field measurements collected by the contractor and submitted to the Municipality for acceptance. Should the contractor not provide sufficient survey data to substantiate a claim for increased pay quantities, the tender quantities will be used.
3. Dewatering where required will not be measured separately for payment, including installation, removal, and maintenance.
4. Hauling and disposal of excavated materials to either of the Municipality owned facilities as directed by the Municipality and / or the Contract Administrator will not be measured separately for payment.
5. Payment for excess soil management including testing, reporting, and tracking shall be considered separately as shown on the Form of Tender and will be a provisional item.

#### **3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 180, November 2021, General Specifications for Management of Excess Materials

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- b. OPSS.MUNI 206, April 2019, Construction Specifications for Grading
  - c. OPSS.MUNI 510, November 2018, Construction Specifications for Removal
2. Ontario Regulation (O.Reg.):
  - a. O.Reg. 406/19: On-Site and Excess Soil Management
  - b. Rules for Soil Management and Excess Soil Quality Standards
3. Special provisions for [Excess Soil Management Including Testing, Reporting and Tracking](#). (Click hyperlink)
4. The Contractor shall refer to the specification above unless otherwise stated herein.

#### 4. Description

1. The Contractor shall strip, excavate, and grade the existing Eugene Road beyond bridge limits as shown on the Contract Drawings and as directed by the Contract Administrator.
2. The Contractor is permitted to haul excavated materials to Municipality owned facilities below:
  - a. Lavigne Landfill  
354 Lafreniere Road, Lavigne  
Contact info: Jason Sullivan 705-358-0296
  - b. Verner Landfill  
247 Highway 575, Verner  
Contact info: Jason Sullivan 705-358-0296

#### 5. Protection

1. Existing buried utilities and structures.
2. Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
3. Prior to commencing any excavation work, the Contractor shall submit an application directly to Ontario OneCall. The Contractor shall establish location and state of use of buried utilities and structures. Clearly mark such locations to prevent disturbance during work.

4. Confirm locations of buried utilities by daylighting excavations as required and hand excavations.
5. Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered. Obtain direction of the Contract Administrator before moving or otherwise disturbing utilities or structures.
6. Surface Features: Protect surface features that may be affected by work from damage while work is in progress and repair damage resulting from work.

## **PART 2 – EXECUTION**

### **1. Surface Conditions**

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the excavation or backfill may commence.
2. Site Preparation: Remove obstructions from surfaces to be excavated within the limits indicated.

### **2. Excavation**

1. Excavate to lines, grades, elevations and dimensions indicated. Remove any obstructions, including boulders, if any.
2. The Contractor shall be responsible for the removal of all surplus excavated material to a disposal site approved by the Qualified Person, and disposal costs.
3. The excavation shall produce a sub-grade properly shaped to the required cross-section capable of supporting construction traffic without rutting, rolling or deformation during a proof roll test prior to placing new or existing granular.
4. Proper drainage measures are to be maintained at all times.
5. Upon excavation of the prescribed depth, the Contractor shall grade the finished subgrade to its required slope and elevations and compact the remaining subgrade material to 98% Standard Proctor Density.
6. The Contractor shall follow the regulatory requirements under the Environmental Protection Act and Regulation(s) with respect to the



management of surplus waste materials generated through road maintenance and construction.

7. Cut or fill slopes that may be left without vegetative cover/erosion control blanket for more than forty-five days shall be treated with temporary ground cover as specified in OPSS.MUNI 804. No additional payment shall be made for this work.

### **3. Site Grading**

1. Perform all rough and finish grading and backfilling required to achieve the finished elevations indicated on the drawings.
2. Make up and correct any settlement.
3. Grade as required to eliminate any standing water on graded areas.

### **4. Clean Up**

1. Upon completion, remove all material and debris and dispose of it outside the site limits in a disposal area approved by the Qualified Person.
2. Leave the site in a neat and orderly condition, acceptable to the Municipality.

### **5. Quality Control**

1. The Contractor is responsible for carrying out all grade checks required to ensure that horizontal and vertical grading tolerances are met.
2. The Municipality may conduct grade checks to verify horizontal and vertical grading tolerances.
3. Where the finished grade or cross-section does not meet the acceptance criteria, the grade surface shall be brought to grade within the specified tolerances

**END OF SECTION**

## **SP 6. Earth Ditch Cleanout**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Measurement for payment shall be made on a per Linear Metre basis.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
2. Hauling and disposal of excavated materials to either of the Municipality owned facilities as directed by the Municipality and / or the Contract Administrator will not be measured separately for payment.
3. Payment for excess soil management including testing, reporting, and tracking shall be considered separately as shown on the Form of Tender and will be a provisional item.

#### **3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 180, November 2021, General Specifications for Management of Excess Materials
  - b. OPSS.MUNI 206, April 2019, Construction Specifications for Grading
  - c. OPSS.MUNI 510, November 2018, Construction Specifications for Removal
2. Ontario Regulation (O.Reg.):
  - a. O.Reg. 406/19: On-Site and Excess Soil Management
  - b. Rules for Soil Management and Excess Soil Quality Standards
3. Ontario Regulation (O.Reg.):
  - a. O.Reg. 406/19: On-Site and Excess Soil Management
  - b. Rules for Soil Management and Excess Soil Quality Standards

4. Special provisions for [Excess Soil Management Including Testing, Reporting and Tracking](#). (Click hyperlink)

#### 4. Description

1. This specification covers the requirements for cleanout of earth ditches to restore the maximum flow of water intended when the ditches were originally constructed.
2. The Contractor is permitted to haul excavated materials to Municipality owned facilities below:
  - a. Lavigne Landfill  
354 Lafreniere Road, Lavigne  
Contact info: Jason Sullivan 705-358-0296
  - b. Verner Landfill  
247 Highway 575, Verner  
Contact info: Jason Sullivan 705-358-0296

#### 5. Definition

1. **Deleterious substance** means any substance that, if added to a waterbody, could degrade water quality or impact fish, fish habitat and aquatic wildlife.
2. **Earth ditch** means an existing ditch in earth including but not limited to a roadside ditch or a ditch lying beyond the end of a drainage structure.
3. **Roadside ditch** means a ditch with one of its sideslopes coincident with the road front slope.
4. **Riparian vegetation** means vegetation within 30 metres of a waterbody.
5. **Waterbody** includes areas inundated by water, either permanently or intermittently, for a consecutive period of time exceeding 2 weeks of the year.
6. **Waterbody Bank** means the area of slopes and flatlands bordering on or adjacent to a waterbody, extending a minimum of fifteen metres from the edge of the waterbody.

7. **Wetland** means lands such as swamps, marshes, bogs and fens that are seasonally or permanently covered by shallow water, as well as land where the water table is close to or at the surface.

## **PART 2 – EXECUTION**

### **1. Surface Conditions**

1. Site Preparation: Remove obstructions from surfaces to be excavated within the limits indicated.

### **2. Ditch Cleanout**

1. Excavate to lines, grades, elevations and dimensions indicated. Remove any obstructions, including boulders, if any.
2. The Contractor shall be responsible for the removal of all surplus excavated material to a Certified Disposal Site approved by the Qualified Person, and disposal costs.
3. The work shall include removal and management of all vegetation, earth, winter sand and any other debris from the inlet and ditch surfaces of all ditches specified elsewhere in the Contract Documents, in order to restore the grades and flow of water.
4. Cleaned ditch surfaces shall be left in as smooth a condition as is practicable. Grooves left in ditch surfaces, such as those that may result from the use of toothed excavator buckets, shall not be acceptable.

### **3. Operational Constraint**

1. Excavate to lines, grades, elevations and dimensions indicated. Remove any obstructions, including boulders, if any.
2. The Contractor shall be responsible for the removal of all surplus excavated material to a Certified Disposal Site approved by the Qualified Person, and disposal costs.
3. Ditch cleanout shall not be conducted within the receiving waterbody or within a wetland or when water in the ditch is flowing. Ditch cleanout shall be conducted in dry weather.
4. Equipment shall arrive on site in a clean condition, be maintained free of fluid leaks and be operated from the shoulder, and in a manner that minimizes disturbance to the waterbody banks of the receiving waterbody.

5. Equipment refuelling and excess materials storage shall take place at locations as far away as practicable from the receiving waterbody in a manner that prevents the entry to the waterbody of deleterious substances including sediment.
6. Disturbance of riparian vegetation shall be minimized, especially the vegetation directly adjacent to the waterbody.

**4. Quality Assurance**

1. The Contract Administrator may conduct inspections of any ditch after cleanout to verify that the Contractor has adequately restored the ditch grades and flow as specified in the Contract Documents.

