TOWN OF ERIN

CONTRACT FOR

REHABILITATION OF VARIOUS STRUCTURES, TOWN OF ERIN

CONTRACT NO. 5094-18 JUNE, 2018

TRITON ENGINEERING SERVICES LIMITED Consulting Engineers 105 Queen Street West, Unit No. 14 FERGUS, Ontario N1M 1S6 Procurement Department Town of Erin 5684 Trafalgar Road, R.R. #2 HILLSBURGH, Ontario N0B 1Z0

PROJECT No. B5094A

TOWN OF ERIN

TENDER FOR

REHABILITATION OF VARIOUS STRUCTURES, TOWN OF ERIN

CONTRACTNO.: 5094-18

SEALED TENDERS on Form of Tender (Section B), clearly marked Tender for Contract No. 5094-18, Attention: Procurement Department will be received at the Town of Erin's Municipal Office, 5684 Trafalgar Road, R.R. #2, HILLSBURGH, Ontario, until 2:00 p.m. local time on:

Thursday, June 28th, 2018

For the rehabilitation of various structures in the Town of Erin.

The Approximate Quantities of the Main Items are as Follows:

REMOVAL OF EXISTING RAILING PANELS	-	28	Each
CONCRETE IN RAILING PANELS	-	28	Each
CHIP AND PATCH CONCRETE	-	9	m^3
STEEL BOX BEAM RAILING	-	35	m
STEEL BEAM GUIDE RAIL	-	185	m
STEEL BEAM GUIDE RAIL END TREATMEN	TS-	12	Each

The Successful bidder must provide a <u>Performance Bond</u> for 100% of the total tender and a <u>Labour/Material</u> <u>Payment Bond</u> for 50% of the total tender.

The lowest or any tender will not necessarily be accepted.

TRITON ENGINEERING SERVICES LIMITED Consulting Engineers 105 Queen Street West, Unit No. 14 FERGUS, Ontario N1M 1S6 Procurement Department Town of Erin 5684 Trafalgar Road, R.R. #2 HILLSBURGH, Ontario NOB 1Z0

TOWN OF ERIN

CONTRACT FOR

$\frac{\text{REHABILITATION OF VARIOUS STRUCTURES,}}{\text{\underline{TOWN OF ERIN}}}$

CONTRACT NO.: 5094-18 JUNE, 2018

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SECTION A INFORMATION TO TENDERERS

CORPORATION OF THE TOWN OF ERIN

CONTRACT NO. 5094-18

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1. LOCATION AND SCOPE OF WORK

The work comprises of the rehabilitation of various structures in the Town of Erin as follows:

Section 1: Structure 2, 10th Line, 0.28 km North of Wellington Road 52

Section 2: Structure 3, 1st Line, 6.1 km North of Sideroad 32

Section 3: Structure 7, 3rd Line, 2.1 km North of Sideroad 27

Section 4: Structure 2057, Sideroad 17, 0.1 km East of 1st Line

Section 5: Structure 2011, 10th Line, 0.25 km South of Dundas Street East

A Key Plan of the site locations may be found in Section G.

and all other work necessary for a complete job in accordance with the details set out more specifically hereafter and as shown on the accompanying SK drawings found in Section G.

2. DEFINITION OF OWNER AND CONTRACT ADMINISTRATOR

Wherever the word "Owner", "Corporation" or Authority appears in this Contract, it may be interpreted as meaning the "Corporation of the Town of Erin".

Wherever the word "Ministry" or "Department of Highways" or "Department or Ministry of Transportation and Communications" appears, it shall mean the "Ministry of Transportation (MTO) for the Province of Ontario".

Wherever the word "Contract Administrator" or "Engineer" appears in this Contract, it shall be interpreted as meaning the "Consulting Engineers, Triton Engineering Services Limited" or such other officers as may be authorized by the Corporation to act in any particular capacity.

3. TENDERS

Sealed Tenders on the Form of Tender (Section B), clearly marked Contract No. 5094-18, Attention: Procurement Department, will be received at:

MUNICIPAL OFFICE CORPORATION OF THE TOWN OF ERIN 5684 TRAFALGAR ROAD, R.R. #2 HILLSBURGH, ONTARIO NOB 1Z0

until: 2:00 p.m. (Local Time), Thursday, June 28th, 2018.

Tenders and award of Contract are subject to the approval of the Corporation. The lowest or any Tender may not necessarily be accepted.

Should a qualified bid submission exceed the Town of Erin budget provision for this project, the Town of Erin reserves the right to reject or recall the Tender.

The Corporation reserves the right to reject any or all Tenders and the lowest or highest as the case may be will not necessarily be accepted.

Should the Town of Erin receive only one (1) qualified and duly executed bid submission on commodities/services that have a known multiple source potential, the right is reserved to recall the Tender.

The Town of Erin reserves the right not to open a Tender call should the Town of Erin, in its opinion, to have an inadequate number of Tender responses to the Tender call and further the right is reserved to cancel and recall the Tender. Unopened Tenders will be returned to all Tenderers who responded.

The Form of Tender must be signed and sealed in the spaces provided on the form by an authorized official of the Tenderer. All entries in the Tender shall be clear and legible and made in ink. All items shall be tendered according to any instructions in the Tender documents and with entries made for unit price, lump sum, extensions and totals as appropriate. In case of an error in extending the unit prices, the unit price shall determine the tendered price. Alterations may be made providing they are legible and initialled by the Tenderer's signing officer. Tenders having any erasures or corrections thereon may be rejected unless explained or noted over the signature of the Tenderer's signing Officer.

Form of Tender document must be submitted complete with the required, authorized signature(s). Corporate Seals are requested, but are not mandatory. Faxed or reproduced copies of originals are not acceptable. Failure to provide the above will disqualify the submission.

All required documents such as agreements to bond, bid bonds or tender deposits shall be enclosed in the same Tender envelope as the Tender. Agreement to bond or bid bond documents will be supplied as original documents complete with required, original, authorized signatures. Fax or reproduced copies of originals are not acceptable.

4. DISCREPANCIES

If a Tenderer finds discrepancies in, or omissions from the Contract documents, or if he is in doubt as to their meaning, he shall notify the Contract Administrator, who may issue a written addendum. Neither the Owner nor the Contract Administrator will make oral interpretations of the meaning of the Contract Documents.

Should the Tenderer not agree that the materials and methods specified or designed on the Drawings will provide an installation to meet the requirements of the project, he shall notify the Contract Administrator in writing stating his reasons for objection and may submit a suggested alternative. In such an event, the Contract Administrator may choose to issue an addendum.

Addenda issued during the tendering period shall be allowed for by the Tenderer. The stipulated price shall include the cost of all work/changes included in the addenda issued. Such addenda shall form part of the Contract documents. Acknowledge and note in space provided on the Form of Tender, the addenda numbers received to close of Tenders.

5. TENDERER'S INVESTIGATIONS

The Tenderer declares that in tendering for the work and in entering into the Contract, he has either investigated for himself the character of the work to be done and all local conditions including the location of any utility which can be determined from the records or other information available at the offices of any person, partnership, corporation, including the municipal corporation and any board or commission thereof, having jurisdiction or control over the utility, that might affect his tender or his acceptance of the work, or that, not having so investigated, and except as hereinafter provided he is willing to assume and does assume, all risk of conditions now existing or arising in the course of the work which might or could make the work, or any items thereof more expensive in character, or more onerous to fulfil, than was contemplated or known when the tender was made or the Contract signed.

The Tenderer also declares that in tendering for the work and in entering into the Contract he did not and does not rely upon information furnished by the corporation or any of its servants or agents respecting the nature of conformation of the ground at the site of the work, or the location, character, quality and quantity of the materials to be removed, or to be employed in the construction of the work, or the character of the equipment or facilities needed to perform the work, or the general and local conditions and all other matters which could in any way affect the performance of the work under the Contract other than information furnished in writing for or in connection with the tender or the Contract by the Contract Administrator, except information specifically excluded from this sub section.

6. CAPITAL BUDGET LIMITATIONS

Bidders are advised that there are defined and limited budgets for this project. The contract documents and scope of work may be modified so as to not exceed budgets and the Town has the right to award a contract on a modified or reduced basis.

7. ACCEPTANCE OR REJECTION OF TENDERS

The Owner shall not be responsible for any liabilities, costs, expenses, loss or damage incurred, sustained or suffered by any Tenderer prior or subsequent to or by reason of the acceptance or the non-acceptance by the Owner of any tender and shall be irrevocable until the formal Contract is executed by the successful Tenderer for the said work or until sixty days (60) after the tender closing date, whichever event first occurs, and that the Corporation may at any time within that period, accept this tender.

8. TENDER DEPOSIT BY: (A) BID BOND OR (B) CERTIFIED CHEQUE OR BANK/TRUST CO. DRAFT

(A) Every Tender shall be accompanied by a Bid Bond governed by the laws of the Province of Ontario, duly executed for an amount equal to \$25,000.00. The bid bond shall be issued in favour of the Town of Erin, in a form approved by the Corporation's Solicitor, supplied by a Surety Company authorized by law to carry on business in the Province of Ontario and to be valid for a period of not less than sixty (60) days from the Tender closing date. Payment shall be made forthwith in accordance with the terms of the bid bond to the Corporation if the successful Contractor fails to file with the Corporation the completed Contract bonds as specified, insurance documents, Workplace Safety and Insurance Board documents and Contractors Safety Policy, WSIB CAD-7document as required and executed form agreement for the performance of the work prepared by the Town of Erin in accordance with this Tender and special provisions, plans, specifications and general conditions referred to in the tender documents within fifteen (15) calendar days as specified from the date of acceptance of the Tender by the Town of Erin.

The bid bond of all but the lowest two (2) Tenderers will be returned within sixty (60) calendar days and upon provision of all required documents by the successful Tenderer and a Contract has been executed.

OR

(B) Submit with Tender, either a Certified Cheque or Bank/Trust Co. Draft payable to the Treasurer of the Town of Erin, for an amount equal to \$25,000.00. The Certified Cheque or Bank Draft of all but the lowest two (2) Tenderers will be returned within sixty (60) and upon provision of all required documents by the successful Tenderer and a Contract has been executed.

The proceeds of this cheque or draft shall, upon acceptance of the Tender, constitute a deposit which shall be forfeited to the Town of Erin if the successful Contractor fails to file with the Town of Erin the completed Contract bonds as specified, insurance documents, Workplace Safety and Insurance Board documents, Contractors Safety Policy, WSIB CAD-7document, and an executed form of agreement for the performance of the work prepared by the Town of Erin in accordance with the Tender and the special provisions, plans, specifications and general conditions referred to in the tender documents with fifteen (15) calendar days as specified from the date of acceptance of the Tender by the Town of Erin.

Notification of acceptance may be given and delivery of the form of agreement made by prepaid post addressed to the Contractor at the address contained in this Tender.

9. SUPERSEDE OR WITHDRAWAL OF TENDER

A Tenderer who has already submitted a tender may submit a further Tender at any time up to the official closing date. The last Tender received shall supersede and invalidate all Tenders previously submitted by that Tenderer for this Contract.

A Tenderer may withdraw his Tender at any time up to the official closing time by submitting a letter bearing his signature and seal as in his tender to the Corporation who will mark thereof the time and date of receipt. No telegrams or telephone calls will be considered.

10. INFORMAL OR UNBALANCED TENDERS

Tenders which are incomplete, conditional, illegible or obscure, or that contain additions not called for, reservations, erasures, alterations or irregularities of any kind, may be rejected as informal.

Tenders that contain prices, which appear to be so unbalanced as likely to affect adversely the interests of the Owner may be rejected.

Wherever in a tender the amount tendered for an item does not agree with the extension of the estimated quantity and the tendered unit price, the unit price shall govern and the amount and the Total Contract Price shall be corrected accordingly.

The Owner reserves the right to waive formalities at their discretion.

Tenderers who have submitted tenders that have been rejected by the Owner because of informalities will normally be notified of the reasons for the rejection within ten (10) days after the closing date for tenders.

11. CONTRACT SECURITY

The Contractor together with a satisfactory Guarantee Company resident in Canada or authorized by law to carry on business in the Province on Ontario will be required to enter into a Performance and a Labour and Material Payment Bond each governed by the laws of the Province of Ontario for the sum hereafter named, and in a form approved by the Town of Erin's Solicitor.

The Performance Bond will be for 100% of the total tendered amount and Labour and Material Bonds will be for 50% of the total tendered amount, excluding all taxes.

The above noted Performance and Labour and Material Bonds must be provided in triplicate within fifteen (15) calendar days as specified after written notice of tender award by the Town of Erin.

The above noted Performance and Labour and Material Bonds shall remain in effect for a period not less than twelve (12) months after the Date of Substantial Performance.

Note: Include with submission a consent to surety document signed by a Surety Company authorized by law to carry on business in Ontario attesting to providing 100% Performance Bond, and a 50% Labour and Material Bond governed by the laws of the Province of Ontario and conforming to the instruments of Contract for the full and due performance of the works shown and described herein, and to be valid for a period of fifteen (15) days from acceptance of Tender by the Town of Erin.

12. AGREEMENT TO BOND

Agreement to bond documents shall be enclosed in the same tender envelope as the tender. All documents will be supplied as original documents complete with the required, original, authorized signatures. Fax or reproduced copies of originals are not acceptable.

An original Agreement to Bond based on the sample form included in Section B of these tender documents is required with this tender.

13. ABILITY AND EXPERIENCE OF TENDERER

The Owner reserves the right to reject the tender of any Tenderer who does not furnish satisfactory evidence of sufficient capital, plant and experience to successfully execute and complete the work in the specified time.

In order to aid the Owner in determining the responsibility of each Tenderer, the Tenderer shall complete the following statement sheets which are included in Section B – Form of Tender of the tender documents.

- <u>Statement "A"</u> Stating the Tenderer's experience in similar work which he has successfully completed.
- <u>Statement "B"</u> Giving a list of the Tenderer's senior supervisory staff with a summary of the experience of each.
- <u>Statement "C"</u> Giving the description of the construction equipment which the tenderer proposes to use, the equipment he has available or under his control, the equipment to be rented, and the equipment to be purchased.

The Tenderer may be required to furnish additional statements covering the above or other matters, including financial resources. Failure to comply with such requests or to provide written references, as requested, as to the Tenderer's ability and experience on projects of similar complexity shall disqualify the Tenderer.

14. ASSIGNMENT AND SUBLETTING

The Contractor agrees to submit a list of any sub-contractors (Statement "D" in Section B – Form of Tender) who will be carrying out any part of this Contract and shall show the type and value of work for which each sub-contractor will be responsible. Only one name shall be shown for each sub-trade.

The Tenderer shall make an entry against each sub-trade listed in Statement "D", either by naming the proposed sub-contractor or by entering "by own forces", whichever applies, Such information must be submitted in the Tender Form.

It shall be a condition of this Contract that the successful Bidder shall be required to carry out, using his own forces, the minimum amount of fifty percent (50%) of the total work assigned. That is, the prime Contractor shall not sub-contract more than fifty percent (50%) of the assigned work.

15. AWARD AND EXECUTION OF CONTRACT

The award of this tender is subject to the approval of the Council of the Town of Erin and receipt of outstanding permits and approvals.

At the sole discretion of the Town of Erin, the award of this Tender may be based on the Tenderer's possession of any or all of the following criteria to assist in ensuring a responsible and responsive bid:

- a) the Tenderer's past success in performing work (if any) on behalf of the Town of Erin,
- b) the ability, capacity and skill of the Tenderer to perform the Contract,
- the ability, to perform the Contract promptly or within the time specified without delay or interference.
- d) the character, integrity, reputation, judgement, experience and efficiency of the Tenderer
- e) the quality of performance of previous Contracts or services,
- f) the sufficiency of the financial resources of the Tenderer to perform the Contract,
- g) the quality, availability and adaptability of the supplies or services to the particular use required.
- h) the ability to meet the number/scope of conditions attached to the Tender request.

The Contract Administrator when so instructed by the Owner shall forward three complete copies of the Contract Documents to the successful Tenderer for execution. The Tenderer agrees that if they have been notified that their tender has been accepted and awarded by the Owner, they will execute Articles of Agreement in triplicate in the form bound herein, fifteen (15) calendar days after being notified so to do by the Owner, or anyone acting on their behalf. Three copies of the Contract Documents, fully executed on behalf of the Contractor shall be forwarded for acceptance by the Owner, together with the following, in triplicate:

- a) Evidence of Liability Insurance in an amount not less than five million dollars (\$5,000,000.00), inclusive of public liability and property damage, and to be complete with an endorsement naming the Town of Erin and its agents, as an additional insured for liability with respect to this tender. Upon award of the Contract, the Contractor must maintain coverage stated above throughout the Contract period.
- b) Performance Bond, and Labour and Material Payment Bond.
- c) Evidence of good standing with Workplace Safety and Insurance Board.
- d) The Town of Erin will further require a copy of the Contractor's Safety Policy and a copy of their method of implementation.

The Contractor shall indemnify and hold harmless the Owner, their agents and employees for any contraventions of the Occupational Health and Safety Act, (most current legislation) and for all legal costs incurred in the event that charges are brought against the Owner pursuant to the act. The Owner, their agents and employees have no authority under the contract to supervise the contracted work.

e) The Contractor shall supply documentation (CAD-7) to illustrate the severity and frequency of critical injuries as illustrated below detailing the Contractor's record of both of the past three (3) years based upon the following formulas.

Number of Loss Time x 1,000.00 person hours = Frequency
Number of Person Hours Worked

Number of Loss Work Days x 1,000.00 person hours = Severity

Number of Person Hours Worked

"Critical Injury" means an injury of a serious nature that,

- i) places life in danger
- ii) produces unconsciousness
- iii) results in a substantial loss of blood
- iv) involves a fracture of a leg, arm, hand or foot but not a finger or toe
- v) involves the amputation of a leg, arm, hand or foot but not a finger or toe
- vi) consists of burns to a major portion of the body, or
- vii) causes loss of sight in an eye

16. ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT, 2005

In accordance with the Accessibility for Ontarians with Disabilities Act, 2005, S.O. 2005, c.11, the Town shall have regard to the accessibility for persons with disabilities in respect to goods and services purchased by the Town.

17. ONTARIO REGULATION 429/07 (ACCESSIBLE STANDARDS FOR CUSTOMER SERVICES)

In accordance with Section 6 of Ontario Regulation 429/07, Accessible Standards for Customer Service, the Contractor is responsible to ensure that all of its employees, volunteers and others for which the Contractor is responsible are adequately trained.

18. WORKPLACE SAFETY AND INSURANCE BOARD

The Town of Erin will also require evidence within fifteen (15) calendar days of the written award notice that the successful bidder is in good standing with the Workplace Safety and Insurance Board.

Note: All Independent Operators are required to indicate that they are, in fact, Independent Operators on the Form of Tender and will be required to meet the most recent requirements of the Workplace Safety and Insurance Board. Vendors will continue to maintain good standings as required.

19. CONTRACTOR'S SCHEDULE OF WORK

The Contractor shall, upon award of this Contract, prepare a Schedule of Work. The Schedule of Work outlining the items to be completed is to be submitted to the Contract Administrator before commencement of the work. If changes to the Schedule become necessary, the Contractor shall revise the Schedule and resubmit it to the Contract Administrator.

20. PROGRESS AND TIME FOR COMPLETION

The Contractor's attention is hereby drawn to Clause 7 of Section D - Special Provisions – General.

21. NAME MATERIALS & SUPPLIERS, APPROVED PRODUCTS LIST

When an article is specified by its trade or other name (whether such name is followed by the phrase `or approved equivalent' or not), the Tenderer shall base his tender price on the supply of the named article and no other.

22. DISCLAIMER

The successful Tenderer shall assume financial responsibility for loss or damage to their equipment while performing work covered by the tender and personal injury sustained by themselves and/or their employees engaged in this work. The successful Tenderer shall be responsible for any damage to property or services arising out of the performance of the work covered by this tender and shall indemnify and save harmless the Town of Erin from all claims arising out of the performance of said work. The Contractor shall ensure they are in complete compliance with the latest requirements of the Occupational Health and Safety Act.

23. UTILITY CO-ORDINATION

Utilities which have been designated for re-location as a result of the work under this Contract will be carried out by the utility companies prior to, during and after the construction work. The Contractor shall co-ordinate his work with the utility companies and shall schedule his work as necessary to allow for the re-locations.

The Contractor shall have no claim against the Town for any costs associated with these utility relocations or any delays resulting from the scheduling of these re-locations.

24. ROAD CLOSURE AND SITE ACCESS

- a) The Tenderer is hereby notified of the following
 - i. 10th Line allowance may be closed to through traffic between Credit River Road and Cedar Ridge Court, except for local traffic outside the limits of construction.
 - ii. 10th Line allowance may be closed to through traffic between Pine Ridge Road and Wellington Road 52, except for local traffic outside the limits of construction.
 - iii. 1st Line allowance may be closed to through traffic between Wellington Road 124 and Wellington Road 50, except for local traffic outside the limits of construction.
 - iv. 3rd Line allowance may be closed to through traffic between Sideroad 27 and Erin Garafraxa Townline, except for local traffic outside the limits of construction.
 - v. Sideroad 17 allowance may be closed to through traffic between First Line and Second Line, except for local traffic outside the limits of construction.
- b) The limits of construction will be set by the Contract Administrator at the time of construction and will provide for a construction staging area.
- c) Local access and access for emergency vehicles must be maintained at all times.

- d) It will be the Contractor's responsibility to install and maintain all signs and barriers adjacent to and on the site and detour routes in accordance with the Ontario Traffic Manual, Book 7 and Ontario Occupational Health and Safety Act.
- e) It will be the Contractor's responsibility, where streets are closed, to either maintain access for garbage and blue boxes for pick-up or transport garbage and blue boxes to either end of closed street for pick-up.

SECTION B

FORM OF TENDER

FORM OF TENDER

REHABILITATION OF VARIOUS STRUCTURES, TOWN OF ERIN

CONTRACT NO. 5094-18

TO:	THE CORPORATION OF THE TOWN OF ERIN
This To	nder is Submitted by
	Firm Name
	Address
	Telephone No.
1.	Ι,
	of
proper	RE that no person, firm or corporation other than the one whose signature or the signature of whose officers and the seal is or are attached below, has any interest in this Tender or in the Contracted to be taken.
2. making	I FURTHER DECLARE that this Tender is made without any connection, knowledge, comparison of figures or arrangements with any other company, firm or person a Tender for the same work and is in all respects fair and without collusion or fraud.
3.	I FURTHER DECLARE that no member of the Town Council or any officer of the Corporation of the Town of Erin, is or will become interested directly or indirectly as

5. I FURTHER DECLARE that I have carefully examined locality and site of the proposed works, as well as all the Drawings, Form of Tender, Information to Tenderers, Specifications, Special Provisions, General Conditions, Agreement to Bond, and Addenda No.__ to Addenda No.__ relating to the said Contract, and hereby acknowledge the same to be part and parcel of any Contract to be let for the work therein described or defined.

a contracting party or otherwise in or in the performance of the Contract, or in the supplies, work or business to which it relates or in any portion of the profits thereof, or of any such supplies to be used therein or in any of

I FURTHER DECLARE that the several matters stated in the said Tender are in all

the monies to be derived therefrom.

respects true.

4.

- 6. I do hereby tender and offer to enter into a Contract, to do all of the work and to furnish all necessary labour, machinery, tools, apparatus and other means of construction, and to provide, furnish, deliver and place all materials described, in strict accordance with the plans, specifications and supplemental specifications and to accept in full payment therefore, the sums calculated in accordance with the actual measured quantities at the unit prices, or lump sum prices where applicable, set forth in the Tender hereinafter.
- 7. In the event that the Tender provides for and contains a Provisional Item or Contingency Allowance, it is understood and agreed that such Provisional Item or Contingency Allowance is merely for the convenience of accounting by the Owner and the Contractor is not entitled to payment thereof except for extra or additional work carried out by him as directed by the Contract Administrator and in accordance with the Contract and only to the extent of such extra or additional work.
- 8. I acknowledge that there is a defined and limited budget(s) for this project. If so required, the contract documents and scope of work may be modified so as not to exceed the budget(s) and the Town has the right to award a contract on a modified or reduced basis.
- 9. The tender price is compiled from the Schedule of Unit Prices included hereinafter. The quantities in the Schedule being approximate, I agree that the final valuation will be made on the basis of actual quantities measured during and on completion of the work at the prices in the schedule.

I agree that the valuation of additions to, and deductions from, the Contract shall be made as follows:

- a) The prices in the Schedule of Unit Prices shall apply where appropriate.
- b) If the prices in the Schedule of Unit Prices are not appropriate, valuation will be made by one of the following methods:
 - i) The Contract Administrator may ask the Contractor for a quotation for the proposed work.
 - ii) If the quotation referred to above is not accepted by the Contract Administrator, the actual cost of the work will be determined in accordance with GC8.02.04 General Conditions.

SCHEDULE OF UNIT PRICES CONTRACT NO. 5094-18

In the column headed "Spec. No.", the number refers to the latest issue of the Ontario Provincial Standard Specification. Where the number is preceded by "M", the number refers to the latest issue of the Ontario Provincial Standards for Roads and Public Works - Volume 7 - Municipal Oriented. "S.P." refers to the Special Provision.

ITEM NO.	SPEC. NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE			
SECTION 1 STRUCTURE 2 (10 th LINE)									
1.01	M706 S.P.	Traffic Control	100%	L.S.					
1.02	S.P.	Remove Concrete Approach Railing (Outer Arch)	18	m					
1.03	M510 S.P.	Removal of Existing Railing Panels	16	Each					
1.04	M904 M905 S.P.	Concrete in Railing Panels	16	Each					
1.05	M904 M905 M928 M930 S.P.	Chip and Patch Concrete in Hangers	0.2	m ³					
1.06	M904 M905 M928 M930 S.P.	Chip and Patch Concrete in Arches and Railing Posts	0.3	m ³					
1.07	M904 S.P.	Dowels Into Concrete	104	Each					
1.08	M904 S.P.	Install Reinforced Concrete Curb Including Removal of Existing Reinforced Curb, Reinforcing Steel Bar, Excavation and Restoration	5	m ³					
1.09	M510	Remove Existing Structure Connections	4	Each					
1.10	S.P.	Construct Steel Beam Guide Rail Connections (OPSD-912.430)	4	Each					
1.11	M510 S.P.	Remove and Replace Existing Wooden Guide Rail Posts	4	Each					
1.12	M510	Remove Existing Steel Beam Guide Rail	30.5	m					

ITEM NO.	SPEC. NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1.13		Supply and Install Steel Beam Guide Rail (OPSD-912.130)	30.5	m		
SUB-1	\$					

ITEM NO.	SPEC. NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
SECT						
2.01	M706 S.P.	Traffic Control	100%	L.S.		
2.02	M928 S.P.	Removal of Deteriorated Concrete From Top Surface of Bridge Deck (Partial Depth)	1	m ³		
2.03	M928 S.P.	Concrete Patches	1	m ³		
2.04	S.P.	Removal of Deteriorated Concrete From Face of Wingwall and Abutment (Partial Depth)	0.5	m ³		
2.05	M904 S.P.	Dowells Into Concrete	20	Each		
2.06	S.P.	Reinforcing Steel Bar	100%	L.S.		
2.07	S.P.	Concrete For Wingwall	1	m ³		
2.08	M510 S.P.	Remove Concrete Railing	35	m		
2.09	M510	Remove Steel Beam On Concrete Railing	35	m		
2.10	M510	Remove Existing Steel Beam Guide Rail	74	m		
2.11	M510 S.P.	Remove and Replace Existing Wooden Guide Rail Posts	5	Each		
2.12	M908 S.P.	Steel Box Beam Railing (SS 110-44)	100%	L.S.		
2.13		Supply and Install Steel Beam Guide Rail (OPSD-912.130)	28	m		
2.14	M732 S.P.	Supply and Install End Treatments (OPSD-922.170)	4	Each		
SUB-1	\$					

ITEM NO.	SPEC. NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
SECT						
3.01	M706 S.P.	Traffic Control	100%	L.S.		
3.02	M510 S.P.	Removal of Existing Railing Panels	12	Each		
3.03	M904 M905 S.P.	Concrete in Railing Panels	12	Each		
3.04	M904 M905 M928 M930 S.P.	Chip and Patch Concrete in Hangers	0.1	m ³		
3.05	M904 M905 M928 M930 S.P.	Chip and Patch Concrete in Arches and Railing Posts	0.2	m ³		
3.06	S.P.	Construct Steel Beam Guide Rail Connections (OPSD-912.430)	4	Each		
3.07	M721 S.P.	Supply and Install Steel Beam Guide Rail (OPSD-912.130)	50	m		
3.08	M732 S.P.	Supply and Install End Treatments (OPSD-922.170)	4	Each		
SUB-TOTAL - SECTION 3 STRUCTURE 7						\$

ITEM NO.	SPEC. NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE			
SECT	SECTION 4 STRUCTURE 2057 (SIDEROAD 17)								
4.01	M706 S.P.	Traffic Control	100%	L.S.					
4.02	M904 M905 M928 M930 S.P.	Chip and Patch Concrete in Abutment and Wingwalls	0.3	m³					
4.03	M721 S.P.	Supply and Install Steel Beam Guide Rail (OPSD-912.130)	76.2	m					
4.04	S.P.	Supply and Install Steel Beam Guide Rail Long Span (OPSD-912.245)	2	m					
4.05	M732 S.P.	Supply and Install End Treatments (OPSD-922.170)	4	Each					
SUB-TOTAL - SECTION 4 STRUCTURE 2057						\$			

ITEM NO.	SPEC. NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE		
SECT	SECTION 5 STRUCTURE 2011 (10 th LINE)							
5.01	M706 S.P.	Traffic Control	100%	L.S.				
5.02	M928 S.P.	Concrete Removal - Partial Depth, Type A (Railing)	0.8	m ³				
5.03	M930 S.P.	Concrete Patching - Formed Surface (Railing)	0.8	m ³				
5.04	S.P.	Remove and Replace Railing For Barrier/Parapet Wall Including Two Posts (SS 110-21)	3	m				
SUB-TOTAL - SECTION 5 STRUCTURE 2011						\$		

ITEM NO.	SPEC. NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
SECT						
6.01	S.P.	Provide Bonding	100%	L.S.		
SUB-TOTAL - SECTION 6 MISCELLANEOUS						\$

ITEM NO.	SPEC. NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
		SECTION 1 STRUCTURE 2 (10th	\$			
		SECTION 2 STRUCTURE 3 (FIR:	\$			
		SECTION 3 STRUCTURE 7 (THII	_\$			
		SECTION 4 STRUCTURE 2057 (_\$			
		SECTION 5 STRUCTURE 2011 (\$			
		SECTION 6 MISCELLANEOUS	\$			
		CONTINGENCY	\$ 50,000.00			
		TOTAL CONTRACT PRICE (Exclud	ling H.S.T.)			\$

10.	I agree that this offer is to continue open to acceptance until the formal Contract is executed by the successful Tenderer for the said work or until sixty days (60) after
the tender closing date without notice, accept t	e, whichever event first occurs, and that the Town may at any time within that period,
11.	Except as provided for in Clause 8 of Section A – Information to Tenderers, I agree that if I withdraw this tender at any time prior to sixty (60) days after the tender closing
	deposit accompanying this Tender shall be forfeited to the Corporation and any other ay be incurred by the Corporation may be assessed to the Tenderer.
12.	I agree that the awarding of the Contract based on this Tender by the Council of the said Corporation shall be an acceptance of this Tender.
13.	If this Tender is accepted, I agree to furnish an approved Surety Bond for the proper fulfilment of the Contract as required and to execute the Contract Documents in
part so to do, I agree th	(15) calendar days after being notified so to do. In the event of default or failure on our last the Corporation of the Town of Erin shall be at liberty to accept the next lowest or tise for new tenders, or to carry out the works in any other way they deem best.
14.	If this Tender is accepted, I agree to complete the works as specified within the time for completion specified in the Contract. I will pay to the Corporation the sum specified
Contract, as expressly uncompleted after the	uidated damages (when applicable), for each calendar day that the work under the modified by all Contract Change Orders issued by the Contract Administrator, remains expiry of the Time for Completion specified in the Contract or after the expiry of the pletion allowed in writing by the Contract Administrator.
15.	I propose the Bonding Company named hereunder
	(Name of Bonding Company)
	villing to become bound with attended to the contract, for which this is a tender.
are arrivarit accignic	and the and perfermence and reminion of the contract, for which the load toridor.