**END OF SECTION**

## **SP 7. Earth Excavation for Structure**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Excavated materials will be measured in per Cubic Metre basis in their original location.
  - a. Common excavation quantities measured will be actual volume removed within the following limits:
    - i. Depth from ground elevation immediately prior to excavation, to elevation as directed by Contract Administrator.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
2. A theoretical limit of excavation has been used to calculate the item quantity. No adjustments for bulking have been applied. Payment will be made based on plan quantities and any increase would need to be verified by survey field measurements collected by the contractor and submitted to the Municipality for acceptance. Should the contractor not provide sufficient survey data to substantiate a claim for increased pay quantities, the tender quantities will be used.
3. Dewatering where required will not be measured separately for payment, including installation, removal, and maintenance.
4. Hauling and disposal of excavated materials to either of the Municipality owned facilities as directed by the Municipality and / or the Contract Administrator will not be measured separately for payment.
5. Payment for excess soil management including testing, reporting, and tracking shall be considered separately as shown on the Form of Tender and will be a provisional item.

#### **3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 180, November 2021, General Specifications for Management of Excess Materials

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- b. OPSS.MUNI 206, April 2019, Construction Specifications for Grading
  - c. OPSS.MUNI 510, November 2018, Construction Specifications for Removal
  - d. OPSS.MUNI 902, November 2021, Construction Specifications for Excavation and Removals – Structures
2. Ontario Regulation (O.Reg.):
    - a. O.Reg. 406/19: On-Site and Excess Soil Management
    - b. Rules for Soil Management and Excess Soil Quality Standards
  3. Ontario Regulation (O.Reg.):
    - a. O.Reg. 406/19: On-Site and Excess Soil Management
    - b. Rules for Soil Management and Excess Soil Quality Standards
  4. Special provisions for [Excess Soil Management Including Testing, Reporting and Tracking](#). (Click hyperlink)

#### 4. Descriptions

1. The Contractor shall excavate within the limits required to construct the foundations of the new bridge.
2. The Contractor is permitted to haul excavated materials to Municipality owned facilities below:
  - a. Lavigne Landfill  
354 Lafreniere Road, Lavigne  
Contact info: Jason Sullivan 705-358-0296
  - b. Verner Landfill  
247 Highway 575, Verner  
Contact info: Jason Sullivan 705-358-0296

#### 5. Definitions

1. This item includes excavating and disposing of excess material required to install precast open bottom culvert and footings of the new Eugene Road Bridge, as indicated in the Contract Drawings.

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2. All organic soils and other deleterious materials shall be removed from beneath the proposed new footings and culvert. Where these materials are encountered, they shall be excavated, disposed of (off site) and replaced with 19 mm Crusher Run Limestone material (compacted).
3. Unclassified Excavation: excavation of deposits of whatever character encountered in work including miscellaneous structures located above or below ground level and below and above water level within area being excavated.

## **6. Protection**

1. Existing buried utilities and structures.
2. Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
3. Prior to commencing any excavation work, the Contractor shall submit an application directly to Ontario OneCall. The Contractor shall establish location and state of use of buried utilities and structures. Clearly mark such locations to prevent disturbance during work.
4. Confirm locations of buried utilities by daylighting excavations as required and hand excavations.
5. Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered. Obtain direction of the Contract Administrator before moving or otherwise disturbing utilities or structures.
6. Surface Features: Protect surface features that may be affected by work from damage while work is in progress and repair damage resulting from work.
7. Shore and brace excavations in accordance with the Occupational Health and Safety Act, (latest edition) and Regulations for Construction Projects, latest amendments, and applicable local regulations.

## **7. Submittals**

1. Certified Disposal Site: inform Engineer of the location of Certified Disposal Site at least ten (10) days prior to disposal.

## **PART 2 – EXECUTION**

### **1. Surface Conditions**



1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the excavation or backfill may commence.
2. Site Preparation: Remove obstructions from surfaces to be excavated within the limits indicated.

## **2. Excavation**

1. Excavate to lines, grades, elevations and dimensions indicated. Remove any obstructions, including boulders, if any.
2. The Contractor shall be advised that large obstructions such as cobbles, boulders, buried concrete pieces, and existing foundations may also be anticipated in the fill material. The cost for this item shall also include any excavation, removal, and disposal of possible large obstructions.
3. Excavated materials to be trucked offsite.
4. Dispose of unsuitable material or debris at an appropriately approved landfill site at no additional cost to the contract.
5. Remove unsuitable material from excavation bottom to extent and depth directed by Contract Administrator.
6. Where required due to unauthorized over-excavation, correct as directed by Contract Administrator at the Contractor's own cost.
7. Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of the excavation is disturbed, compact foundation soil to the density at least equal to undisturbed soil.
8. The Contractor shall furnish a certified copy of the consent from the proper parties owning the dumpsite to the Contract Administrator. Approval of the site by the Contract Administrator shall be given prior to disposal of material from the site on any such lands.
9. The Contractor shall conform to the regulatory requirements of the Environmental Protection Act and Ministry of Environment and Energy Regulation 309, with respect to the management of surplus/waste materials generated through road maintenance and construction.

**END OF SECTION**

## **SP 8. Rock Excavation (Provisional)**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Excavated materials will be measured in per Cubic Metre basis in their original location.
  - a. Depth from ground elevation immediately prior to excavation, to elevation as directed by Contract Administrator.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
2. Hauling and disposal of excavated materials to either of the Municipality owned facilities as directed by the Municipality and / or the Contract Administrator will not be measured separately for payment.
3. Payment for excess soil management including testing, reporting, and tracking shall be considered separately as shown on the Form of Tender and will be a provisional item.

#### **3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 180, November 2021, General Specifications for Management of Excess Materials
  - b. OPSS.MUNI 202, November 2022, Construction Specifications for Rock Removal by Manual Scaling, Machine Scaling, or Trim Blasting
  - c. OPSS.MUNI 403, November 2016, Construction Specifications for Rock Excavation for Pipelines, Utilities, and Associated Structures in Open Cut
2. Ontario Regulation (O.Reg.):
  - c. O.Reg. 406/19: On-Site and Excess Soil Management
  - d. Rules for Soil Management and Excess Soil Quality Standards

3. Ontario Regulation (O.Reg.):
  - c. O.Reg. 406/19: On-Site and Excess Soil Management
  - d. Rules for Soil Management and Excess Soil Quality Standards
4. Special provisions for [Excess Soil Management Including Testing, Reporting and Tracking](#). (Click hyperlink)

#### **4. Definitions**

1. This **provisional** item includes rock excavation and disposal, if required, to install precast open bottom culvert and south footing of the new Eugene Road Bridge, as indicated in the Contract Drawings.
2. Rock excavation less than and equal to 0.5m. All excavation methods as per OPSS are permissible except for blasting.
3. The Contractor is permitted to haul excavated materials to Municipality owned facilities below:
  - a. Lavigne Landfill  
354 Lafreniere Road, Lavigne  
Contact info: Jason Sullivan 705-358-0296
  - b. Verner Landfill  
247 Highway 575, Verner  
Contact info: Jason Sullivan 705-358-0296

#### **5. Protection**

1. Existing buried utilities and structures.
2. Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
3. Prior to commencing any rock excavation work, the Contractor shall submit an application directly to Ontario OneCall. The Contractor shall establish location and state of use of buried utilities and structures. Clearly mark such locations to prevent disturbance during work.
4. Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered. Obtain direction of the Contract Administrator before moving or otherwise disturbing utilities or structures.

5. Surface Features: Protect surface features that may be affected by work from damage while work is in progress and repair damage resulting from work.
6. Shore and brace excavations in accordance with the Occupational Health and Safety Act, (latest edition) and Regulations for Construction Projects, latest amendments, and applicable local regulations.

## **PART 2 – EXECUTION**

### **1. Surface Conditions**

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the rock excavation or backfill may commence.
2. Site Preparation: Remove obstructions from surfaces to be rock excavated.

### **2. Rock Excavation**

1. Excavate to lines, grades, elevations and dimensions indicated. Remove any obstructions, including boulders, if any.
2. The Contractor shall be advised that large obstructions such as cobbles, boulders, buried concrete pieces, and existing foundations may also be anticipated in the fill material. The cost for this item shall also include any excavation, removal, and disposal of possible large obstructions.
3. Bedrock removal may be required in the scope of work for this project. The Contractor shall immediately notify the Contract Administration if bedrock is encountered within excavation limits. The Contractor must inform the precise elevations and coordinates at which bedrock is encountered. The information must be immediately delivered to the Contract Administrator for resolution.
4. Excavated materials to be trucked offsite.
5. Where required due to unauthorized over-excavation, correct as directed by Contract Administrator at the Contractor's own cost.
6. The Contractor shall furnish a certified copy of the consent from the proper parties owning the dumpsite to the Contract Administrator. Approval of the site by the Contract Administrator shall be given prior to disposal of material from the site on any such lands.