AGREEMENT TO BOND

CONTRACT NO. 5094-18

We, the undersigned, hereby agree to become bound as Surety for			
in a Performance Bond totaling One Material Payment Bond totaling Fift Instruments of Contract attached here herein if the Tender	ty Per Cent (50%) of the eto, for the full and due pe	e Contract amount, and	conforming to the
	is accepted by the Own	er.	
It is a condition of this Agreement Performance Bond and a Labour ar within fifteen (15) calendar days of ac be null and void.	nd Material Payment Bond	d must be completed wi	th the undersigned
	DATED THIS	day of	20
	Name of Bonding Comp	any	
	Signature of Authorized (Company Seal)	Person Signing for Bondi	ing Company
	Position		

STATEMENT "A"

TENDERER'S EXPERIENCE IN SIMILAR WORK

SINCE January 1st, 2015

YEAR DESCRIPTION FOR WHOM WORK NAME OF CONSULTANT VALUE OMPLETED OF CONTRACT PERFORMED OR ENGINEER (Including Contact Information) Information)

STATEMENT "B"

TENDERER'S SENIOR SUPERVISORY STAFF

NAME APPOINTMENT QUALIFICATIONS
AND EXPERIENCE

STATEMENT "C"

PROPOSED CONSTRUCTION PLANT

PLANT AVAILABLE:

PLANT TO BE RENTED:

PLANT TO BE PURCHASED:

STATEMENT "D"

LIST OF PROPOSED SUB-CONTRACTORS

Clause 13 of the Information for Tenderers (Section A) requires the Tenderer to list on this Statement Sheet, the name of each proposed sub-contractor. For the Tenderer's convenience and to ensure that a complete list is submitted with the Tender, a list of possible sub-trades has been printed below. The Tenderer shall make an entry against each possible sub-trade listed, either by naming the proposed sub-contractor or by entering "by own forces", whichever applies.

If in addition, the Tenderer proposes to sublet a part of the work which is not listed below, he shall add the sub-trade and the proposed sub-contractor's name to the list.

SUB-TRADE	NAME AND ADDRESS OF PROPOSED SUB-CONTRACTOR	VALUE OF SUB-CONTRACT
Steel Beam Guide Rail		
Steel Box Beam Railing		

SCHEDULE OF PROVISIONS, PLANS, STANDARD DRAWINGS, SPECIFICATIONS AND GENERAL CONDITIONS

CONTRACT NO. 5094-18

The work specified in this Contract will be performed in strict accordance with the following Provisions, Plans, Standard Drawings, Specifications and General Conditions.

SPECIAL PROVISIONS

Special Provisions -- Items Special Provisions -- General

ONTARIO PROVINCIAL STANDARD DRAWINGS

0.00.00.000.000.000		
O.P.S.D. – 912.101 (Rev. 3)	-	Guide Rail System, Steel Beam, Rail, Component
O.P.S.D. – 912.102 (Rev. 2)	-	Tanas riam System, Steel Esam, Shamen, Somponen
O.P.S.D. – 912.103 (Rev. 2)	-	Guide Hair Gyereni, Green Bearin, Fractic Cheek Breake, Compension
O.P.S.D. – 912.104 (Rev. 3)	-	Guide Rail System, Steel Beam, Steel Post with Wooden Offset Block, Component
O.P.S.D 912.105 (Rev. 2)	-	Guide Rail System, Steel Beam, Base Plate, Component
O.P.S.D. – 912.124	-	Guide Rail System, Steel Beam, Type M Transition Rail, Component
O.P.S.D. – 912.130 (Rev. 3)	-	Guide Rail System, Steel Beam, Steel Post with Wooden Offset Block Assembly, Installation – Single Rail
O.P.S.D. – 912.140 (Rev. 2)	-	Guide Rail System, Steel Beam, Wooden Post Assembly, Installation - Single Rail
O.P.S.D. – 912.245	-	Guide Rail System, Steel Beam, Type M – 7.62 m Long Span Treatment, Installation
O.P.S.D. – 912.314	-	Guide Rail System, Steel Beam Transition From Type M to Existing Steel Beam Guide Rail, Installation
O.P.S.D. – 912.401 (Rev. 1)	-	Guide Rail System, Steel Beam, Structure Connection, Component – Rail and Channel
O.P.S.D 912.430 (Rev. 3)	-	Guide Rail System, Steel Beam, Structure Connection
O.P.S.D. – 912.530 (Rev. 2)	-	Guide Rail System, Steel Beam, Structure Approach Treatment, Installation – Rural Highway
O.P.S.D. – 922.170	-	Energy Attenuator, End Treatment Steel Beam Energy Attenuating Terminal, X-Lite Tangent Terminal System with Steel Posts, Installation
O.P.S.D. – 984.201 (Rev. 1)	-	Energy Attenuator, End Treatment, Delineation, Installation – Approach End
,		Energy Attenuator, End Treatment, Delineation, Installation – Leaving End
O.P.S.D 3419.150 (Rev. 1)		Barriers and Railings, Steel, Single Railing Anchorage

STRUCTURAL STANDARD DRAWINGS

SS 110-21 - Railing for Barrier/Parapet Wall
SS 110-44 - Two Tube Railing on Curb, TL-4
SS 110-45 - End Connection for Curb Railing and

SS 110-45 - End Connection for Curb Railing and Steel Beam Guide Rail

A copy of the Ontario Provincial Standard Drawings is not included in the Tender Documents but will be included in the Documents executed between the successful Contractor and the Corporation.

MISCELLANEOUS DRAWINGS - SECTION G

Key Plan 1 - Structure No. 2011 and Structure No. 2Key Plan 2 - Structure No. 2057 and Structure No. 3

Key Plan 3 - Structure No. 7

SK-1 - Structure No. 3 – Deck Repair Details

SK-2 - Structure No. 3 – Wingwall and Abutment Repair Details

SK-3
 Structure No. 3 – Two Tube Railing on Curb
 SK-4
 Structure No. 2 – Curb Repair Details
 SK-5
 Structure No. 2011 – Parapet Repair Details
 SK-6
 Structure No. 2 and 7 – Concrete Railing Panels

ONTARIO PROVINCIAL STANDARD SPECIFICATIONS

MUNI.100 (Nov. 2006)	102 (Oct. 1992)	127 (Nov. 2017)
MUNI.180 (Nov. 2016)	MUNI.182 (Nov. 2012)	MUNI.206 (Nov.2013)
301 (Nov. 2009)	MUNI.310 (Nov. 2017)	MUNI.314 (Nov. 2016)
MUNI.501 (Nov. 2017)	MUNI.506 (Nov. 2017)	MUNI.510 (Nov. 2017)
MUNI.706 (Apr. 2017)	MUNI.721 (Apr. 2017)	MUNI.732 (Apr. 2017)
902 (Nov. 2010)	MUNI.904 (Nov. 2012)	MUNI.905 (Nov. 2017)
MUNI.908 (Nov. 2014)	919 (Nov. 2011)	MUNI.928 (Apr. 2012)
MUNI.930 (Nov. 2014)		

Mutatis Mutandis

It will be the Contractor's responsibility to obtain current copies of the Ontario Provincial Standard Specification Forms listed above, which form part of this Contract.

GENERAL CONDITIONS

Ontario Provincial Standard Specifications Municipal-Oriented General Conditions of Contract, November 2006 (OPSS.MUNI 100)

It will be the Contractor's responsibility to obtain current copies of the General Conditions of Contract listed above, which form part of this Contract.

FREEDOM OF INFORMATION ACT

Please note that the Freedom of Information Act, as it relates to Municipalities and local boards came into force on January 1, 1991. It sets out certain rules regarding the disclosure to third parties of information held by Municipalities and local boards.

If the Contractor wishes any or all of the documents that are submitted to the Town of Erin, as part of this tender to be protected from disclosure under the above legislation, please ensure that the following statement, signed by a responsible officer, is attached to the Form of Tender. This statement will not guarantee that there will never be disclosure, but it does enable the Town of Erin to continue its current activity of non-disclosure of information other than publicly opened and publicly read tender prices submitted with tenders, and amounts of formally awarded contracts. It also lays the groundwork for handling an application for disclosure by a third party under this legislation.

"This tender is submitted in confidence and contains some or all of the following types of information: trade secrets, scientific information, technical information, commercial information, financial information, and labour relations information. Disclosure of any of the information contained in any of the documents herein would result in undue loss to (insert name of concerned person or company)."

Signature of Responsible Office	r

By my/our signature(s), hereunder, I/we her contained herein.	eby agree to complete this Contract in accordance	with the terms
DATED AT:	this day of	2018
Witness	Signature of Authorized Person Signing (Company Seal)	for Contractor
H.S.T. Registration Number	Position	

SECTION C
SPECIAL PROVISIONS – ITEMS

TRAFFIC CONTROL --- ITEM NOS. 1.01, 2.01, 3.01, 4.01 & 5.01

a) Payment

Payment at the unit bid price shall be full compensation for the preparation and submission of a traffic plan for approval by the Contract Administrator and Township of Centre Wellington including supply, erection and maintenance of all signs, delineators, barriers etc. as required by the Ontario Traffic Control Manual, Book 7, Temporary Conditions and the Ontario Occupational Health and Safety Act. On completion of the work, the Contractor shall remove all signs, barriers etc.

Detour routes, detour advisory signs and proposed detour signs (i.e. sign layout and content) shall be submitted to the Township of Centre Wellington and the Contract Administrator for review and approval a minimum of one (1) week before commencement of the fabrication of signs.

Daily maintenance of the signs, barricades, delineators etc. shall be the responsibility of the Contractor and no additional payment shall be made for these operations.

The Owner will provide and install the Project Information signs indicating the duration of the road closure.

REMOVE CONCRETE RAILING --- ITEM NOS. 1.02 & 2.08

a) Operation

The Contractor shall remove the proper concrete railing mentioned under each structure. Any damage to the structure caused by removal of concrete railing shall be repaired by the Contractor. Operation shall include the proper disposal of removed concrete railing.

Structure 2 – the Contractor shall remove the four (4) concrete approach railings, located on the outer sides of the arch members.

Structure 3 – the Contractor shall remove the concrete railing elements spanning approximately 17 metres on both sides of the structure.

b) Payment

Payment at the unit bid price shall include all labour, materials and equipment necessary to complete the work. Measurement of payment will be made in a per metre (m) length of railing removed.

REMOVAL OF EXISTING RAILING PANELS --- ITEM NOS. 1.03 & 3.02

a) Operation

Work under this item shall include the following:

- Removal of horizontal railing panels between the vertical railing posts or the hangers.
- Flame cutting and removal of existing reinforcing steel as directed by the Contract Administrator.

The Contract Administrator shall demarcate all railing panels for removal <u>and</u> be present on site during the removals.

The Contractor is hereby forewarned that the intention is to replace the railing panels like for like to preserve the historical character of this bridge. For this reason, it is a <u>requirement</u> of this Contract to replace the railing on one side of the bridge first using the existing side as a template. Once the first side is completed, the Contractor will be permitted to work on the second side using the first side as a template.

Protect from damage all parts of the existing structure that are to remain including all reinforcing steel contained within the concrete. Damages to remaining parts caused by the carelessness of the Contractor shall be repaired by the Contractor at no cost to the Township and to the satisfaction of the Contract Administrator.

Where directed by the Contract Administrator, the Contractor shall flame cut and remove existing reinforcing steel located within the various components of the substructure. Only bars marked for removal shall be cut. Bars not designed for removal that are damaged by the cutting operations shall be repaired at the Contractors expense to the satisfaction of the Contract Administrator. Welding shall not be deemed to be a satisfactory repair method.

All debris shall become the property of the Contractor who shall haul it away from the site.

b) <u>Measurement for Payment</u>

Measurement for payment shall be made for each railing panel removed.

c) Payment

Payment at the unit bid price shall be full compensation for all labour, materials, and equipment to complete the work.

CONCRETE IN RAILING PANELS --- ITEM NOS. 1.04 & 3.03

a) Material

Ready mix concrete shall be used and shall have the following minimum specifications:

- 35 MPa high early strength type
- Air content of 5-8%
- Concrete to have w/c ratio of 0.40
- Slump of 120 ± 30 mm.
- Maximum aggregate size of 13 mm
- Supplied by a company with an active membership in the RMCAO

The concrete mix design or designs shall be approved by the Contract Administrator prior to starting construction.

Epoxy adhesive to be Hilti Hit-Hy 200.

b) Operation

The concrete mix design may include a field added admixture (superplasticizer or water reducer) to increase the slump to enhance the workability of the concrete during placing operations pending the approval of the Contract Administrator.

Concrete work under these respective items shall also include the supply and placement of dowels and/or reinforcing steel as depicted on the Contract Drawings or as directed by the Contract Administrator. Reinforcing steel construction shall be in accordance with OPS.MUNI.905. Stainless steel bars shall be used for the railing panels as depicted on the Contract Drawings.

Concrete shall be placed within formwork by means of conveyor, pump truck, crane and bucket or chute. No other placement methods will be permitted.

Concrete shall be cured with wet burlap and plastic sheeting for 96 hours.

Formwork and falsework, if so required, shall be designed by a competent individual and shall be in accordance with both OPS Specification 919 and the Ontario Occupational Health and Safety Act.

c) Measurement for Payment

Measurement for payment for concrete in railing panels shall be for each panel successfully constructed.

d) Payment

Payment at the respective unit bid prices shall be full compensation for all labour, equipment, materials and curing to complete the work.

CHIP AND PATCH CONCRETE IN ABUTMENTS, TENSION TIES, HANGERS, ARCHES AND RAILING POSTS --- ITEM NOS. 1.05, 1.06, 3.04, 3.05, & 4.02

a) Operation

Prior to starting work on these respective items, the Contract Administrator shall inspect the various components of the structure and mark areas of removal. The Contractor shall then begin his work to complete the work as specified herein.

Work under these respective items shall be deemed to include the following:

- Removal of deteriorated/delaminated concrete by hand held breaker in areas demarcated for removal by the Contract Administrator;
- Creation of a square edge bonding shoulder by sawcutting around the perimeter to a minimum depth of 25 mm;
- Supply and installation of reinforcing steel dowels as may be required;
- Sandblasting clean exposed reinforcing steel;
- Installation/removal of formwork/falsework to contain the wet concrete/patching material;
- Surface preparation as may be required;
- Supply, consolidation, and finishing of concrete/patching material;
- Curing of concrete/patching material;
- And any other work incidental to the chipping and patching of the components described in this special provision.

Proprietary patching compound, such as SikaTop 123 Plus, shall be used for all repairs and shall be approved by the Contract Administrator prior to starting construction. The supplier's specifications must be meticulously followed by the Contractor as a requirement of this Contract. Curing of the various patches shall be as per the patching compound supplier's recommended procedures.

Formwork and falsework, if so required, shall be designed by a competent individual and shall be in accordance with both OPS Specification 919 and the Ontario Occupational Health and Safety Act.

b) <u>Measurement for Payment</u>

Measurement for payment shall be by the cubic metres obtained by multiplying the average width by the average length by the average depth for each respective chip and patch area. The final respective measurements shall be rounded up to nearest 0.1 m³.

c) Payment

Payment at the respective unit bid prices shall be full compensation for all labour, materials and equipment to complete the work.

REMOVAL OF DETERIORATED CONCRETE FROM TOP SURFACE OF BRIDGE DECK / CONCRETE REMOVAL- PARTIAL DEPTH, TYPE A (RAILING) --- ITEM NOS. 2.02, 2.04 & 5.02

a) Operation

Prior to starting work on this item, the Contract Administrator shall inspect the deck and mark areas of removal. The Contractor shall then begin his work to complete the work as specified herein.

Areas of concrete demarcated for repairs shall be sawcut 25mm deep or to the first layer of reinforcing steel, whichever is less, around the perimeter of the repair area prior to concrete removal. All loose concrete shall be removed to sound concrete.

If reinforcing steel bar is exposed, the limit of concrete removal shall be at least 25mm clearance around the steel bar. Exposed reinforcing steel bar shall be abrasive blast cleaned and painted with rust resistant paint prior to placing new concrete. Rust resistant paint shall be approved by the Contract Administrator prior to application.

For Item No. 2.02

Precondition survey was not completed on Structure No. 3. Locations for repair will be completed by Contract Administrator with the contractor present.

b) Measurement for Payment

Measurement for payment will be measured in cubic metres (m³) of concrete removed in the deck. The depth shall be measured to the nearest millimeter. The total volume shall be calculated to the nearest 0.1m³.

c) <u>Payment</u>

Payment at the unit bid price shall include all equipment and labour required for the concrete removal and disposal of material.

DOWELS INTO CONCRETE --- ITEM NOS. 1.07 & 2.05

a) Operation

The Contractor shall drill holes to the specified dimensions, place the anchoring agent and properly position the reinforcing steel dowel into the holes. The anchoring agent shall be epoxy

grout as specified below. The placement of the anchoring agent and the dowels shall conform to the epoxy grout manufacturer's instructions except as modified herein. Cement based non-shrink grout will not be permitted.

The drilled holes shall be cleaned free of dust and debris immediately prior to placement of the anchoring agent. When the anchoring agent fails to fill the hole after insertion of the dowel, additional anchoring agent shall be added to fill the hole. Holes that are started but not completed because reinforcing steel is encountered shall be cleaned and filled with an approved patching material.

Percussion drilling is not permitted within 75 mm of any outside concrete face.

The epoxy grout anchoring agent shall be HILTI HIT HY-200 MAX adhesive system or approved equivalent.

Pull tests as described in OPSS MUNI 904 will not be required under this Contract.

b) Measurement for Payment

Measurement for payment shall be for each dowel successfully installed. Payment for the dowel itself will be under the applicable reinforcing steel item elsewhere in the Contract.

c) Payment

Payment at the unit bid price shall be full compensation for all labour, material and equipment to do the work.

REINFORCING STEEL BAR --- ITEM NO. 2.06

a) <u>Material</u>

Reinforcing steel shall be plain black steel grade 400W unless otherwise specified or approved by the Contract Administrator.

Bars may be fabricated on-site to suit the actual conditions of the structure.

b) Operation

The Contractor shall supply, fabricate and place reinforcing steel as shown on the drawings.

c) <u>Payment</u>

Payment at the unit bid price shall be compensation in full for all labour, materials and equipment to complete the work.

CONCRETE --- ITEM NOS. 1.08, 2.03, 2.07, & 5.03

a) Material

Ready mix concrete shall be used and shall have the following minimum specifications

- 35 MPa C1 high early strength type
- Air content of 5-8%
- Concrete to have w/c ratio of 0.40
- Slump of 100 ± 20mm

- Maximum aggregate size of 19mm
- Supplied by a company with an active membership in the RMCAO

b) Operation

Concrete shall be placed within wood formwork by means of conveyor, pump truck, crane and bucket or chute. No other placement methods will be permitted.

Concrete shall be cured with wet burlap and plastic sheeting for 96 hours.

c) <u>Measurement for Payment</u>

Measurement for payment shall be in cubic metres (m³) of concrete actually placed. Where possible, the inside dimensions of the formwork used to contain the concrete will be used. Where formwork dimensions are not practical, the Contractor and Contract Administrator shall agree on a measurement method prior to concrete being placed.

d) Payment

Payment at the unit bid price shall be compensation in full for all labour, equipment, materials and curing to complete the work.

For Item No. 1.08

Payment at the unit bid price shall include sawcutting, removal and disposal of existing asphalt pavement, removal and replacement of existing road base and removal of existing reinforced concrete curb on the wingwall.

Restoration shall be as follows:

Road Restoration

Granular "B" - 450 mm depth)

Granular "A" - 150 mm depth) or match HL3 Surface Asphalt - 60 mm depth) existing

Shoulder Restoration

Granular "B" - 450 mm depth Granular "A" - 150 mm depth

Boulevard Restoration

Topsoil - 150 mm depth

Hydraulic Seed & Mulch

STEEL BOX BEAM RAILING --- ITEM NO. 2.12

a) Operation

The Contractor shall install galvanized steel railings on the bridge curb as per the Ministry of Transportation's standard drawings SS110-44 and SS110-45.

b) Payment

Payment at the unit bid price shall include all labour, materials and equipment necessary to complete the work. Measurement of payment will be made in a per metre (m) length of railing as per SS110-44 and SS110-45

CONSTRUCT SINGLE RAIL STEEL BEAM GUIDE RAIL --- ITEM NOS. 1.13, 2.13, 3.07, 4.03 & 4.04

a) Material

Offset blocks shall be as OPSD-912.103

b) Operation

Steel Beam Guide Rail (SBGR) mounting height shall be within the ranges given in Table No. 1.

Table No. 1 - Mounting Height

System	Acceptable Mounting Height during Construction and Seasonal Shutdown, measured to Top of W-Beam	Acceptable Mounting Height for Completion of the Work, measured to Top of W-Beam
SBGR	685 mm to 760 mm	685 mm to 735 mm
SBGR with Channel	685 mm to 785 mm	735 mm to 785 mm

c) Payment

Payment at the unit bid price shall be full compensation for all labour, equipment and material for installation of single rail steel beam guide rail in accordance with OPSD-912.130. Payment at the unit bid price include shall also include reflectors in accordance with OPSS 721.

GUIDE RAIL CONNECTIONS --- ITEM NO. 1.10 & 3.06

a) Measurement for Payment

Measurement for payment shall be based on each guide rail system, steel beam structure connection to the bridge.

b) Payment

Payment at the unit bid price shall be full compensation for the labour, equipment and material for installation of guide rail system, steel beam structure connection in accordance with OPSD-912.430 and SS 110-45 including existing object marker sign WA-33R or Wa33L (as per Ontario Traffic Manual – Book 6) mounted on the parapet wall.

INSTALL END TREATMENTS --- ITEM NOS. 2.14, 3.08 & 4.05

a) <u>Measurement for Payment</u>

Measurement for payment shall be based on each energy attenuator, end treatment attenuating assembly system.

b) Payment

Payment at the unit bid price shall be full compensation for all labour, equipment and material for installation of energy attenuator, end treatment attenuating assembly system, in accordance with OPSD-922.170 including snow-plow marker and post in accordance with OPSD-984.201 and OPSD-984.202.

REMOVAL AND REPLACEMENT OF WOODEN GUIDE RAIL POSTS --- ITEM NOS. 1.11 & 2.11

a) Operation

The Contractor shall remove the pre-marked wooden posts, and replace both the post and buffer piece of wood with pressure treated eight by eight (8x8). The guide rail must be refastened to the new wood post securely using half-inch (1/2 inch) galvanized steel bolts and nuts. Removed posts shall be disposed of properly by the Contractor.

b) Payment

Payment at the unit bid price shall be full compensation for all labour, equipment and materials necessary to complete the work. Measurement of payment shall be based on each posted removed and replaced.

REMOVE AND REPLACE RAILING FOR BARRIER/PARAPET WALL --- ITEM NO. 5.04

a) Operation

The Contractor shall repair damaged galvanized steel tube railing and hardware, and fasten the railing to the concrete parapet wall.

Field measurement shall be required prior to ordering materials to complete the repair.

b) Payment

Payment at the unit bid price shall be full compensation for all labour, equipment and materials necessary to complete the work. Measurement of payment shall be in metres (m).

SECTION D SPECIAL PROVISIONS – GENERAL

CORPORATION OF THE TOWN OF ERIN

CONTRACT NO. 5094-18

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CORPORATION OF THE TOWN OF ERIN

CONTRACT NO. 5094-18

CLARIFICATION

It will be the Contractor's responsibility, before submitting his bid, to clarify with the Contract Administrator, any details in question not mentioned in this Contract or shown on the attached drawings. The unit prices as tendered shall include the supply of all labour, equipment and materials required to complete this Contract to the satisfaction of the Contract Administrator.

2. GENERAL CONDITIONS OF THE CONTRACT

All the requirements of the Ontario Provincial Standards Specifications Municipal-Oriented General Conditions of Contract November 2006 (OPSS.MUNI 100) shall apply to this Contract with the following exceptions:

<u>GC8.02.03.05 - Substantial Performance Payment and Substantial Performance Statutory Holdback Release Payment Certificates</u>

The 10% holdback shall be paid to the Contractor as follows:

 10% after the expiration of 46 days following the publication date of the Certificate of Substantial Performance for that year's work provided the Corporation has not received any claims for lien in connection with this Contract.

3. CHANGES TO GOVERNMENT TAXES

Where a change in Canadian Federal or Provincial taxes occurs after the Tender Closing Date for this Contract, and this change could not have been anticipated at the time of bidding, the Owner will increase or decrease Contract payment to account for the exact amount of tax change involved.

Claims for compensation for additional tax costs shall be submitted by the Contractor to the Contract Administrator on forms provided to the Contractor. Such claims for additional tax costs shall be submitted not later than 30 days after the date of acceptance of the work.

Where the Contractor benefits from a change in Canadian Federal or Provincial Government taxes, the Contractor shall submit to the Contract Administrator, on forms provided by the Contract Administrator, a statement of such benefits. This statement shall be submitted not later than 30 days after the date of acceptance of the work.

The Contract Administrator reserves the right to make deductions from regular progress payments to compensate for the estimated benefit from decreased tax costs. Such deductions will be set off from Contract payments pending receipt of the statement itemizing the benefits which have resulted from a decrease in tax costs at which time the final payment adjustment will be determined.

Changes in Federal or Provincial taxes which impact upon commodities, which when left in place form part of the finished work, or the provision of Services, where such Services form part of the Work and where the manufacture or supply of such commodities or the provision of such Services is carried out by the Contractor or a Subcontractor, are subject to a claim or benefit as

detailed above. Services, in the latter context, means the supply and operation of equipment, the provision of labour and the supply of commodities, which do not form part of the finished work.

4. HARMONIZED SALES TAX (H.S.T)

The individual tendered unit prices shall <u>not</u> include the Harmonized Sales Tax (H.S.T.). This tax is <u>not</u> to be shown in the Form of Tender, Section B.

Payment Certificate will reflect the amount of H.S.T. calculated on the value of work completed.

5. REGULATION OF PITS AND QUARRIES

The Contractor cannot assume that he will receive permission to use any pit source. Before permission is granted, the Contractor shall obtain, in writing, the consent of the Municipality in which the pit is located. In the event that the Municipality objects to the Contractor's proposal, such objections shall be submitted together with the application.

All costs related to this specification will be deemed to have been included in the appropriate tender items and no separate payment will be made therefore.

6. PROVISION FOR TRAFFIC – NOTIFICATIONS

- i) No work shall be performed on Rights-Of-Way without the approval of the Road Authority.
- ii) When streets are to be closed, or traffic restricted, the appropriate ambulance, fire and police departments and the Wellington-Dufferin Student Transportation Services shall be notified, giving at least seven days notice of the closing or restriction.
- iii) If bus routes are affected, the bus company shall be notified, giving at least seven days notice.
- iv) When streets are to be re-opened, or restrictions removed, the ambulance, fire, police, and bus authorities shall again be notified.

7. PROGRESS AND TIME FOR COMPLETION

i) TIME

Time shall be the essence of this Agreement.

ii) PROGRESS OF THE WORK AND TIME FOR COMPLETION

The charging of working days on this Contract shall commence fifteen (15) calendar days after the date of award of the Contract by the Corporation and the Contractor shall diligently carry out his work on this Contract to completion as follows:

- a) No in-stream works between the periods of **October 1**st to **June 30**th are permitted.
- b) All work to be completed by **October 26th**, **2018**.

If this time limit specified above 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 daylight shift basis, it is

expected that additional and/or augmented daylight 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.

Working time shall be charged until the date of acceptance of the work by the Corporation, at which time all work required in the Contract, including all final clean-up and trimming shall be completed.

iii) CONTROLLING OPERATION

A controlling operation or operations is any feature of the work as determined by the Contract Administrator, which, if delayed, will delay the time of completion of the Contract.

iv) WORKING DAY

A Working Day is defined as any day:

- (a) Except Saturdays, Sundays and Statutory Holidays.
- (b) Except a day as determined by the Contract Administrator, on which the Contractor is prevented by inclement weather or conditions resulting immediately therefrom, from proceeding with a controlling operation.

For the purpose of this sub-section, this will be a day during which the Contractor cannot proceed with at least 60% of the normal labour and equipment force engaged on the controlling operation for at least five (5) hours.

- (c) Except a day on which the Contractor is prevented from proceeding with the controlling operation, as determined by the Contract Administrator, by reason of:
 - (i) any breach of contract or prevention by the Corporation, or other contractor of the Corporation of any employee of any one of them;
 - (ii) non-delivery of Corporation supplied materials.
 - (iii) any cause beyond the reasonable control of the Contractor as substantiated by him to the satisfaction of the Contract Administrator.