7. The Contractor shall conform to the regulatory requirements of the Environmental Protection Act and Ministry of Environment and Energy Regulation 309, with respect to the management of surplus/waste materials generated through road maintenance and construction.

**END OF SECTION**

**SP 9. Supply and Install 12,400 mm x 9,360 mm Modular Bridge**

**PART 1 – GENERAL**

**1. Measurement of Payment**

1. Measurement for payment shall be made on a per Unit basis.

**2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all design, materials, labour, freight, and equipment.
2. This item shall include the costs to retain a Licenced Professional Engineer in the Province of Ontario to carry out any structural design as required and double sealed project specific shop drawings.
3. This item shall include the costs for any on-site and lab testing recommended and / or required by the modular bridge manufacturer shall be considered in this item.
4. This item shall include the costs of Certificates of Conformance upon the fabrication of bridge and complete installation of bridge.
5. The costs for any hardware required to connect proposed TL-1 barrier system to proposed guiderail systems shall be included in this tender item.
6. The Contract can assume the Manufacturer's recommended application amount of high-performance oxide primer for the entire structure. Upon the completion of any on-site and lab testing, and if additional corrosion protective coating is required based on lab results in writing, the Contractor shall submit a direct quote from the Manufacturer for additional coating application. A 5% markup is permitted on Manufacturer's quote.

**3. Description**

1. The Contractor shall design, supply, and install modular bridge as indicated on the Contract Drawings, as well as any associated required.
2. Proposed modular bridge to be designed and supplied by Lessard Welding or approved equivalent. Suggested sales representative contact information as per the following:

**Tim Lee – Bridge Specialist, Eastern Canada**  
Northern Mat & Bridge LP

207221 Highway 9, Mono, ON L9W 6J1



Cell: 705-644-3976

[tle@northernmat.ca](mailto:tle@northernmat.ca)

[www.northernmat.ca](http://www.northernmat.ca)

3. The Contract Drawings provide a general arrangement of the proposed modular bridge required and do not include all necessary details. The Contractor shall design and supply shop drawings to include all materials and components required to install the modular bridge as per their general arrangements in the Contract Drawings.

#### **4. Reference Standards and Quality Assurance**

1. Canadian Standards Association (CSA):
  - a. CSA S16:19 – Design of steel structures
  - b. CSA S6:19 – Canadian Highway Bridge Design Code
  - c. CSA W47.1:19 – Certification of companies for fusion welding of steel
  - d. G40.20-13/G40.21-13 (R2023) – General requirements for rolled or welded structural quality steel/Structural quality steel
  - e. W59.1-1970 – General Specification for Welding of Steel Structures (Metal-Arc Welding)
2. Ministry of Transportation Ontario (MTO) Structural Manual
3. Conflicting Requirements: The more stringent requirements shall govern conflicts between codes and regulations, the reference standards or these Specifications.
4. The fabricator shall have a minimum of fifteen (15) year experience in the fabrication of the items under this Section.

#### **5. Submittals and Requirements**

1. Certificates: Within ten (10) working days after notice of award of Contract, submit to the Contract Administrator test certificates of the chemical and

physical analysis for all the material proposed to be supplied and installed under this portion of the work.

2. Within ten (10) working days after award of Contract, and before any metal fabrication items are manufactured, submit complete shop drawings to the Contract Administrator for review and approval. The shop drawings shall bear a seal of a Profession Engineer of Ontario. Include with the shop drawings a bill of material, including quantities, materials, sizes and nominal weights. These drawings shall clearly show all the dimensions in metric units, be drawn to scale and shall specify the materials used.
  - a. The manufacturer shall furnish design calculations for all components of the modular bridge. The calculations shall clearly show the structural integrity of the modular bridge. The calculations shall include complete anchoring design, connection design, calculations under dead load only, and dead and live loads, and structural integrity calculations of all units and connections. The shop drawings and calculations shall bear a seal of a professional engineer licensed to practice on the Province of Ontario.
3. Proof of Qualification: Within ten (10) working days after award of Contract, submit to the Contract Administrator a copy welding certification and a list of all qualified welders to be used on this portion of the work.
4. Within ten (10) working days of completion of all welding work, submit certification by a Licenced Professional Engineer that all welds have been produced in accordance with the shop drawings.
5. Show all shop and field welds by the current recommended symbols of the American Welding Society.
6. Submittal summary:
  - a. Proof of CSA – CWB certification;
  - b. Proof of ISO accreditation;
  - c. **Double sealed site specific** General Arrangement and Shop Drawings of the prefabricated product with unique serial number of the supplied modular bridge
  - d. Manufacturer's instructions related to recommended maintenance procedures and schedules; and
  - e. Sealed 'Certificate of Conformance' signed by the bridge Engineer upon the completion of fabrication and installation.



## **PART 2 – DESIGN REQUIREMENTS**

### **1. Modular Bridge Configuration**

1. The general configuration of the proposed modular bridge shall be in accordance with the general layout Contract Drawings. the proposed modular bridge shall accommodate two (2) 3.5m wide travel lanes with 1.0m shoulders on each side. Configuration may be adjusted to suit specific manufacturing features.
2. Product shall be designed for Low Volume Roads (LVR) / CL-625 Ontario Truck Design – CHBDC CAN / CSA-S6-19 and is Certified for use on LVR as detailed in the 2016 MTO "Exceptions to the CHBDC; CSA S6-19 for Ontario". Bridge Post Pockets meet the requirements of the MTO TL-1 barrier system.

### **2. Design Life**

1. The proposed modular bridge shall have a design life of minimum 75 years with relatively simple routine maintenance.

### **3. General Design Requirements**

1. The dimensions, configuration and appearance of the proposed modular bridge shall be fully compatible with the layout, and configuration of the proposed crib foundations. Location plans, cross-sections, and details of the proposed crib foundations are shown in the Contract Drawings.
2. The modular bridge and connections shall be designed to withstand wind, wave, current, impact and user loading that may reasonably be expected to occur during the life of the structure as a result of the project location and exposure. The design requirement indicated herein the minimum design standards.

### **4. Dimensions**

1. Proposed modular bridge shall be 12,400mm (40'-8") long x 9,360mm (30'-8.5") wide x 635mm (25") high Municipal Modular bridge.
2. Bridge product delivered in 3 - 40' 8" long x 25" high sections, Total weighs approx. 26,762 kg (59,000lbs).

### **5. Design Loads and Considerations**

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1. The weights of all decking, connections, guiderails, and all permanently attached features shall be included as dead loads.
2. Live loads as per Low Volume Roads (LVR) / CL-625 Ontario Truck Design – CHBDC CAN / CSA-S6-19 and is Certified for use on LVR as detailed in the 2016 MTO "Exceptions to the CHBDC; CSA S6-19 for Ontario".
3. Bridge Post Pockets meet the requirements of the MTO TL-1 barrier system.
4. Other loading requirements as per CHBDC CSA S6-19.
5. The Manufacturer shall recommend a connection type between the proposed modular bridge and the proposed substructures (crib foundations). As required, the Contractor shall retain a Licenced Professional Engineer in the Province of Ontario to design the connection details.

## **6. Features**

1. Proposed modular bridge shall accommodate MTO TL-1 barrier system at a minimum. This barrier system shall tie in with the proposed guiderail system described in the Contract Drawings.
2. Bridge ends shall be squared and match with existing elevations at approaches.
3. Modular bridge shall be manufactured with closed ends for soil retention. The soil retention system shall be fabricated into the bridge ends.
4. The wear surface on the proposed modular bridge shall have a welded steel checker deck that is at least 3/8" in thickness. The bridge deck shall be levelled and uniform between bridge sections to allow heavy duty traffic to travel smoothly across the structure. The gap between modular bridge sections shall be less than 1/8".
5. Main stringer beams shall be cleaned and shot blasted in accordance with The Society for Protective Coatings standard "Joint Surface Preparation Standard SSPC-SP 6/NACE No. 3" to ensure proper adhesion of paint and anti-slip coatings.
6. The Contractor shall apply a high-performance oxide primer (minimum application of 75-100 micrometres or 3-4 mils) to coat the entire structure as well as the soffit and all areas of the bridge.

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7. A dense grit product is required to provide additional traction for traffic. Minimum application of 75-100 micrometres or 3-4 mils shall be required. The Contractor shall apply additional anti-slip and corrosion protective coatings as required.
8. For the modular bridge superstructure products, each unit shall provide a minimum of 4 main lifting points (2 each side, evenly located along the length of the product). Additional reinforced lifting points shall also be provided at the end of each product length. New CSA load rated straps (with tags affixed) shall be supplied by the Contractor for each of the main lifting points.
9. The Contractor shall supply secure cover plates for all exposed connection and bridge lifting openings.