An application by the Contractor for an extension of time as herein provided shall be made to the Corporation in writing on the form prescribed at least fifteen days prior to the date of completion fixed by the Contract. All bonds or other surety furnished to the Corporation by the Contractor shall be amended where necessary at the expense of the Contractor to provide coverage beyond the date of any extension of time granted, and the Contractor shall furnish the Corporation with evidence of such amendment of the bonds or other surety.

Any extension of time that may be granted to the Contractor shall be so granted and accepted without prejudice to any rights of the Corporation whatsoever under this Contract, and all of such rights shall continue in full force and effect after the time limited in this Contract for the completion of the work and whenever in this Contract power and authority is given to the Corporation or the Contract Administrator or any person to take any action consequent upon the act, default, breach, neglect, delay, non-observance or non-performance by the Contractor in respect of the work or Contract, or any portion thereof, such powers or authorities may be exercised from time to time and not only in the event of the happening of such contingencies before the time limited in this Contract for the completion of the work but also in the event of the same happening after the time so limited in the case of the Contractor being permitted to proceed with the execution of the work under an extension of time granted by the Contract Administrator.

v) LIQUIDATED DAMAGES

It is agreed by the parties of the Contract that in case all the work called for under the Contract is not finished or completed by the completion date as set forth in the Special Provisions, damage will be sustained by the Corporation and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the Corporation will sustain in the event of and by reason of such delay and the parties hereto agree that the Contractor will pay to the Corporation, the sum of one thousand dollars (\$1,000.00) for liquidated damages for each and every calendar days delay in finishing the work beyond the completion date prescribed and it is agreed that this amount is an estimate of the actual damage to the Corporation which will accrue during the period beyond the completion date.

The Corporation may deduct any amount due under this paragraph from any monies that may be due or payable to the Contractor on any account whatsoever. The liquidated damages payable under this paragraph are in addition to and without prejudice to any other remedy, action or other alternative that may be available to the Corporation.

If the time available for the completion of the work is increased because of an overrun of a major item in the Contract, the Corporation may increase the number of working days by adding therefrom, a number of days calculated on the average daily production of the most productive 50% of the working time shown on the Contractor's schedule, divided into the difference between the actual quantity and the estimated tender quantity, provided that this basis for calculation may not be used where in the opinion of the Corporation, all or any of the relevant major items are carried out concurrently.

8. GUARANTEED MAINTENANCE

The Contractor shall maintain the required maintenance and performance bond in full force and effect for a period of not less than twelve (12) months from the date of Substantial Performance for each part of the work.

The guarantee shall apply to the quality of materials and workmanship for work included in this Contract.

9. CO-ORDINATION MEETINGS

The Contractor shall attend at construction meetings with the Owner, Contractor Administrator, and other parties as required.

The Contractor shall attend such meetings with the Corporation and/or Utility Company authorities as may be required by the Contract Administrator to co-ordinate services affected by the Contract.

10. <u>DUST CONTROL</u>

The Contractor shall take such steps as may be required to prevent dust nuisance resulting from his operations either within the Right-Of-Way or elsewhere or by public traffic where it is the Contractor's responsibility to maintain a roadway through the work.

Where the work requires the sawing of asphalt or the sawing or grinding of concrete, blades and grinders of the wet type shall be used together with sufficient water to prevent the incidence of dust, wherever dust would affect traffic or wherever dust would be a nuisance to residents of the area where the work is being carried out.

The cost of all such preventative measures shall be borne by the Contractor except, however, where water or calcium chloride is used to reduce the dust caused by traffic on a roadway which it is the Contractor's responsibility to maintain for public traffic, the cost of such quantities of water and calcium chloride as authorized by the Contract Administrator to restrict dust to acceptable levels, shall be paid for by the Corporation at the Contract prices for the appropriate tender items for Water for Compaction and Dust Control or Calcium Chloride or both.

11. NO OPEN BURNING

Open fires shall <u>not</u> be located within the limits of this contract unless written approval is obtained from the Contract Administrator and/or authorities having jurisdiction.

Brush and debris shall be disposed of outside the Right-of-Way in a manner approved by the Contract Administrator, so as not to be unsightly or potentially unsightly from any road. The Contractor shall arrange for disposal areas at his own expense.

12. HAUL ROAD

Sections 212.10.02 and 212.10.03 of OPSS 212 shall be amended by the deletion of the final paragraph thereof and its replacement by the following paragraph:

"No payment shall be made for materials placed and work performed in accordance with the requirements of this Section".

13. WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS)

Reporting

Prior to the commencement of work the Contractor shall provide, to the Contract Administrator, a list of those products controlled under WHMIS which he expects to use on the contract. Related Material Safety Data Sheets shall accompany the submission. All containers used in the application of products controlled under WHMIS shall be labelled.

The Contractor shall notify the Contract Administrator of changes to the list in writing and provide relevant Material Safety Data Sheets.

14. SPILLS REPORTING

Spills or discharges of pollutants or contaminants under the control of the Contractor, and spills or discharges or 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.

Any spills or discharges of liquid, other than accumulated rain water, from luminaires, internally illuminated signs, lamps, and liquid type transformers under the control of the Contractor, 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.

This reporting will not relieve the Contractor of his legislated responsibilities regarding such spills or discharges.

Spills must be reported immediately to the Ministry of the Environment's "SPILLS ACTION CENTRE" at 1-800-268-6060.

15. MUD

Streets and other construction areas shall be kept clean. If it is necessary to haul wet material, suitable watertight trucks shall be used.

16. INCLEMENT WEATHER

Adequate protection shall be made and precautions taken at times of inclement weather.

Inclement weather or extra work caused by such weather will not be accepted as reason for additional payment.

17. EXISTING UTILITIES

The Contractor shall contact the various utility companies prior to commencing work and become informed of the exact location of utilities and protect them during construction and assume liability for damage to utilities.

Utilities that require relocation will be the responsibility of the Utility Company concerned at no expense to the Contractor. Co-operate with the utility companies concerned and always provide them free access to their plant.

18. PROTECTION OF ADJACENT STRUCTURES, UTILITIES AND PRIVATE PROPERTY

The Contractor shall, at his own cost and expense and in a manner approved by the Contract Administrator, sustain in their places and protect from damage any and all poles and posts, all drains, watermains, all services (except where removals are called for), conduits, service pipes, and all other structures or property in the vicinity of his work, whether over or underground, or which appear in the excavation. Fire hydrants shall be kept accessible and free of obstructions and may be used as a source of water only with the approval of the Water Authority, and subject to its rules and conditions.

If the damage to any structure or utility occurs by reason of the Contractor's operations, even though special precautions have been employed, the Contractor shall be entirely responsible for such damage whether such operations and the work resulting therefrom have received the proper approval of the Contract Administrator or not, and all such damage shall be satisfactorily rectified at the Contractor's expense.

The Contract Administrator has endeavoured to plot on the Contract Drawings, all known existing utilities, pipes, manholes, conduits, watermains and sanitary sewers, poles, chambers or other objects being located underground, on the surface or above ground; but should the plottings of such be found to be incorrect, incomplete or omitted, the Contractor shall have no claim for any damages or delay caused to him on this account.

19. SEDIMENTATION CONTROL

The Contractor shall control his operations in such a way as to minimize erosion and the discharge of sediment laden water. Disturbed areas are to be stabilized as soon as possible. The

operation of construction equipment and the placement of temporary material stockpiles is to be done so as to prevent the tracking or erosion of mud onto the adjacent travelled portion of the roadway.

Downstream storm sewers and catchbasin sumps are to be inspected regularly and cleaned of silt and debris as required. The Contractor shall be responsible for this cleaning until the upstream construction zone is fully stabilized.

All costs related to this specification will be deemed to have been included in the appropriate tender items and no separate payment will be made therefor.

20. CONSTRUCTION EQUIPMENT VIBRATIONS

(a) General

The Contractor is advised that the project involves construction activities near buildings, structures and utilities. It is the Contractor's responsibility to take all necessary precautions to protect buildings, structures and utilities. The Contractor shall be responsible for any damage to buildings, structures and utilities due to any type of construction activity. Occupants of nearby buildings shall be notified by the Contractor prior to the commencement of any construction activities generating vibrations. This notification shall include, in writing, the name and telephone number of the Contractor's representative in the case of noise and vibration complaints. The Contractor shall keep a record of all such complaints and submit a copy to the Contract Administrator.

(b) <u>Preconstruction Survey</u>

The Contractor may arrange for a preconstruction survey of any nearby buildings, structures and utilities which may potentially be at risk from any construction activity. The survey method used shall be acceptable to the vibration control engineer and the Contractor's insurers. A copy of the preconstruction survey records shall be provided to the Contract Administrator. If required by the Contract Administrator, the Contractor shall arrange for a similar post-construction survey.

(c) Payment

Compensation for costs associated with the above work shall be deemed to be included in the unit prices for the various tender items of the contract. No additional payment will be made.

21. <u>TEMPORARY ACCESS</u>

Where necessary for access, provide and maintain suitable safe, temporary roads, walkways and bridges. Remove temporary access facilities and restore disturbed areas, after the work of the Contract has been completed.

22. CLEAN-UP AND TIDY CONDITION

On a daily basis as the work progresses and on completion of the work, clean-up and remove the rubbish and debris from the site. Remove excess material that is not required to be left on the site by the conditions of the Contract.

Keep the site and the work as tidy as practicable at all times.

23. CONCRETE

All concrete aggregate used on this Contract shall be non-alkaline reactive. Aggregate source shall be limited to those currently on the approved M.T.O. Regional Concrete Aggregate Source List.

Prior to placing concrete it shall be the Contractor's responsibility to disclose their aggregate source and provide adequate rest results to the satisfaction of the Contract Administrator that the aggregate is both non-alkaline reactive and meets all current M.T.O. Specifications. Any costs incurred in satisfying the Contract Administrator that the aggregate is acceptable are to be borne by the Contractor.

24. <u>REINFORCING STEEL BAR, REINFORCING STAINLESS STEEL BAR AND PRESTRESSING STEEL</u>

Reinforcing Steel shall be supplied in accordance with OPSS 128, General Specification for the Supply of Materials From Designated Sources.

Reinforcing Steel that was originally obtained for work other than work involved in this Contract is deemed not suitable for use on this Contract.

Reinforcing Steel not purchased from a Designated Source specifically for this Contract and placed for incorporation into the work without the Contract Administrator's approval shall be rejected.

Fabrication of Reinforcing Steel bars shall be by a fabricator listed under "Fabricator" in the Designated Source for Materials listing DSM # 9.65.80, "Reinforcing Steel, Uncoated, Fabricators and Mills" and DSM # 9.65.76, "Reinforcing Steel, Stainless, Mills and Fabricators".

Glass fibre reinforced polymer – reinforcing bar shall be by a company listed in the Designated Source for Materials listing DSM #9.65.90.

25. OTHER MATERIALS

The Contractor shall be responsible for the supply of all materials required to complete the work in accordance with the plans and specifications, except as may be otherwise stipulated herein. The source of supply and quality of all materials supplied by the Contractor must be approved by the Contract Administrator.

Unless otherwise stipulated herein, all materials shall be in accordance with the Ontario Ministry of Transportation's Designated Sources for Materials. DSM numbers for materials are as noted herewith in the contract documents.

It shall be the responsibility of the Contractor to obtain the relevant list and to ensure that he has the lists currently in effect.

The Sources listed in each List of Designated Sources have demonstrated their ability to produce material to the Specifications of the Ministry. However, the Ministry does not warrant that these Suppliers will produce acceptable material or sufficient material for any contract. The Contractor shall satisfy himself as to the quality and quantity of the material available from these sources, and ensure that all materials supplied by him satisfy the requirements of the Specifications.

26. IN-STREAM WORK

In-stream works will not be carried out under this contract. However, if in-stream works are required the following shall apply:

The Contractor will note that the work under this project is subjected to the approval of the Grand River Conservation Authority (GRCA) or Credit Valley Conservation Authority (CVC).

The Town has applied for permits/approvals for this project from the above noted agencies; however, the Contractor shall have no claim for payment or extra payment due to failure by the Town to secure the necessary approvals or permits and necessitating the cancellation of the project or portions of it, nor by reasons of approvals or permits being granted so late that the work cannot be carried out in the intended construction season.

No in-stream works between the periods of **October 1**st to **June 30**th are permitted.

27. ENVIRONMENTAL CONSIDERATIONS

All works undertaken within the watershed must be executed to minimize environmental disturbance within the project area.

The Contractor will note that the work under this project is subject to the approval of the Grand River Conservation Authority (GRCA) or Credit Valley Conservation Authority (CVC).

The Town has applied for permits/approvals for this project from the above noted agencies; however, the Contractor shall have no claim for payment or extra payment due to failure by the Town to secure the necessary approvals or permits and necessitating the cancellation of the Contract or portions of it nor by reasons of approvals or permits being granted so late that the work cannot be carried out in the intended construction season.

Prior to the commencement of construction, the proposed work must be approved by the GRCA or CVC. The Contractor shall comply with the conditions of these approvals in all respects. It is a responsibility of the Contractor that his personnel be instructed of approval requirements and the necessity to carry out their work in a manner which will minimize environmental disturbance.

The GRCA or CVC may assign site inspectors on a full or part-time basis to ensure compliance with environmental protection objectives.

Prior to commencing construction, the Contractor shall submit to the Contract Administrator in writing his sequence of operations, minimum working areas, access routes, dewatering plan, and sediment and erosion control measures. This submission is subject to review and acceptance by the Contract Administrator and GRCA or CVC.

27.1. Fisheries – Construction Timing Constraints

There have been timing constraints placed on the construction activities at this site by the Ministry of Natural Resources. <u>No</u> in-stream work shall be undertaken between **October 1**st to **June 30**th period.

27.2. Working Easement – Refueling and Maintenance Areas

A minimum working easement shall be established and environmental interference must not exceed these limits. The easement is to be defined by a suitable barrier such as construction fencing.

The working area may include a site access route. Detailed review of the area shall be undertaken by the Contractor to plan refuelling, maintenance and stockpiling locations. These locations are subject to approval by the Contract Administrator and Authority. All maintenance and refuelling shall be performed in these locations. Materials required for cleanup of fuel spillage shall be readily accessible on site; procedures for rapid interception and cleanup may be requested by the Contract Administrator for review prior to starting work.

Refueling of equipment such as generators, cranes, backhoes or shovels may be undertaken outside of specified areas at the discretion of the Contract Administrator if non-spill fueling facilities are used. Under no circumstances will equipment be refuelled or cleaned within the watercourse.

27.3. Noise Control

Noise levels shall be controlled in accordance with local By-laws and the Occupation Health and Safety Act.

All internal combustion engines shall be equipped with original equipment in proper working order to minimize noise levels in the project area.

For compressors and pumps operated beyond normal working hours, special measures for noise attenuation will be required.

27.4. Vegetation Removal

In general, clearing and grubbing shall be kept to a minimum. Vegetative cover shall be removed only slightly in advance of construction wherever possible. The unnecessary destruction of tree roots or other vegetation by cutting, placing of excessive fill or equipment compaction will not be permitted.

Restoration should progress with the completion of various construction phases and not be treated as a final project task.

27.5. Stockpile

Only material sufficient to maintain continuity of construction shall be stored temporarily on the floodplain. Stockpiles of a semi-permanent nature, eg. Topsoil, shall be located and protected to ensure minimum environmental interference. Plastic sheeting cover, perimeter drains, and/or silt barrier fence shall be constructed, if required, to prevent sediment from entering the watercourse from stockpiles.

27.6. Siltation and Erosion Control

Before commencing construction, the Contractor shall submit a scheme for preventing siltation and erosion. Plans should include proposed dewatering methods and temporary water passage systems. The Contract Administrator, in conjunction with the Authority, shall review these plans

Overflow water from settling ponds shall be established to minimize the carry-over of solids. Straw bales, filter berms or sandbags, where appropriate, may be used to retard and filter runoff prior to discharge into watercourse.

Whenever temporary weirs and/or coffer dams have to be constructed for siltation control, they shall be maintained and the basins cleaned as required. Contaminated filter media shall be replaced as required.

In general, no concentration of runoff from exposed soils shall be discharged directly to a watercourse. Water pumped for dewatering purposes must not be directed to a stream prior to passage through some treatment facility, eg. a settling basin, filter bag.

The Contractor shall control his operations in such a way as to minimize erosion and the discharge of sediment laden water. Disturbed areas are to be stabilized as soon as possible. The operation of construction equipment and the placement of temporary material stockpiles is to be done so as to prevent the tracking or erosion of mud onto the adjacent travelled portion of the roadway.

27.7. Stream Crossings

Where possible, stream crossings should be few in number, perpendicular to the channel and traverse the shortest route. Siltation and erosion controls must be placed and in operation prior to the use of the crossing.

No equipment shall be left in the confines of the water course overnight or on weekends (without the written approval of the Contract Administrator). The confines of the water course will be defines by the Contract Administrator.

27.8. Protection of Trees

The requirements of OPSS 801 shall apply to this Contract, in addition to the following:

Where excavating, fill or grading is required within the branch spread of trees that are to remain, the work shall be performed as follows:

<u>Trenching</u> – When trenching occurs around trees to remain, the tree roots shall not be cut but the trench shall be tunnelled under or around the roots by careful hand digging and without injury to the roots. Any roots over 24 millimetres which are damaged shall be trimmed clean and treated immediately with tree paint.

Raised Grades – When the existing grade at the tree is below the new finished grade, and fill not exceeding 400 millimetres is required, clean washed gravel graded from 25 millimetre to 50 millimetre size shall be placed directly around the tree trunk. The gravel shall extend out from trunk on all sides a minimum of 450 millimetres and finish approximately 50 millimetres above the finished grade at tree. Install gravel before any earth fill is placed. New earth fill shall not be left in contact with the trunks of any trees requiring fill.

<u>Lowering Grades</u> – Trees marked for preservation that are located above proposed grades shall stand on broad rounded mounds and be graded smoothly into the lower level. Exposed or broken roots shall be cut clean, treated with tree paint and covered with topsoil.

Trees potentially undermined by trench construction shall be braced to unaffected trees by means of cables and turnbuckles for the period of open trench construction.

All trees outside the working easement or those within the working easement and designated to be protected shall be protected from construction activity.

Any such trees which, in the opinion of the Contract Administrator, have been damaged beyond repair by the Contractor's activity shall be replaced by the Contractor at his expense with trees of a similar size and species or such size and species as may be approved by the Contract Administrator. These trees shall be subject to the period of maintenance as outlined in the General Conditions.

27.9. De-Watering

- a) A de-watering plan is to be submitted to the Contract Administrator prior to the start of construction for approval.
- b) De-watering operations should incorporate measures to minimize impacts on ground or surface water users. Outfalls for de-watering operations should be located and protected to prevent any erosional damage (eg. gravel or grass "splash pad"). Any water users whose supplies are interrupted shall be provided with an alternate source.

27.10. Drainage

Construction of all temporary and permanent drainage ditches, culverts and berms should be completed as quickly as possible. These activities should incorporate erosion and sediment control measures sufficient to minimize off-site impacts.

27.11. Protection of Eramosa River

- a) The Contractor shall undertake a detailed review of the proposed site of construction to plan grading operations and construction techniques.
- b) In-stream work to place the temporary water body crossings shall be done in a manner which will have a minimal impact on the waterway.
- c) Downstream riparian flows must be accommodated at all times.
- d) In order to protect the waterway during construction, the Contractor shall do the following as a minimum unless other methods are approved by the Contractor Administrator, Grand River Conservation Authority, and Department of Fisheries and Oceans.
 - i) The Contractor shall supply and place straw bale flow checks or rock flow checks across the roadway ditches, and/or light duty silt fence barrier at the downstream slopes. The silt fence and/or flow checks shall be maintained and cleaned up by the Contractor and shall remain in place for at least 12 months after the completion of the construction, or until the disturbed areas have fully stabilized.

All costs related to this specification will be deemed to have been included in the appropriate tender items and no separate payment will be made therefor.

28. ENTRANCES

The Contractor shall maintain access to all entrances within the project limits. The Contractor shall stage his work so that all entrances remain operational. Under no circumstances will the Contractor be permitted to fully close entrances. On evenings, weekends and non-working days, the entrances shall be operational for the full width of the existing entrance.

29. CONSTRUCTION DEBRIS

The Contractor shall take whatever steps are necessary to ensure that the amount and nature of construction materials deposited into the watercourse is kept to an absolute minimum.

It shall be the Contractor's responsibility to immediately remove any and all debris resulting from his operations from the water. All construction debris shall be removed from the site.

30. DAMAGE BY VEHICLES AND OTHER EQUIPMENT

If at any time, in the opinion of the Contract Administrator, damage is being or is likely to be done to any highway or any improvement thereon, other than such portions as are part of the work, the Contractor's vehicles or other equipment, whether licensed or unlicensed, the Contractor shall, on direction of the Contract Administrator and at the Contractor's own expense, make changes in or substitutions for such vehicles or other equipment or shall alter loading or shall in some other manner remove the cause of such damage to the satisfaction of the Contract Administrator, except that where such a change, substitution, alteration or removal is made in circumstances that could not have been foreseen by the Contractor at the time of tendering and in respect of a vehicle hauling a load within its legal limit, it shall be at the expense of the Town.

31. WEIGHING OF MATERIALS

Weigh tickets shall be supplied by the Contractor showing the date, source of material, type of material, truck number, gross, tare and net weights, place of dumping and providing spaces for the signature of the weighperson and the person(s) receiving the material.

The two (2) copies of the weigh tickets, filled in by the weighperson, shall be delivered by the truck driver to the Town's agent in the field at the dumping point. The Town's agent will then fill in the place of dumping and sign both copies, keep one and return the other to the scales by the driver. Tickets shall be kept separate for each day and for each type of material weight. Tickets not signed by the Town's agent, by the day's end, will not be accepted for payment.

<u>Underloads</u>

The Contractor is informed that a penalty clause will be imposed by the Town relating to underloads. The Contract Administrator may spot check vehicles throughout the contract at a conveniently located weigh scale. If the checked weight is found to be less than that indicated on the weigh ticket, this difference in tonnage will be applied to all the loads to the project on that one day.

32. DISPOSAL AND USE OF EXCAVATED MATERIALS

OPS Specification 180 shall apply to the management and disposal of all excess material.

A copy of a completed Site Selection Notification form, OPSF 1800 or OPSF 1801 or both, shall be submitted to the Contract Administrator prior to the use of property, other than that owned by the Town or designated for use in the Contract, for any of the following:

- a) Stockpiling for re-use and for disposable fill; and
- b) Management as disposable fill.

A copy of this notification shall be provided to both the Contract Administrator and the property owner a minimum of two weeks prior to the commencement of such work. Such notification forms will be available from the Contractor Administrator.

At the completion of such work, a complete copy of a Property Owner's Release form, OPSF 1803, shall be provided to the Contract Administrator. Property Owner's Release forms will be available from the Contract Administrator.

33. QUALITY VERIFICATION ENGINEER SERVICES

A Certificate of Conformance shall be provided for the placement of the reinforcing steel bar, reinforcing stainless steel bar and glass fibre reinforced polymer reinforcing bar items of work. The Certificates shall indicate that the work of these items was performed in general accordance with the Contract documents and placing tolerances specified therein, including concrete cover requirements.

34. INSPECTION AND QUALITY TESTING

The cost of all testing and inspection of materials related to the structure including compaction testing of granular backfill, bridge deck waterproofing and asphalt will be borne by the Contractor. The cost of testing and inspection of materials related to the roadworks will be borne by the owner.

The Contract Administrator shall be included on the original distribution list for concrete test results.

All tests shall be performed by a recognized testing company acceptable to the Contract Administrator.

35. <u>MISCELLANEOUS</u>

(a) Existing Materials

All existing materials along the line of construction deemed salvageable by the Contract Administrator shall be delivered to a storage site designated by the Contract Administrator. Salvaged materials shall remain the property of the Corporation. All other materials that, in the opinion of the Contract Administrator, cannot be salvaged shall be disposed of outside the limits of the Right-Of-Way as directed by the Contract Administrator, or at locations arranged for by the Contractor at his own expense.

(b) Work in Open Trench

The Contractor's attention is directed to the regulations issued by the Ministry of Labour for the Province of Ontario Occupational Health & Safety Act and Regulations for Construction Projects in regard to work in open trenches.

(c) Clean-Up

The Contractor will be responsible for all clean-up after construction to the complete satisfaction of the Contract Administrator.

(d) The Occupational Health and Safety Act

The Contractor's attention is directed to The Occupational Health and Safety Act and Regulations for Construction Projects. The Contractor shall comply with the requirements of this Act, and amendments thereto and regulations made thereunder.

This Contract is deemed to be an individual "Project" for the purposes of The Occupational Health and Safety Act and the regulations made thereunder and the Contractor to whom the Contract is awarded shall be deemed to be the "constructor" as defined in the said Act, of this "Project" and shall carry out all the obligations and shall bear all the responsibilities of the construction as set out in the said Act and regulations.

SECTION E
GENERAL CONDITIONS

CORPORATION OF THE TOWN OF ERIN

CONTRACT NO. 5094-18

SECTION E - GENERAL CONDITIONS

The Ontario Provincial Standard Specifications Municipal-Oriented General Conditions of Contract, November 2006 (OPSS.MUNI 100) apply to this Contract but have not been inserted in the tendering package.

Copies of Ontario Provincial Standard Specifications Municipal-Oriented General Conditions of Contract, November 2006 (OPSS.MUNI 100) are available for review at the Consulting Engineer's office or are also available on the Ministry of Transportation website: www.raqsa.mto.gov.on.ca

A copy of the Ontario Provincial Standard Specifications Municipal-Oriented General Conditions of Contract, November 2006 (OPSS.MUNI 100) will be included in the Documents executed between the successful Contractor and the Corporation.

SECTION F ARTICLES OF AGREEMENT

CONTRACT NUMBER: 5094-18

ARTICLES OF AGREEMENT

THIS AGREEMENT made the day of , 2018

BETWEEN:

(herein and throughout the Contract Documents called the "Contractor")

- and -

THE CORPORATION OF THE TOWN OF ERIN

(herein and throughout the Contract Documents called the "Owner" or "Corporation")

WITNESSETH that the Corporation and the Contractor in consideration of the fulfillment of their respective promise and obligations herein set forth, covenant and agree with each other as follows:

ARTICLE I

- (a) This Agreement applies to the rehabilitation of various structures in the Town of Erin.
- (b) This Agreement, together with Sections A to G of the Contract Documents constitute the "Contract" and are to be read herewith and form part of the Contract as fully and completely to all intents and purposes as though all the stipulations hereof had been embodied herein.
- (c) In case of any inconsistency or conflict between the provisions of this Agreement and the other sections of the Contract, the provisions of each of the Contract Documents shall take precedence and govern in the following order, namely:
 - (1) This Agreement
 - (2) Addenda, if any
 - (3) Special Provisions
 - (4) Contract Plans (Including Quantity Tables contained within the Contract Documents)
 - (5) Supplemental Specifications
 - (6) Standard Specifications
 - (7) Information to Tenderers
 - (8) Form of Tender
 - (9) General Conditions
- (d) Three copies of the Contract have been signed for identification by both the parties, which copies have been prepared by Triton Engineering Services Limited, 105 Queen Street West, Unit 14, Fergus, Ontario, N1M 1S6, acting as, and herein (and throughout the Contract) entitled the "Contract Administrator".

ARTICLE II

THE CONTRACTOR UNDERTAKES AND AGREES:

- (a) To supply (except as otherwise provided herein) all the materials and to perform all the work described in this Contract.
- (b) To complete the work described in this Tender commencing fifteen (15) calendar days after the award of the Tender by the Owner as follows:
 - i) No in-stream works between the periods of **October 1**st to **June 30**th are permitted.
 - ii) All work to be completed by October 26th, 2018.

All requests for extension of said completion dates shall be by registered mail to the Owner and the decision of the Owner with respect to such requests is to be considered final and binding upon the Contractor.

- (c) To guarantee that under normal operating conditions and until the issuance by the Contract Administrator of the "Certificate of Substantial Performance" mentioned in sub-clause (b) of Article III hereof, the said work shall be maintained in such condition as will meet with the approval of the Contract Administrator and the appropriate officials of the Corporation of the Town of Erin for a period of twelve (12) months from the date of Substantial Performance.
- (d) The decision of the Contract Administrator is to be final and binding on the Contractor and the Owner as to the nature and cause of any imperfections and as to the remedy for each and as to which party shall bear the cost of such remedy. Failure to comply with the directions of the Contract Administrator within forty-eight (48) hours after written notice may result in the Contract Administrator having the work performed by others and the cost thereof being deducted from the amount due to the Contractor.
- (e) To furnish a Performance Bond for 100% of the full tendered value of work and a Labour and Material Payment Bond for 50% of the full tendered value of the work, excluding all taxes.

ARTICLE III

THE OWNER UNDERTAKES AND AGREES:

- (a) That the Contractor shall receive payment for work done, and materials supplied according to the unit prices contained in the Form of Quotation, in accordance with the provisions of this Contract. The unit prices will be applied by the Contract Administrator to the actual quantities of work and materials supplied by the Contractor whether these quantities be more or less than those estimated in the said Form of Tender and shown on the Contract Drawings.
- (b) That the Contractor shall receive payments monthly, or one payment the month following completion of the work should the said work be completed in one calendar month or less, at the rate of ninety percent (90%) of the work actually done and materials in place, according to the estimate of the Contract Administrator, less all forfeitures and deductions provided for in the Contract. These payments shall be authorized on Contract Payment Certificates issued by the Contract Administrator, which will be based on approximate estimates only, and must not be construed as an acceptance of the work so estimated or as an admission of liability by the Owner in respect thereof.

(c) Within 45 days following the date of publication of the Certificate of Substantial Performance, as required by the Construction Lien Act 1983, and when all the work has been completed in accordance with the Contract, a Payment Certificate will be issued by the Contract Administrator at the rate of one hundred percent (100%) of the whole amount due under this Contract.

After the expiration of twelve months from the date of Substantial Performance and when all deficiencies have been corrected to the satisfaction of the Contract Administrator, a Final Certificate will be issued by the Contract Administrator.