## **7. Connections**

1. Connections between the proposed modular bridge and substructure (proposed crib foundations) shall be designed by the Contractor. Any anchorage system required shall be supplied by the Contractor.

## **8. Warranty**

1. The Contractor must provide a warranty, for a period of two (2) years from the date of the completion of installation of the modular bridge, guaranteeing the workmanship, materials and performance of all the components of modular bridge system including the structure, all connections, and all associated hardware.
2. The Contractor agrees to correct promptly, at their own expense, defects or deficiencies in the work which appear prior to and during the period of two (2) years from the date of the completion of the installation of the modular bridge system.

## **PART 3 – MATERIALS**

### **1. Condition and Origin of Materials**

1. All structural steel to be new and will come complete with a certified mill material test report that verifies the material's chemical and physical properties and its compliance with applicable CSA/ISO/ANSI standards.
2. Reconditioned, repurposed, or reused structural steel will not be accepted.
3. Unless otherwise noted, the following material properties shall be used for the supply of structural steel and structural bolts:

CSA G40.21M-Grade 350W:

- a. Girders and any material welded to girders;
- b. Any bracing member considered a primary component and bolted to the girders; and
- c. Any bracing member considered a secondary component and bolted to the girders.

ASTM A325M Type 3:

- a. Bolts for weathering steel structural connections.

## **2. Galvanizing**

1. Galvanizing shall conform to ASTM A123 for structural shapes and ASTM A153 for miscellaneous steel and hardware. Zinc used for coating shall conform to the specification for slab, zinc, ASTM Designation B6.
2. The following items shall be galvanized:
  - b. All components identified on Contract Drawings as galvanized.
  - c. All fasteners to be galvanized.

## **3. Associates metal hardware and nails**

1. Bolts, washers, nuts, plates: all steel Grade 350W and Hot Dipped Galvanised to CAN/CSA-G164

## **PART 4 – EXECUTION**

### **1. Surface Conditions**

1. Inspection:
  - a. Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the installation of modular bridge may commence.
  - b. Make all required measurements in the field to ensure proper and adequate fit of the items to be installed.
  - c. Verify that all modular bridge items may be installed in accordance with all pertinent codes and regulations, the original design, the reviewed shop drawings and the referenced standards.

2. Errors and Omissions:
  - a. Report all errors and omissions that may affect the installation of this work to the Contract Administrator.
  - b. Do not proceed with the installation in areas where errors and omissions occur until such errors and omissions have been resolved.

## **2. Fabrication**

1. General: Fabricate all items in accordance with the reviewed shop drawings and the referenced standards.
2. Prefabrication: All products to be shop assembled to ensure all components are true and square, fit properly and to avoid field assembly issues.
3. The Contractor shall provide photos of shop assembly to be submitted for review prior to shipment.
4. Holes: Make all holes by punching or drilling. Burned holes will not be accepted.
5. Upon completion of modular bridge fabrication, the Manufacturer shall affix a bridge identification plate that will contain a serial number, weight (for transportation and handling), date of manufacture and structural capacity.
6. The Contractor shall supply a 'Certificate of Conformance' corresponding to the serial identification affixed to the proprietary 'prefabricated bridge superstructure'. The Certificate of conformance shall be sealed and signed by the design Engineer and shall state the mill certificates have been reviewed and the modular bridge has been inspected to ensure conformity with sealed working drawings and applicable CWB standards.

## **3. Welding**

1. General:
  - a. Welds shall be completed in accordance with the details shown on the shop drawings or as specified.
  - b. Welds, welding equipment, procedures, etc. shall conform to CSA Specification S16, W59 and the National Building Code.

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- c. All welding shall be done by personnel qualified in accordance with CSA Specification W47.
- 2. Site Conditions:
  - a. The Contractor shall note that the site is exposed and that welding operations must be suitably protected against the direct action of weather.
  - b. The following provisions shall also apply:
    - i. No welding shall be done when the temperature of the base metal is lower than -18 °C, except with the express consent of the Contract Administrator who will specify the precautions to be taken.
    - ii. At temperatures below 0 °C, the surfaces of all areas within 75mm of the point where a weld is to be started shall be heated to a temperature at least warm to the hand before welding is commenced.

#### **4. Product Handling**

- 1. Delivery and storage:
  - a. Deliver and store materials to prevent damage.
  - b. Handle materials so as to prevent permanent damage.
- 2. Protection:
  - a. Provide adequate protection of materials and the work of this Section from damage by other trades.
  - b. Protect the work of all other trades from damage resulting from the work of this Section.
- 3. Replacement: In the event of damage, make repairs or replacements necessary to the approval of the Contract Administrator at no additional cost to the Municipality.

#### **5. Erection**

- 1. Coordination: Coordinate the installation of all items with that of related trades to ensure orderly and timely progress of the work.

2. Compliance: Erect and install all items in accordance with the reviewed shop drawings and the referenced standards.
3. Tolerances: Align all items straight, plumb and level with a tolerance of not more than 5 mm in 1 metre.
4. Correction of Errors:
  - a. Immediately report to the Contract Administrator and the fabricator any fabrication error which prevents the proper erection of the items.
  - b. Do not proceed until the Contract Administrator approves the method of correction proposed.
5. The Contractor shall supply a 'Certificate of Conformance' corresponding to the serial identification affixed to the proprietary 'prefabricated bridge superstructure'. The Certificate of conformance shall be sealed and signed by the design Engineer and shall state the modular bridge has been inspected to ensure site installation is in conformity with sealed working drawings and applicable CWB standards.

## **6. Finishing**

1. Touch-up rivets, field welds, bolts, and scratched surfaces after erection with galvanized zinc primer, or as recommended by the Manufacturer.
2. Clean damaged surfaces with a wire brush removing loose and cracked coatings. Apply two (2) coats of organic rich zinc paint to damaged areas. Pre-treat damaged surfaces according to manufacturer's instructions for zinc rich paint, or as recommended by the Manufacturer.
3. No welding and galvanizing drips, splatters, burrs, or other inconsistencies in finish are permitted.
4. All components shall be tightly fitted together and to surrounding work.
5. Thoroughly clean and ensure surfaces are smooth and dry prior to application of decals and adhesive reflectors to ensure adhesion is not inhibited by any grease, wax, dust, rust, fillings or other.

## **7. Clean-Up**

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1. Upon completion of the work of this Section, remove all material, trash, debris, equipment and tools. Leave the site in a neat and orderly condition acceptable to the Contract Administrator.

**END OF SECTION**



## **SP 10. Supply and Install Timber Crib Foundations with Rock Backfill**

### **PART 1 – GENERAL**

#### **1. Measurement of Payment**

1. Measurement for payment shall be made on a per Unit basis.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all design, labour, materials, and equipment.
2. Payment for rock backfill shall be included in the unit price for this item. Quantities for rockfill tonnage shall not be separately considered, regardless of size required to backfill to grades specified in the Contract Drawings and as directed by the Contact Administrator.
3. Payment for geotextile shall be included in the unit price for this item. Quantities for overlapping geotextile shall not be separately considered. The Contractor shall include the cost of overlapping in the unit price.

#### **3. Description**

1. The Contractor shall design, supply, and install timber crib foundation with rock backfill as indicated on the Contract Drawings.
2. The Contractor shall supply and place minimum 450 mm diameter stone backfill, and fill voids with 125mm diameter or other well graded stones as shown on the Contract Drawings and as directed by the Contract Administrator.
3. Metal fabrication required for this work may not be fully indicated on the Contract Drawings, but shall include and not limited to the supply and installation of shapes, channels, angles, plates and associated hardware.
4. All pressure treated timber required for this work as indicated on the Contract Drawings.

#### **4. References and Quality Assurance**

1. Comply with all pertinent building codes and regulations.
2. Canadian Standards Association (CSA):

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- a. CSA B111-1974 (R2003) – Wire Nails, Spikes and Staples
  - b. CSA G40.20-13/G40.21-13 (R2023) – General requirements for rolled or welded structural quality steel/Structural quality steel
  - c. CSA O80 SERIES:21 – Wood preservation
  - d. CSA O322:15 (R2020) – Procedure for certification of pressure-treated wood materials for use in permanent wood foundations
  - e. CSA S16:19 – Design of steel structures
  - f. CSA S6:19 – Canadian Highway Bridge Design Code
3. Ontario Provincial Standard Specification (OPSS):
- a. OPSS.MUNI 511, November 2019, Construction Specification for Rip-Rap, Rock Protection, and Granular Sheeting
  - b. OPSS.MUNI 1004, November 2021, Material Specification for Aggregates – Miscellaneous.
  - c. OPSS.MUNI 1860, November 2018, Material Specification for Geotextiles.
4. Ministry of Transportation Ontario (MTO) Structural Manual
5. Conflicting Requirements: The more stringent requirements shall govern conflicts between codes and regulations, the reference standards or these Specifications.
6. The fabricator shall have a minimum of ten (10) year experience in the fabrication of the items under this Section.