ARTICLE IV

If and whenever either party desires to give notice to the other party or to the Contract Administrator under or in connection with this Contract, such notice will be effectively given if sent by prepaid registered mail addressed to:

The Contractor at:	
-& to the Owner at:	
	Corporation of the Town of Erin

Corporation of the Town of Erin 5684 Trafalgar Road R.R. #2 HILLSBURGH, Ontario N0B 1Z0

-& to the Contract Administrator at:

Triton Engineering Services Limited Consulting Engineers 105 Queen Street West, Unit No. 14 FERGUS, Ontario N1M 1S6

ARTICLE V

This Agreement shall apply to and be binding on the parties hereto and their respective successors, administrators, executors and assigns.

IN WITNESS WHEREOF the parties hereto have hereunto set their hands and seals the day and year first above written or caused their corporate seals to be affixed, attested by the signature of their proper officers, as the case may be.

SIGNED, SEALED AND DELIVERED	
in the presence of:))))(seal)
Witness to Signature of Contractor	
AUTHORIZED AND APPROVED	Mr. A. Alls, Mayor, Town of Erin
DATE))(seal)
j	Mr. N. Hyde, CAO, Town of Erin

SECTION G

STANDARDS

ONTARIO PROVINCIAL STANDARD DRAWINGS

INDEX

O.P.S.D. – 912.101 (Rev. 3)	-	Guide Rail System, Steel Beam, Rail, Component
O.P.S.D. – 912.102 (Rev. 2)	-	Guide Rail System, Steel Beam, Channel, Component
O.P.S.D. – 912.103 (Rev. 2)	-	Guide Rail System, Steel Beam, Plastic Offset Blocks, Component
O.P.S.D 912.104 (Rev. 3)		Guide Rail System, Steel Beam, Steel Post with Wooden Offset Block,
,		Component
O.P.S.D 912.105 (Rev. 2)	-	Guide Rail System, Steel Beam, Base Plate, Component
O.P.S.D. – 912.124	-	Guide Rail System, Steel Beam, Type M Transition Rail, Component
O.P.S.D. – 912.130 (Rev. 3)	-	Guide Rail System, Steel Beam, Steel Post with Wooden Offset Block
, ,		Assembly, Installation – Single Rail
O.P.S.D 912.140 (Rev. 2)	-	Guide Rail System, Steel Beam, Wooden Post Assembly, Installation -
		Single Rail
O.P.S.D. – 912.245	-	Guide Rail System, Steel Beam, Type M – 7.62 m Long Span Treatment,
		Installation
O.P.S.D. – 912.314	-	Guide Rail System, Steel Beam Transition From Type M to Existing Steel
		Beam Guide Rail, Installation
O.P.S.D 912.401 (Rev. 1)	-	Guide Rail System, Steel Beam, Structure Connection, Component - Rail
		and Channel
O.P.S.D. – 912.430 (Rev. 3)	-	Guide Rail System, Steel Beam, Structure Connection
O.P.S.D. – 912.530 (Rev. 2)	-	Guide Rail System, Steel Beam, Structure Approach Treatment, Installation
		– Rural Highway
O.P.S.D. – 922.170	-	Energy Attenuator, End Treatment Steel Beam Energy Attenuating
		Terminal, X-Lite Tangent Terminal System with Steel Posts, Installation
O.P.S.D. – 984.201 (Rev. 1)	-	Energy Attenuator, End Treatment, Delineation, Installation - Approach
		End
O.P.S.D 984.202 (Rev. 1)	-	Energy Attenuator, End Treatment, Delineation, Installation – Leaving End
O.P.S.D 3419.150 (Rev. 1)		Barriers and Railings, Steel, Single Railing Anchorage

STRUCTURAL STANDARD DRAWINGS

SS 110-21 - Railing for Barrier/Parapet Wall SS 110-44 - Two Tube Railing on Curb, TL-4

SS 110-45 - End Connection for Curb Railing and Steel Beam Guide Rail

A copy of the Ontario Provincial Standard Drawings are not included in the Tender Documents but will be included in the Documents executed between the successful Contractor and the Corporation.

MISCELLANEOUS DRAWINGS

Key Plan 1 - Structure No. 2011 and Structure No. 2Key Plan 2 - Structure No. 2057 and Structure No. 3

Key Plan 3 - Structure No. 7

SK-1 - Structure No. 3 – Deck Repair Details

SK-2 - Structure No. 3 – Wingwall and Abutment Repair Details

SK-3 - Structure No. 3 – Two Tube Railing on Curb

SK-4 - Structure No. 2 - Curb Repair Details

SK-5 - Structure No. 2011 – Parapet Repair Details SK-6 - Structure No. 2 and 7 – Concrete Railing Panels

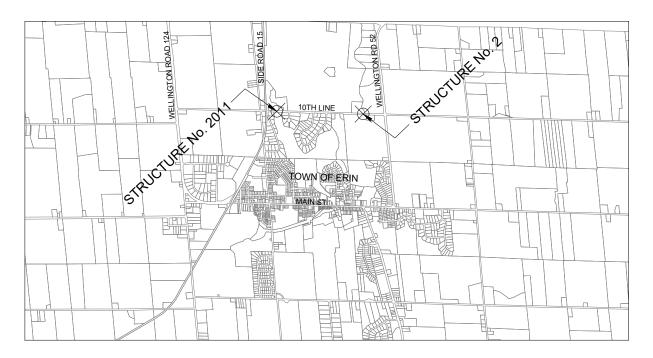
KEY PLAN 1

TOWN OF ERIN CONTRACT No. B5094A



STRUCTURE No. 2011 LOCATION- 10TH LINE 0.2 KM SOUTH OF SIDE ROAD 15 STRUCTURE No. 2

LOCATION- 10TH LINE 1.5 KM SOUTH OF SIDE ROAD 15



KEY PLAN 2

TOWN OF ERIN CONTRACT No. B5094A



STRUCTURE No. 2057 LOCATION- 17TH SIDE ROAD 0.1 KM EAST OF 1ST LINE STRUCTURE No. 3

LOCATION- 1ST LINE 6.1 KM NORTH OF SIDE ROAD 32

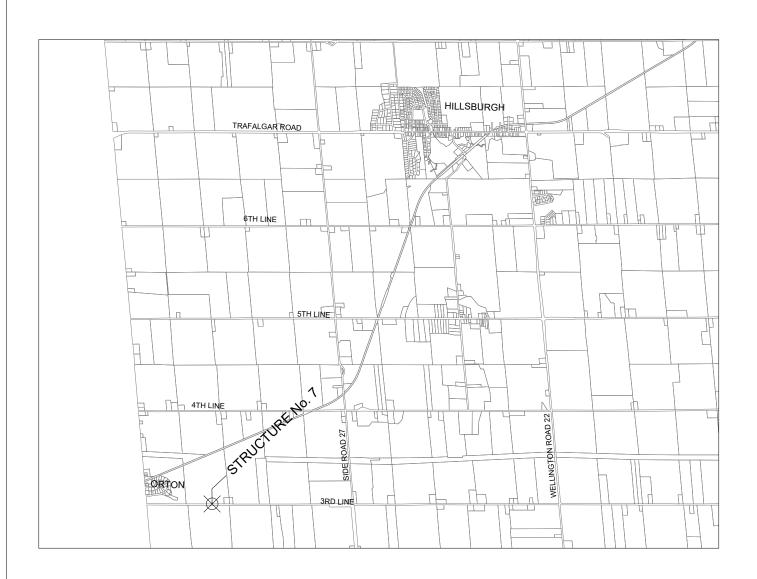


KEY PLAN 3

TOWN OF ERIN CONTRACT No. B5094A



STRUCTURE No. 7 LOCATION- 3RD LINE 2.1 KM NORTH OF SIDE ROAD 27



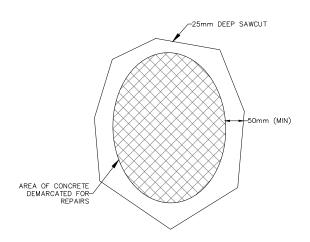
SK-1

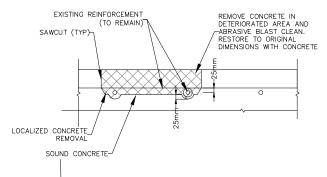
STRUCTURE No. 3

DECK REPAIR DETAILS N.T.S

TOWN OF ERIN CONTRACT No. B5094A

LOCATION- 1ST LINE-6.1 KM NORTH OF SIDE ROAD 32

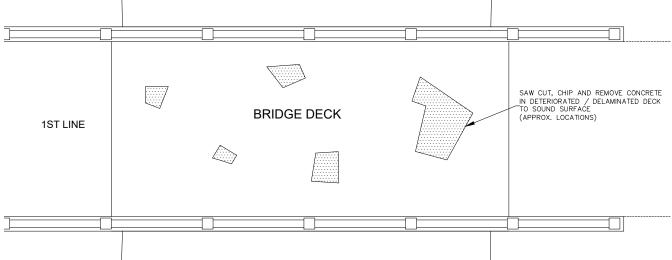






GENERAL NOTES:

- CLASS OF CONCRETE SHALL BE 35 MPG C1 AT 28 DAYS, 0.40 w/c RATIO AND 5-8% AIR CONTENT. CEMENT SHALL BE TYPE 30 (HIGH STRENGTH)
- 2. WET CURE CONCRETE FOR MINIMUM OF 3 DAYS AFTER PLACEMENT
- 3. NEW REINFORCING STEEL SHALL BE GRADE 400 UNLESS OTHERWISE SPECIFIED.
- 4. AREAS OF CONCRETE REMOVAL SHALL BE DELINEATED BY A 25mm SQUARE EDGE.
- 5. DECK CONDITION SURVEY SHALL BE COMPLETED PRIOR TO CONSTRUCTION.
- DECK SHALL BE COMPLETELY CLEANED OFF OF ALL GRAVEL AND DEBRIS PRIOR TO CONDITION SURVEY AND CONSTRUCTION.
- 7. WHERE INDICATED ON THE DRAWINGS THAT A SAWCUT IS REQUIRED TO DELINEATE AREAS OF CONCRETE REMOVAL THE SAWCUT SHALL BE 25mm DEEP OR TO THE FIRST LAYER OF REINFORCING STEEL, WHICHEVER IS LESS.
- 8. THE CONTRACTOR SHALL CHECK ALL RELEVANT STRUCTURE DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE REPAIR WORK.
- 15M DOWELS TO BE EPOXIED INTO DRILLED DOWEL HOLES WITH HILTI HIT HY 200 MAX ADHESIVE SYSTEM OR APPROVED EQUIVALENT.
- 10. NO IN WATER WORK SHALL TAKE PLACE BETWEEN OCTOBER 1 TO JUNE 30.
- 11. WASH, REFUEL, AND SERVICE ANY MACHINERY AND STORE FUEL AND OTHER MATERIALS FOR THE MACHINERY AWAY FROM THE WATER TO PREVENT ANY DELETERIOUS SUBSTANCES FROM ENTERING THE WATER.
- 12. KEEP FLUID EMERGENCY SPILL KIT ON SITE IN CASE OF FLUID LEAKS OR SPILLS FROM MACHINERY.
- 13. STABILIZE ANY WASTE MATERIALS REMOVED FROM THE WORK SITE TO PREVENT IT FROM ENTERING THE WATERBODY.
- 14. NO DEBRIS SHALL ENTER THE WATERCOURSE DURING THE CONSTRUCTION.
- 15. NO ALTERATIONS TO THE NATURAL STREAM ALIGNMENT SHALL BE MADE DUE TO CONSTRUCTION.



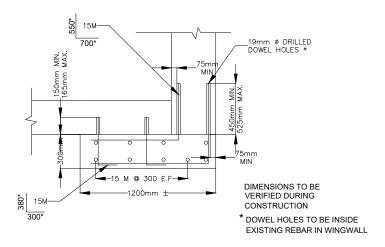
SK-2

STRUCTURE No. 3

WINGWALL AND ABUTMENT REPAIR DETAILS N.T.S

TOWN OF ERIN CONTRACT No. B5094A

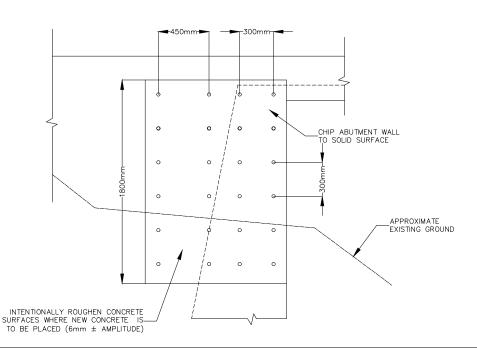
LOCATION- 1ST LINE-6.1 KM NORTH OF SIDE ROAD 32





GENERAL NOTES:

- CLASS OF CONCRETE SHALL BE 35 MPa C1 AT 28 DAYS, 0.40 w/c RATIO AND 5-8% AIR CONTENT. CEMENT SHALL BE TYPE 30 (HIGH STRENGTH)
- 2. WET CURE CONCRETE FOR MINIMUM OF 3 DAYS AFTER PLACEMENT
- 3. NEW REINFORCING STEEL SHALL BE GRADE 400 UNLESS OTHERWISE SPECIFIED.
- AREAS OF CONCRETE REMOVAL SHALL BE DELINEATED BY A 25mm SQUARE EDGE.
- 5. DECK CONDITION SURVEY SHALL BE COMPLETED PRIOR TO CONSTRUCTION.
- DECK SHALL BE COMPLETELY CLEANED OFF OF ALL GRAVEL AND DEBRIS PRIOR TO CONDITION SURVEY AND CONSTRUCTION.
- 7. WHERE INDICATED ON THE DRAWINGS THAT A SAWCUT IS REQUIRED TO DELINEATE AREAS OF CONCRETE REMOVAL THE SAWCUT SHALL BE 25mm DEEP OR TO THE FIRST LAYER OF REINFORCING STEEL, WHICHEVER IS LESS.
- 8. THE CONTRACTOR SHALL CHECK ALL RELEVANT STRUCTURE DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE REPAIR WORK.
- 15M DOWELS TO BE EPOXIED INTO DRILLED DOWEL HOLES WITH HILTI HIT HY 200 MAX ADHESIVE SYSTEM OR APPROVED EQUIVALENT.
- 10. NO IN WATER WORK SHALL TAKE PLACE BETWEEN OCTOBER 1 TO JUNE 30.
- 11. WASH, REFUEL, AND SERVICE ANY MACHINERY AND STORE FUEL AND OTHER MATERIALS FOR THE MACHINERY AWAY FROM THE WATER TO PREVENT ANY DELETERIOUS SUBSTANCES FROM ENTERING THE WATER.
- 12. KEEP FLUID EMERGENCY SPILL KIT ON SITE IN CASE OF FLUID LEAKS OR SPILLS FROM MACHINERY.
- 13. STABILIZE ANY WASTE MATERIALS REMOVED FROM THE WORK SITE TO PREVENT IT FROM ENTERING THE WATERBODY.
- 14. NO DEBRIS SHALL ENTER THE WATERCOURSE DURING THE CONSTRUCTION.
- 15. NO ALTERATIONS TO THE NATURAL STREAM ALIGNMENT SHALL BE MADE DUE TO CONSTRUCTION.



TRITON

SK-3

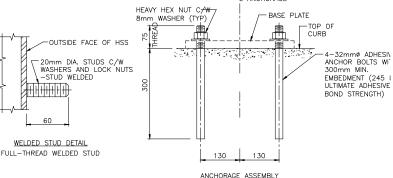
STRUCTURE No. 3

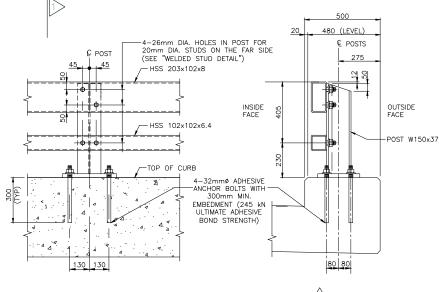
TWO TUBE RAILING ON CURB N.T.S

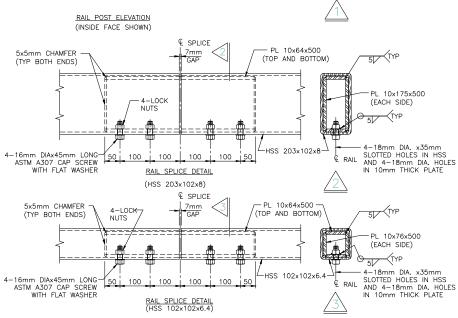
TOWN OF ERIN CONTRACT No. B5094A

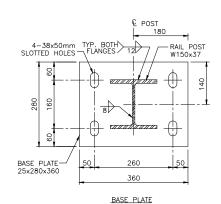
LOCATION- 1ST LINE-6.1 KM NORTH OF SIDE ROAD 32











GENERAL NOTES:

- 1. SYSTEM CONFIGURATION MEETS THE REQUIREMENTS OF NCHRP 350.
- 2. RAIL ELEMENTS SHALL BE HOLLOW STRUCTURAL SECTIONS GRADE 350WT, CLASS C. RAIL ELEMENT SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH IMPACT TEST REQUIREMENTS OF 27 JOULES AT TEST TEMPERATURE OF -20 °C.

(ASTM A500 GRADE B OR C STEEL MAY BE SUBSTITUTED FOR GRADE 350WT PROVIDED THAT THE CHARPY V-NOTCH IMPACT TEST REQUIREMENTS ARE VERIFIED BY THE SUBMISSION OF TEST DOCUMENTATION).

- 3. POSTS AND PLATES SHALL BE GRADE 350WT.
 4. THE NOTCH TOUGHNESS REQUIREMENTS FOR POSTS AND PLATES SHALL BE THE SAME AS THOSE SPECIFIED IN NOTE 2.
 5. ANCHOR STUDS, WASHERS AND NUTS SHALL CONFORM TO ASTM A449.
- 6. FULL THREAD STUDS, WASHERS AND NUTS FOR FASTENING GUIDE RAILS TO POST SHALL CONFORM TO ASTM A108.
- GALVANIZING ON MATING SURFACES OF RAILS TO HAVE UNIFORM THICKNESS NOT EXCEEDING 0.15mm TO ENSURE SLIDING FIT.
- RAILS, POSTS, RAIL SPLICES, AND END CAPS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- BOLTS, ANCHOR STUDS, PLATES, WASHERS AND NUTS SHALL BE HOT—DIP GALVANIZED. LOCK NUTS SHALL BE ZINC PLATED ACCORDING TO ASTM—B695.

- ACCORDING TO ASTM—B695.

 10. RAILS SHALL BE PREBENT TO FOLLOW ROAD CURVATURE WHERE RADIUS IS LESS THAN 150 METRES.

 11. RAIL POSTS SHALL BE SET PERPENDICULAR TO GRADE.

 12. RAILS MAY BE CUT AS REQUIRED IN THE FIELD, CUT TO BE SURFACE TREATED WITH A ZINC TOUCH—UP SOLDER, GALVAGUARD OR AN APPROVED EQUIVALENT.

 13. WHEN CONNECTING TO EXISTING RAILING, RAILS MUST BE MADE CONTINUOUS AND POST SPACINGS TO BE DETERMINED WITH REFERENCE TO EXISTING POSTS.

 14. GROUT SHALL NOT BE USED UNDER BASE PLATES. THIN PAD OF
- 14. GROUT SHALL NOT BE USED UNDER BASE PLATES. THIN PAD OF EPOXY GROUT MAY BE USED WHEN REQUIRED FOR FILLING THE VOIDS UNDER THE BASE PLATE.
- 15. POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT CONDITION AND GIVEN AN ADDITIONAL 1/3 OF A TURN
- 16. BOLTS IN RAIL SPLICES SHALL BE TIGHTENED TO A CONDITION THAT WILL ALLOW RAIL MOVEMENT.

 17. STAINLESS STEEL BARS SHALL BE TYPE 316 LN OR DUPLEX 2205 WITH A MINIMUM YIELD STRENGTH OF 500 MPA.

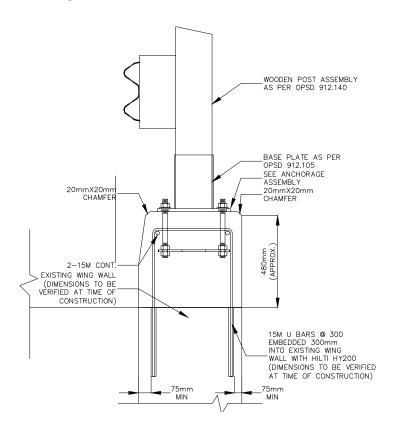
SK-4

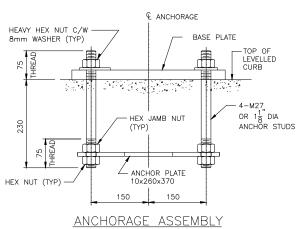
STRUCTURE No. 2

CURB REPAIR DETAILS

TOWN OF ERIN CONTRACT No. B5094A

LOCATION- 10TH LINE 1.5 KM SOUTH OF 15TH SIDE ROAD

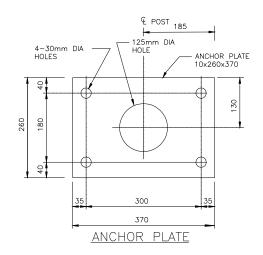






GENERAL NOTES:

- CLASS OF CONCRETE SHALL BE 35 MPa C1 AT 28 DAYS, 0.40 w/c RATIO AND 5-8% AIR CONTENT. CEMENT SHALL BE TYPE 30 (HIGH STRENGTH)
- 2. WET CURE CONCRETE FOR MINIMUM OF 3 DAYS AFTER PLACEMENT
- 3. NEW REINFORCING STEEL SHALL BE GRADE 400 UNLESS OTHERWISE SPECIFIED.
- 4. AREAS OF CONCRETE REMOVAL SHALL BE DELINEATED BY A 25mm SQUARE EDGE.
- DECK CONDITION SURVEY SHALL BE COMPLETED PRIOR TO CONSTRUCTION.
- DECK SHALL BE COMPLETELY CLEANED OFF OF ALL GRAVEL AND DEBRIS PRIOR TO CONDITION SURVEY AND CONSTRUCTION.
- 7. WHERE INDICATED ON THE DRAWINGS THAT A SAWCUT IS REQUIRED TO DELINEATE AREAS OF CONCRETE REMOVAL THE SAWCUT SHALL BE 25mm DEEP OR TO THE FIRST LAYER OF REINFORCING STEEL, WHICHEVER IS LESS.
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- 15M DOWELS TO BE EPOXIED INTO DRILLED DOWEL HOLES WITH HILTI HIT HY 200 MAX ADHESIVE SYSTEM OR APPROVED EQUIVALENT.
- 10. NO IN WATER WORK SHALL TAKE PLACE BETWEEN OCTOBER 1 TO JUNE 30.
- 11. WASH, REFUEL, AND SERVICE ANY MACHINERY AND STORE FUEL AND OTHER MATERIALS FOR THE MACHINERY AWAY FROM THE WATER TO PREVENT ANY DELETERIOUS SUBSTANCES FROM ENTERING THE WATER.
- 12. KEEP FLUID EMERGENCY SPILL KIT ON SITE IN CASE OF FLUID LEAKS OR SPILLS FROM MACHINERY.
- STABILIZE ANY WASTE MATERIALS REMOVED FROM THE WORK SITE TO PREVENT IT FROM ENTERING THE WATERBODY.
- 14. NO DEBRIS SHALL ENTER THE WATERCOURSE DURING THE CONSTRUCTION.
- 15. NO ALTERATIONS TO THE NATURAL STREAM ALIGNMENT SHALL BE MADE DUE TO CONSTRUCTION.

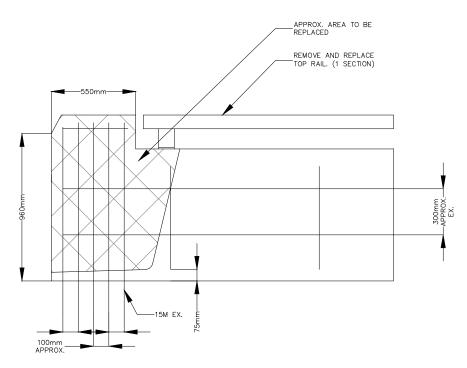


SK-5

STRUCTURE No. 2011 PARAPET REPAIR DETAILS N.T.S

TOWN OF ERIN CONTRACT No. B5094A

LOCATION- 10TH LINE 0.2 KM SOUTH OF SIDE ROAD 15





GENERAL NOTES:

- CLASS OF CONCRETE SHALL BE 35 MPG C1 AT 28 DAYS, 0.40 w/c RATIO AND 5-8% AIR CONTENT. CEMENT SHALL BE TYPE 30 (HIGH STRENGTH)
- 2. WET CURE CONCRETE FOR MINIMUM OF 3 DAYS AFTER PLACEMENT
- 3. NEW REINFORCING STEEL SHALL BE GRADE 400 UNLESS OTHERWISE SPECIFIED.
- 4. AREAS OF CONCRETE REMOVAL SHALL BE DELINEATED BY A 25mm SQUARE EDGE.
- 5. DECK CONDITION SURVEY SHALL BE COMPLETED PRIOR TO CONSTRUCTION.
- 6. DECK SHALL BE COMPLETELY CLEANED OFF OF ALL GRAVEL AND DEBRIS PRIOR TO CONDITION SURVEY AND CONSTRUCTION.
- 7. WHERE INDICATED ON THE DRAWINGS THAT A SAWCUT IS REQUIRED TO DELINEATE AREAS OF CONCRETE REMOVAL THE SAWCUT SHALL BE 25mm DEEP OR TO THE FIRST LAYER OF REINFORCING STEEL, WHICHEVER IS LESS
- 8. THE CONTRACTOR SHALL CHECK ALL RELEVANT STRUCTURE DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE REPAIR WORK.
- 15M DOWELS TO BE EPOXIED INTO DRILLED DOWEL HOLES WITH HILTI HIT HY 200 MAX ADHESIVE SYSTEM OR APPROVED EQUIVALENT.
- 10. NO IN WATER WORK SHALL TAKE PLACE BETWEEN OCTOBER 1 TO JUNE 30.
- 11. WASH, REFUEL, AND SERVICE ANY MACHINERY AND STORE FUEL AND OTHER MATERIALS FOR THE MACHINERY AWAY FROM THE WATER TO PREVENT ANY DELETERIOUS SUBSTANCES FROM ENTERING THE WATER.
- 12. KEEP FLUID EMERGENCY SPILL KIT ON SITE IN CASE OF FLUID LEAKS OR SPILLS FROM MACHINERY.
- STABILIZE ANY WASTE MATERIALS REMOVED FROM THE WORK SITE TO PREVENT IT FROM ENTERING THE WATERBODY.
- 14. NO DEBRIS SHALL ENTER THE WATERCOURSE DURING THE CONSTRUCTION.
- 15. REBAR COVER TO BE 70mm +/-

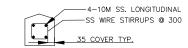
SK-6 MARCH, 2018

STRUCTURE No. 2 AND 7 **CONCRETE RAILING PANELS** N.T.S

TOWN OF ERIN CONTRACT No. B5094A

LOCATION

- STRUCTURE No. 2 10TH LINE,
- 1.5 KM SOUTH OF 15TH SIDEROAD
- STRUCTURE No. 7 3rd LINE, 2.1 KM NORTH OF SIDEROAD 27



REINFORCEMENT



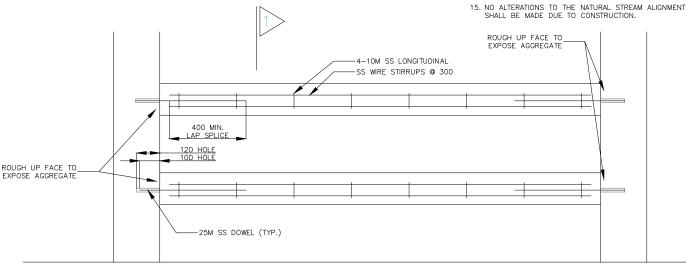
DIMENSIONS

SECTION 1



GENERAL NOTES:

- 1. CLASS OF CONCRETE SHALL BE 35 MPg C1 AT 28 DAYS, 0.40 w/c RATIO AND 5-8% AIR CONTENT. CEMENT SHALL BE TYPE 30 (HIGH STRENGTH)
- 2. WET CURE CONCRETE FOR MINIMUM OF 3 DAYS AFTER PLACEMENT
- 3. NEW REINFORCING STEEL SHALL BE STAINLESS STEEL
- AREAS OF CONCRETE REMOVAL SHALL BE DELINEATED BY A $25\,\mathrm{mm}$ SQUARE EDGE.
- 5. DECK CONDITION SURVEY SHALL BE COMPLETED PRIOR TO CONSTRUCTION.
- DECK SHALL BE COMPLETELY CLEANED OFF OF ALL GRAVEL AND DEBRIS PRIOR TO CONDITION SURVEY AND CONSTRUCTION.
- WHERE INDICATED ON THE DRAWINGS THAT A SAWCUT IS REQUIRED TO DELINEATE AREAS OF CONCRETE REMOVAL THE SAWCUT SHALL BE 25mm DEEP OR TO THE FIRST LAYER OF REINFORCING STEEL, WHICHEVER IS LESS.
- 8. THE CONTRACTOR SHALL CHECK ALL RELEVANT STRUCTURE DIMENSIONS AND ELEVATIONS SHOWN ON THE DRAWINGS AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE REPAIR WORK.
- 9. 15M DOWELS TO BE EPOXIED INTO DRILLED DOWEL HOLES WITH HILTI HIT HY 200 MAX ADHESIVE SYSTEM OR APPROVED EQUIVALENT.
- 10. NO IN WATER WORK SHALL TAKE PLACE BETWEEN OCTOBER 1 TO JUNE 30.
- 11. WASH, REFUEL, AND SERVICE ANY MACHINERY AND STORE FUEL AND OTHER MATERIALS FOR THE MACHINERY AWAY FROM THE WATER TO PREVENT ANY DELETERIOUS SUBSTANCES FROM ENTERING THE WATER.
- 12. KEEP FLUID EMERGENCY SPILL KIT ON SITE IN CASE OF FLUID LEAKS OR SPILLS FROM MACHINERY.
- 13. STABILIZE ANY WASTE MATERIALS REMOVED FROM THE WORK SITE TO PREVENT IT FROM ENTERING THE WATERBODY.
- 14. NO DEBRIS SHALL ENTER THE WATERCOURSE DURING THE CONSTRUCTION.



ELEVATION OF RAILING

NOTES:

- -ALL REPLACED & REHABILITATED COMPONENTS TO BE
- FORMED & RESTORED TO ORIGINAL DIMENSIONS
- ENSURE DOWEL HOLES DO NOT CONFLICT WITH EXISTING
- REINFORCEMENT