## 5. Submittals and Requirements

1. Certificates: Within ten (10) working days after notice of award of Contract, submit to the Contract Administrator test certificates of the chemical and physical analysis for all the material proposed to be supplied and installed under this portion of the work.
2. Within ten (10) working days after award of Contract, and before any timber and metal fabrication items are manufactured, submit complete shop drawings to the Contract Administrator for review and approval. The shop drawings shall bear a seal of a Profession Engineer of Ontario. Include with the shop drawings a bill of material, including quantities,

materials, sizes and nominal weights. These drawings shall clearly show all the dimensions in metric units, be drawn to scale and shall specify the materials used.

3. Submittal summary:
  - a. Proof of ISO accreditation;
  - b. **Double sealed site specific** General Arrangement and Shop Drawings;
  - c. Sealed 'Certificate of Conformance' signed by the bridge Engineer upon the completion of installation.
4. Source of Materials: At ten (10) working days prior to commencing work, submit to the Contract Administrator for review a list of proposed sources of fill and backfill materials.
5. The contractor shall provide weigh scale tickets to the Contract Administrator as each granular load is delivered to the site. The tickets shall include the following information.
  - a. Truck Number
  - b. Tare Weight
  - c. Net Weight
  - d. Ticket Number
  - e. License plate number of unit(s)
  - f. Time and date of transaction
  - g. Truck owner
  - h. Contract number
  - i. Type of material
  - j. Source of material
  - k. Gross weight
  - l. Overload notation
  - m. Running total of each material
  - n. A place for the checker to sign

## **PART 2 – DESIGN REQUIREMENTS**

### **1. Timber Crib Foundation Configuration**

1. The general configuration of the crib foundation shall be in accordance with the general layout Contract Drawings included. Configuration may be adjusted to suit specific manufacturing features.

### **2. Design Life**

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1. The crib foundation shall have a design life of minimum 50 years with minimal maintenance. Expected maintenance shall be limited to replacement of timber.

### **3. General Design Requirements**

1. The dimensions, configuration and appearance of the crib foundation and connections shall be fully compatible with the layout, and configuration of the project area. Location plans, cross-sections, and details of the proposed crib foundations are shown in the Contract Drawings.
2. The foundations and connections shall be designed to withstand wind, water, impact and user loading that may reasonably be expected to occur during the life of the structure as the result of the crib foundations' location and exposure. The design requirement indicated herein the minimum design standards.
3. Timber bearing pads as, shown are designed to the requirements of the Canadian Highway Bridge Design Code (CAN/CSA S6-19) to support prefabricated modular bridges.

### **4. Design Loads**

1. The weights of all decking, connections, guiderails, and all permanently attached features shall be included as dead loads.
2. Live loads as per Low Volume Roads (LVR) / CL-625 Ontario Truck Design – CHBDC CAN / CSA-S6-19 and is Certified for use on LVR as detailed in the 2016 MTO "Exceptions to the CHBDC; CSA S6-19 for Ontario".
3. The bearing pads are intended for use on bridges serving low volume access loads where the average daily traffic (ADT) is less than 200 vehicles and where approach visibility is good.
4. Bearing pad assembly and shallow crib have been designed to found on competent non-cohesive soil with minimum bearing capacity at ULS 80 kPa.

### **5. Bearing**

1. Connections between the modular bridge and proposed crib foundations shall be designed so that the modular bridge can be readily disconnected and lifted for crib foundation repairs.

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2. Any changes in the bearing pad design including timber species, size or layout shall be approved by a Professional Engineer licensed in the Province of Ontario.

## **6. Warranty**

1. The Contractor must provide a warranty, for a period of two (2) years from the date of the completion of installation of the crib foundations, guaranteeing the workmanship, materials and performance of all the components of the crib foundations including timber, geotextile, rock backfill, and all connections and all associated hardware.
2. The Contractor agrees to correct promptly, at their own expense, defects or deficiencies in the work which appear prior to and during the period of two (2) years from the date of the completion of the installation of the crib foundations.

## **PART 3 – MATERIALS**

### **1. Condition and Origin of Materials**

1. All timber materials and hardware to be new and compliance with applicable CSA/ISO/ANSI standards.
2. Reconditioned, repurposed, or reused materials will not be accepted.

### **2. Galvanizing**

1. Galvanizing shall conform to ASTM A123 for structural shapes and ASTM A153 for miscellaneous steel and hardware. Zinc used for coating shall conform to the specification for slab, zinc, ASTM Designation B6.
2. The following items shall be galvanized:
  - a. All components identified on Contract Drawings as galvanized.
  - b. All fasteners to be galvanized.

### **3. Bolts and Nuts, and Associates metal hardware and nails**

1. High Strength Bolts: All machine bolts, nuts and washers shall meet the requirements of ASTM F3125.
2. 5/8" bolts with nuts and washers and 18" in length for all connections.
3. Bolts, washers, nuts, plates: all steel Grade 350W and Hot Dipped Galvanised to CAN/CSA-G164 (other than drift pins).

4. Nails: spiral, hot dipped galvanized to CSA B111.
5. All bolts, nuts and washers shall conform to ASTM325 and be as indicated on the shop drawings, or if not so indicated, shall be of the size, shape and length sufficient for their intended uses and shall be hot dipped galvanized. Protection from galvanic action of dissimilar metals shall be provided.

#### **4. Pressure Treatment**

1. Preservative treatment by a pressure process to CSA O80.18. Net retention of preservative: All Timber: 6.4 kg/m<sup>3</sup> Minimum Penetration for Douglas FIR-Larch No. 1 or better:
  - a. Other Timber under 140 mm: 15 mm
  - b. Other Timber over 140 mm: 25 mm
2. As much as practical, perform all machining such as boring, chamfering, framing, dressing and trimming prior to pressure treatment.
3. Preservative: AWPAC UC4A as amended by CSA O80.
4. Apply the recommended and accepted practices followed in the care and handling of all wood products to pressure-treated wood products. Avoid damage to pressure-treated timber.
5. All timber shall be sound, well seasoned and straight grained, absolutely free from shakes and large or loose knots and shall have no decayed wood, worm holes or any defects which will impair its strength or durability for the purpose intended. All timber shall be surfaced on four sides.

#### **5. Timber**

1. All pressure treated timbers shall be Douglas FIR – Larch (DF – L) No. 1 or better, all material to be new.
2. All timber crib foundation members shall be primarily 8” x 8”. Other timber sizes may be required to suit site conditions.
3. Minimum length of timbers to be 4.8 metres (16 feet), unless indicated otherwise on Contract Drawings.

#### **6. Rock Backfill and Geotextile**

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1. Physical properties of stone backfill shall be as per rock protection on Table 7 of OPSS.MUNI 1004. Gradation of stone backfill shall be as per rock protection on Table 8 of OPSS.MUNI 1004.
2. Geotextile should be as per Terrafix 360R or approved equivalent.

## **PART 4 – EXECUTION**

### **1. Surface Conditions**

1. Inspection:
  - a. Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the installation of crib foundation items may commence.
  - b. Make all required measurements in the field to ensure proper and adequate fit of the items to be installed.
  - c. Verify that all metal fabrication items may be installed in accordance with all pertinent codes and regulations, the original design, the reviewed shop drawings and the referenced standards.
2. Site Preparation: Remove obstructions from surfaces to be filled within the limits indicated.
3. Errors and Omissions:
  - a. Report all errors and omissions that may affect the installation of this work to the Contract Administrator.
  - b. Do not proceed with the installation in areas where errors and omissions occur until such errors and omissions have been resolved.

### **2. Fabrication**

1. General: Fabricate all items in accordance with the reviewed shop drawings and the referenced standards.

### **3. Product Handling**

1. Delivery and storage:
  - a. Deliver and store materials to prevent damage.

- b. Handle materials so as to prevent permanent damage.
  - 2. Protection:
    - a. Provide adequate protection of materials and the work of this Section from damage by other trades.
    - b. Protect the work of all other trades from damage resulting from the work of this Section.
  - 3. Replacement: In the event of damage, make repairs or replacements necessary to the approval of the Contract Administrator at no additional cost to the Municipality.
  - 4. Care of Treated Products
    - a. Avoid damage to original pressure treated surfaces.
    - b. Do not use hooks, pickaroons on the side of the treated wood. Confine the use of such tools to the end grain.
    - c. Thoroughly saturate all cuts or injuries occurring subsequent to the pressure treatment by liberal brushing, dipping, soaking or coating with preservative solution.
    - d. Fill all holes necessarily bored after pressure treatment with preservative solution and allow ample soaking time for penetration of solution.
    - e. Use copper naphthenate coloured to match original treatment in any of the above field treating solutions
  - 5. Handling of preservatives
    - a. Instruct personnel on the proper care of preservative and handling of pressure treated wood prior to start of work.
- 4. Erection**
- 1. Coordination: Coordinate the installation of all items with that of related trades to ensure orderly and timely progress of the work.
  - 2. Compliance: Erect and install all items in accordance with the reviewed shop drawings and the referenced standards.



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3. Tolerances: Align all items straight, plumb and level with a tolerance of not more than 5 mm in 1 metre.
4. Correction of Errors:
  - a. Immediately report to the Contract Administrator and the fabricator any fabrication error which prevents the proper erection of the items.
  - b. Do not proceed until the Contract Administrator approves the method of correction proposed.

#### **5. Timber Preparation**

1. Cut timbers as detailed on approved shop drawings.

#### **6. Finishing**

1. Clean damaged surfaces with a wire brush removing loose and cracked coatings. Apply two (2) coats of organic rich zinc paint to damaged areas. Pre-treat damaged surfaces according to manufacturer's instructions for zinc rich paint.
2. All components shall be tightly fitted together and to surrounding work.

#### **7. Field Metal Primer**

1. Provide two coats of Galaprine #52 or approved equivalent organic rich paint to damaged, field welding, burned, compromised hot dipped galvanized surfaces. This includes components that have had burrs, splatters, shavings, and other defects removed.

#### **8. Rock Backfill and Geotextile Placement**

1. Do not place or spread any fill materials during unfavourable weather.
2. Do not proceed with filling operations until Contract Administrator has inspected and approved placements.
3. Areas to be filled shall be free from debris and water except for areas below the level of the creek.
4. Do not use fill material that is frozen or contains ice, snow, or debris.
5. Place rock protection to lines and grades indicated on the Contract Drawings and as directed by the Contract Administrator. Start work by placing stones at the bottom of crib foundations and proceed up.

6. Strategically place stones to ensure full bearing of proposed granular base along its surface area. Use water jet or other approved means to ensure full bearing.
7. Fine grade areas to be uniform, even surface. Fill depressions with suitable material and compact to provide firm bed.
8. Place stones in manner approved by Contract Administrator to secure surface and create a stable mass. Place larger stones at bottom of slopes and as headers for subsequent courses.
9. Stagger joints and fill voids with 50 mm to 100 mm stones.
10. Finish surface evenly, free of large openings and neat in appearance. Tolerance on stone layer thickness is plus or minus 100 mm. Constant exceeding of specified thickness will not be accepted.
11. Allow Contract Administrator to check grades of placed stones. Do not claim delay due on account of this.
12. The Contractor shall ensure all geotextile seams are overlapped by 600 mm.

**9. Clean-Up**

1. Upon completion of the work of this Section, remove all material, trash, debris, equipment and tools. Leave the site in a neat and orderly condition acceptable to the Contract Administrator.

**END OF SECTION**

## **SP 11. Supply and Place Scour Protection**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Measurement for payment shall be made on a per Cubic Metre basis, as measured by supplier weight tickets.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
2. All weigh scale tickets shall be computerized and will include tare, gross and net weight of the vehicle, together with vehicle and job site identification. Handwritten tickets will not be accepted.
3. Payment for the geotextile shall be included in the unit price for this tender item. Quantities for overlapping geotextile shall not be separately considered. The Contractor shall include the cost of overlapping in the unit price.

#### **3. Description**

1. The Contractor shall supply and place WB-200 cobbles to a thickness of 300 mm as per the Contract Drawings and as directed by the Contract Administrator.
2. Geotextile shall underlie scour protection cobbles.

#### **4. Reference Standards Quality Assurance**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 511, November 2019, Construction Specification for Rip-Rap, Rock Protection, and Granular Sheeting
  - b. OPSS.MUNI 1005, November 2021, Material Specification for Aggregates – Waterbody.
  - c. OPSS.MUNI 1860, November 2018, Material Specification for Geotextiles.

#### **5. Submittals**

1. Source of Materials: At ten (10) working days prior to commencing work, submit to the Contract Administrator for review a list of proposed sources of fill and backfill materials.
2. The contractor shall provide weigh scale tickets to the Contract Administrator as each granular load is delivered to the site. The tickets shall include the following information.
  - a. Truck Number
  - b. Tare Weight
  - c. Net Weight
  - d. Ticket Number
  - e. License plate number of unit(s)
  - f. Time and date of transaction
  - g. Truck owner
  - h. Contract number
  - i. Type of material
  - j. Source of material
  - k. Gross weight
  - l. Overload notation
  - m. Running total of each material
  - n. A place for the checker to sign

**6. Material**

1. Physical properties of WB-200 stream bed cobbles shall be as per Table 1 of OPSS.MUNI 1005. Gradation of WB-200 stream bed cobbles shall be as per Table 3 of OPSS.MUNI 1005.
2. Geotextile should be as per Terrafix 360R or approved equivalent.

**PART 2 – EXECUTION**

**1. Surface Conditions**

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that rock protection placement may commence.
2. Site Preparation: Remove obstructions from surfaces to be filled within the limits indicated.

**2. Construction:**

1. Do not place or spread any fill materials during unfavourable weather.

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2. Do not proceed with filling operations until Contract Administrator has inspected and approved placements.
3. Areas to be filled shall be free from debris and water except for areas below the level of the creek.
4. Do not use fill material that is frozen or contains ice, snow, or debris.
5. Place scour protection cobbles to lines and grades indicated on the Contract Drawings or as directed by the Contract Administrator. Start work by placing stones at the toe and proceed up the slope.
6. Strategically place stones to ensure full bearing of proposed granular base along its surface area. Use water jet or other approved means to ensure full bearing.
7. Fine grade areas to be uniform, even surface. Fill depressions with suitable material and compact to provide firm bed.
8. Stagger joints and fill voids with 50 mm to 100 mm stones.
9. Finish surface evenly, free of large openings and neat in appearance. Tolerance on stone layer thickness is plus or minus 100 mm. Constant exceeding of specified thickness will not be accepted.
10. Allow Contract Administrator to check grades of placed stones. Do not claim delay due on account of this.
11. The Contractor shall ensure all geotextile seams are overlapped by 600 mm.

**END OF SECTION**

## SP 12. Supply and Pour Unshrinkable Fill Mud Mat (Provisional)

### PART 1 – GENERAL

#### 1. Measurement Procedures

1. Measurement of payment for unshrinkable fill mud mat shall be made on a per Cubic Metre basis.

#### 2. Basis of Payment

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.

#### 3. Description

1. This item includes forming, supplying and pouring 100mm thick of unshrinkable fill mud mat under new concrete footings as indicated in Contract Drawings and in accordance with OPSS.

#### 4. Reference Standards and Quality Assurance

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 1359, November 2016, Material Specifications for Unshrinkable Backfill
  - b. OPSS.MUNI 1350, November 2019, Material Specifications for Concrete – Materials and Production
2. CSA Standards:
  - a. CSA Standard CAN3-A23.1, Concrete Materials and Methods of Concrete Construction.
  - b. CSA Standard CAN3-A23.2, Methods of Test for Concrete.

#### 5. Materials:

1. The materials for and the production of unshrinkable fill shall be according to the following:
  - Cement type: Normal Portland GU, Portland limestone GUL
  - Maximum 28 day cylinder compressive strength: 0.7 MPa

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- Class of exposure: N/A
  - Maximum nominal size of coarse aggregate: 19 mm
  - Minimum slump at point of discharge: 150 mm
  - Minimum cement content: 25 kg/m<sup>3</sup>
2. Supplementary cementing materials, for example fly ash, silica fume and/or slag cement may be used to meet the requirements of this specification.

#### 6. Equipment:

1. Mixing Equipment: a central mixing or dry batch plant capable of accurately proportioning aggregate, cement and water shall be used according to OPSS.MUNI 1350.
2. Transport and Discharge Equipment: unshrinkable fill shall be transported to the site by means of ready-mix trucks.
3. Unshrinkable fill shall be placed into the excavation using the chutes of the conveying equipment, by pumping, or with the use of buckets.
4. Bracing and Shoring: bracing, shoring or sheeting shall be placed to protect the services, utilities or surrounding excavation, and shall be removed as the backfilling proceeds.

## PART 2 – EXECUTION

### 1. Surface Conditions

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that unshrinkable fill pouring may commence.
2. Site Preparation: Remove obstructions from surfaces to be excavated within the limits indicated.
3. Ensure that all removals are completed around the proposed mud mat.
4. Ensure that all excavations are completed in accordance with Contract Drawings to lines and grades indicated.

### 2. Placement

1. Placing Unshrinkable Fill: The material shall flow into the excavation so that it fills the entire space without vibration and segregation. Care shall be

taken that no air is trapped beneath horizontal projections or in other locations in the excavation.

2. Unshrinkable fill shall not be placed in direct contact with gas mains or plastic pipe. A layer of carefully compacted granular material shall be placed to ensure a separation of 300 mm between the unshrinkable fill and the gas or plastic pipes.
3. Removal of Shoring and Bracing: when bracing, shoring or sheeting is used to support the sides of the excavation or to prevent movements that could damage other services or adjacent structures, this support system shall be removed as the backfilling progresses.
4. Finishing Unshrinkable Fill: the unshrinkable fill surface shall be screeded while it is still sufficiently flowable to achieve the desired grades and elevation. The surface shall be uniform and free from undulations and projections.
5. Unshrinkable Fill Protection: where unshrinkable fill is placed, it shall be protected from vehicular traffic including construction equipment for at least 24 hours, by covering with a steel plate of sufficient strength to support the traffic during this period. The steel plates shall be countersunk to the asphalt surface with steel spikes to prevent any displacement of the plate. The steel spikes shall be hammered flush with the top of the plates and extend the full depth of the asphalt or a maximum of 150 mm.
6. Where vehicular traffic is not being accommodated, the backfilled excavation shall be covered with wooden planking or other protection for users of the road allowance until the unshrinkable fill can support the mass of an adult person.

**END OF SECTION**



**SP 13. Supply and Install Steel Beam Guiderail**

**SP 14. Supply and Install Thrie Beam Guiderail on Bridge with Transition**

**PART 1 – GENERAL**

**1. Measurement Procedures**

1. Measurement of payment shall be made on a per Linear Metre basis.

**2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
2. As per the terms of OPSS.MUNI 721, the length of any terminal end treatment systems are not included in the measured Linear Meters for payment.
3. Structural connection to parapet wall shall be included in the Contract Price.
4. The cost of labour and equipment necessary to complete steel beam guiderail and structural connection inspection shall be included in the bid price for this item.

**3. Description**

1. Under the unit price bid, the Contractor shall supply and install new steel beam guiderail, including all required blocking, steel posts, and all other components. The guide rail shall be complete with steel posts and plastic 'king' offset blocks, as shown in OPSD 912.103
2. The Contractor shall supply and install thrie beam guiderail on bridge along with transition connection with steel beam guiderail.
3. As part of this item, reflectors shall be installed on the guide rail as per the specifications of OPSS.MUNI 721.

**4. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 721, November 2018, Construction Specifications for Steel Beam Guide Rail and Adjustment of Cable Guide Rail

2. Ontario Provincial Standard Drawings (OPSD):
  - a. OPSD 912.101, November 2016, Guide Rail System, Steel Beam, Rail, Component
  - b. OPSD 912.103, November 2021, Guide Rail System, Steel Beam, Plastic Offset Blocks, Component
  - c. OPSD 912.130, November 2016, Guide Rail System, Steel Beam, Steel Post With Offset Block Assembly, Installation, Single Rail
  - d. OPSD 912.186, November 2016, Guide Rail System, Steel Beam, Type M20, Adjacent to 2H:1V Slope, Installation, Rail at Shoulder
  - e. OPSD 912.625, November 2019, Guide Rail System, Steel Beam, Thrie Beam Rail, 476 mm Hole Spacing, Component
  - f. OPSD 912.630, November 2019, Guide Rail System, Steel Beam, Asymmetric Transition Rail, Component
3. MTO Structural Standard Drawings (SSD):
  - a. SSD 110.0001, July 2021, Thrie Beam Guide Rail, Rail Detail
  - b. SSD 110.0005, July 2021, Thrie Beam Guide Rail - Side Mount, Assembly Detail, Test Level 2
  - c. SSD 110.0006, July 2021, Thrie Beam Guide Rail - Side Mount, Post and Attachment Details, Test Level 2
  - d. SSD 110.0009, July 2021, Thrie Beam Guide Rail, Connection Detail, Steel Beam Guide Rail

## **PART 2 – EXECUTION**

### **1. Surface Preparation**

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the guiderail installation may commence.
2. The Contractor shall stake out the proposed location of the new guide rail in the field prior to construction and the Municipality's Construction Inspector in the field shall verify the location.

3. Guide rail posts shall be installed plumb and set according to alignment and grade, regardless of the material encountered.

## **2. Quality Assurance**

1. Guide rail installations shall be inspected upon completion of the guide rail work. The Ministry of Transportation Ontario CDED special provision no. 799S05 shall be followed. A competent and authorized representative of the Contractor shall certify each installation has been supplied and installed in general conformance with the Contract Documents, by completing Form PH-CC-877, Certification of the Installation of Safety Items, prior to opening the roadway to public traffic.
2. This form shall be submitted to the Contract Administrator within 48 hours of the time of certification. The Contract Administrator may review the installation of this tender item. The Contract Administrator may request the removal of up to two posts and associated underground hardware, as applicable, per installation to verify that the installation complies with the Contract Documents.
3. The Contractor shall provide, at no cost to the Owner, such assistance and equipment required to complete this review. Should this review of buried posts and associated underground hardware identify any failure to generally conform to the requirements of the Contract Documents, the Contract Administrator may request a complete inspection of the installation, which may include the removal of all posts and underground hardware.
4. Deficiencies identified by the complete inspection shall be corrected at no cost to the Municipality and any Form PH-CC-877 previously issued for that installation shall be considered void. The Contractor shall provide a new Form PH-CC-877 for that installation and the Contract Administrator may initiate another review of that installation.
5. The cost of labour and equipment necessary to complete the inspection shall be included in the bid price for this item.

**END OF SECTION**

## **SP 15. Supply and Install Steel Beam Attenuating Terminal System**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Measurement of payment shall be made on a per Unit basis.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
2. Measurement for payment shall be per each unit installed, including all components of the 15.24 m long terminal assemblies.
3. The cost of labour and equipment necessary to complete steel beam guiderail and structural connection inspection shall be included in the bid price for this item.

#### **3. Description**

1. Under unit price bid, the Contractor will be required to supply all labour, material, and equipment necessary to construct complete energy attenuator end treatments of the steel beam sequential kinking variety with steel posts, as per OPSD 922.186.
2. Object marker (Wa-33) and plough marker (Wz-2 oversized) signs shall be installed 2 metres from the end of extruder terminals as shown on OPSD 984.201 for extruder terminal systems installed at the approach end of steel beam guide rail and OPSD 984.202 for extruder terminal systems installed at the leaving end of steel beam guide rail.

#### **4. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 732, November 2019, Construction Specifications for Guide Rail End Treatment, Steel Beam Energy Attenuating Terminal (SBEAT) Systems.
2. Ontario Provincial Standard Drawings (OPSD):

- a. OPSD 202.032, November 2016, Roadway Widening, for Steel Beam Energy Attenuating Terminal (SBEAT), Leaving End and Constrained Approach End
- b. OPSD 922.186, November 2018, Energy Attenuator, End Treatment, Steel Beam Energy Attenuating Terminal (SBEAT), MASH Sequential Kinking Terminal System, Installation
- c. OPSD 984.201, November 2017, Energy Attenuator, End Treatment, Delineation, Installation, Approach End
- d. OPSD 984.202, November 2017, Energy Attenuator, End Treatment, Delineation, Installation, Leaving End

## **PART 2 – EXECUTION**

### **1. Surface Preparation**

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the SBEAT installation may commence.
2. The Contractor shall stake out the proposed location of the new SBEATs in the field prior to construction and the Municipality's Construction Inspector in the field shall verify the location.
3. Guide rail posts shall be installed plumb and set according to alignment and grade, regardless of the material encountered.

### **2. Quality Assurance**

1. All Quality Assurance shall be as per the SBGR section.

**END OF SECTION**

- SP 16. Supply and Place Granular 'A' Crib Foundation Base**
- SP 17. Supply and Place Granular 'B' Type II Backfill**
- SP 18. Supply and Place Granular 'B' Type II Subbase**
- SP 19. Supply and Place Granular 'A' Base and Driving Surface**

## **PART 1 – GENERAL**

### **1. Measurement Procedures**

- 1. Measurement for payment shall be made on a per Tonne basis, as measured by supplier weight tickets.

### **2. Basis of Payment**

- 1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.
- 2. Water and compaction shall be considered incidental and will not be measured separately for payment. There will be no separate payment for this work and the work is considered to be included with this tender item.
- 3. All weigh scale tickets shall be computerized and will include tare, gross and net weight of the vehicle, together with vehicle and job site identification. Handwritten tickets will not be accepted.
- 4. Under no circumstances will payment be made for any weigh-ticket that does not contain the signature of the Contract Administrator's inspector. Weigh scale tickets not in the Inspector's possession at the end of each working day will not be accepted. The quantity of granular to be paid on each monthly progress certificate shall be determined from the weights of the granular received on site to date.

### **3. Description**

- 1. The Contractor shall supply and place Granular 'A' base for proposed crib foundations to the level indicated on the Contract Drawings. Backfill granular shall be compacted to minimum 98% SPMDD. The Contractor shall inform the Contract Administrator at least 48 hours (2 days) in advance prior to granular foundation base backfill and compaction. A technician from a Geotechnical firm retained by the Municipality or the Contract Administrator shall be present to witness this work.
- 2. The Contractor shall supply place Granular 'B' Type II backfill to grades as indicated on the Contract Drawings. Backfill granular shall be compacted to 98% SPMDD.

3. The Contractor shall supply and place 600 mm thick Granular 'B' Type II subbase for Eugene Road as indicated on the Contract Drawings. Backfill granular shall be compacted to 98% SPMDD.
4. The Contractor shall supply and place 150 mm thick Granular 'A' base for Eugene Road as indicated on the Contract Drawings. Reclaimed materials are not permitted. Backfill granular shall be compacted to 98% SPMDD.
5. The Contractor shall supply and place 100 mm thick Granular 'A' driving surface for Eugene Road as indicated on the Contract Drawings. Reclaimed materials are not permitted. Backfill granular shall be compacted to 100% SPMDD.

#### **4. Submittals**

1. Source of Materials: At ten (10) working days prior to commencing work, submit to the Contract Administrator for review a list of proposed sources of fill and backfill materials.
2. The contractor shall provide weigh scale tickets to the Contract Administrator as each granular load is delivered to the site. The tickets shall include the following information.
  - a. Truck Number
  - b. Tare Weight
  - c. Net Weight
  - d. Ticket Number
  - e. License plate number of unit(s)
  - f. Time and date of transaction
  - g. Truck owner
  - h. Contract number
  - i. Type of material
  - j. Source of material
  - k. Gross weight
  - l. Overload notation
  - m. Running total of each material
  - n. A place for the checker to sign

#### **5. Reference Standards Quality Assurance**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 401, November 2021, Construction Specification for Excavating, Backfilling, and Compacting.

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- b. OPSS.MUNI 501, November 2017, Construction Specification for Compacting.
  - c. OPSS.MUNI 902, November 2021, Construction Specification for Excavating and Backfilling – Structures.
  - d. OPSS.MUNI 1004, November 2021, Material Specification for Aggregates – Miscellaneous
  - e. OPSS.MUNI 1010, November 2021, Material Specification for Aggregate Base, Subbase, Select Subgrade and Backfill Material.
2. The Municipality reserves the right to inspect the weigh scales and weighing procedures at any time during the contract.

#### **6. Fill Materials**

1. Granular 'B' Type II as per OPSS.MUNI 1010, latest edition
2. Granular 'A' as per OPSS.MUNI 1010, latest edition

### **PART 2 – EXECUTION**

#### **1. Surface Conditions**

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the backfill may commence.
2. Site Preparation: Remove obstructions from surfaces to be filled within the limits indicated.

#### **2. Fill Placement**

1. Do not place or spread any fill materials during unfavourable weather.
2. Do not proceed with filling operations until Contract Administrator has inspected and approved placements.
3. Do not use fill material that is frozen or contains ice, snow, or debris.
4. Place fill and compact in layers of 150 mm, unless specified otherwise on the Contract Drawings.
5. Place granular material to lines and grades indicated.



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6. Pack granular base to ensure full bearing of proposed asphalt along its surface area. Use water jet or other approved means to ensure full bearing.
7. The backfill material shall be benched/excavated slightly into the existing roadway embankment slope to ensure a compacted overlap per OPSD 208.010, where applicable.

**END OF SECTION**

## **SP 20. Supply and Place Granular Seal**

### **PART 1 – GENERAL**

#### **1. Measurement Procedures**

1. Measurement for payment shall be made on a per Square Metre basis, as measured by Contract Administrator on site.

#### **2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.

#### **3. Description**

1. The Contractor shall supply and hand spray granular sealing on the road granular rounding's adjacent to the new steel beam guide rail and leaving end treatments. Granular sealing shall be applied following completion of the granular driving surface, shoulders, and installation of steel beam guide rail.

#### **4. Reference Standards Quality Assurance**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 305, November 2016, Construction Specification for Granular Sealing
2. Ontario Provincial Standard Drawings (OPSD):
  - a. OPSD 210.070, November 2016, Granular Sealing

#### **5. Materials**

1. Type III: Tall oil pitch (TOP) emulsion according to OPSS 2510

### **PART 2 – EXECUTION**

#### **1. Surface Conditions**

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that granular sealing may commence.

2. Site Preparation: Remove obstructions from surfaces to be sprayed within the limits indicated and other requirements as per OPSS.MUNI 305.

**2. Operation Constraints**

1. Operational constraints as per OPSS.MUNI 305.

**END OF SECTION**

**SP 21. Supply and Place 150 mm Thick Topsoil**

**SP 22. Supply and Place Terraseed**

**PART 1 – GENERAL**

**1. Measurement Procedures**

1. Payment for topsoil shall be measure in Per Cubic Metre basis.
2. Payment for terraseed shall be measure in Per Square Metre basis.
3. This item may vary greatly from the quantity indicated in the Form of Tender. The Contractor shall receive no additional compensation for an increase or decrease in the final quantity.

**2. Basis of Payment**

1. Payment for this item as per the Form of Tender shall be payment in full compensation for all labour, materials, and equipment.

**3. Reference Standards**

1. Ontario Provincial Standard Specification (OPSS):
  - a. OPSS.MUNI 206, April 2019, Construction Specifications for Grading
  - b. OPSS.MUNI 802, November 2019, Construction Specification for Topsoil.
  - c. OPSS.MUNI 804, November 2014, Construction Specification for Seed and Cover.

**4. Materials**

1. Screened topsoil shall be a fertile loam material that is free of roots, vegetation, or other debris of a size and quantity that prevents proper placement of the topsoil. The topsoil shall not contain material greater than 25 mm in size, such as stones and clods.
2. Imported topsoil shall not have contaminants that adversely affect plant growth.
3. Stockpiles shall be constructed neatly with uniform surfaces. When required, the top surface shall be dished.

4. Areas where topsoil is to be placed shall be fine graded to a uniform surface according to OPSS.MUNI 206. The surface shall be loosed to a depth of 25 mm, and shall be free of all vegetation, debris, and stones which would not be covered by the depth of topsoil specified below. These areas shall be maintained in the condition described above until the topsoil is placed.
5. Topsoil shall be placed to a minimum depth of 150 mm as per the Contract Drawings.
6. The seed mix shall be 50% Birdsfoot Trefoil, 40% Creeping Red Fescue and 10% White Clover, or an approved equivalent mix design. The cover type shall be hydraulic mulch.

## **PART 2 – EXECUTION**

### **1. Surface Conditions**

1. Inspection: Inspect the existing work of all other trades on which the work of this Section is dependent and verify that all such work is complete to the extent that the post installation may commence.
2. Site Preparation: Remove obstructions from surfaces for sign installation within the limits indicated.

### **2. Placement**

1. No topsoil or landscaping shall be allowed before base asphalt has been placed. The Contractor shall provide the Contract Administrator with a representative topsoil sample for testing and acceptance prior to placing any topsoil. The Contractor, to the satisfaction of the Contract Administrator shall rectify any deficiency in the topsoil, which in the opinion of the Contract Administrator may affect its ability to support sod and/or seed growth.
2. Fine grading of disturbed areas and the supply and placement of 25 mm of perennial seeding with a pneumatically blown mixture of composted topsoil and seed blend to restore the embankment slopes and ditches.
3. The composted topsoil shall be pre-mixed and shall consist of a minimum 100% composted material. Once mixed, composted topsoil material shall consist of particles where 100% of the material is able to pass through a 25 mm sieve. The composted organics and seeding operation shall not commence until a legible, valid Seed Analysis Certificate and a legible valid signed declaration from the compost supplier have been provided to

the Municipality for review and approval. The composted organic and seeding application shall not be carried out under adverse field conditions such as high wind, frozen soil or soil covered with snow, ice or in areas of standing water or a concentrated flow of water.

**3. Quality Assurance**

1. The Contractor shall water all seeded areas, as required, to establish good growth for a minimum of 1 month following placement of ground cover.
2. As part of this item, watering of newly placed terraseeding, until it shows evidence of rooting into the underground soil, shall be included. No additional payment will be made for watering of seeded areas.

**4. Clean Up**

1. Topsoil and debris spilled outside the boulevard areas, as a result of the sodding operation, shall be cleaned up by sweeping and/or flushing daily, to the satisfaction of the Contract Administrator.

**END OF SECTION**