

TENDER DOCUMENTS
FOR
COLCHESTER TOWNLINE DRAIN
IN THE
TOWN OF TECUMSEH

TENDER DOCUMENTS

FOR THE

COLCHESTER TOWNLINE DRAIN

IN THE

TOWN OF TECUMSEH

BRUCE D. CROZIER ENGINEERING INC.
CONSULTING ENGINEER
99 QUEENS AVENUE, SUITE 1
LEAMINGTON, ONTARIO
N8H 3H1

File No. BC-09-020

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FORM OF TENDER
FOR THE
COLCHESTER TOWNLINE DRAIN
IN THE
TOWN OF TECUMSEH

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FORM OF TENDER

FOR THE

COLCHESTER TOWNLINE DRAIN

IN THE

TOWN OF TECUMSEH

TO: Ms. Laura Moy, Clerk
 Corporation of the Town of Tecumseh
 917 Lesperance Road
 Tecumseh, Ontario
 N8N 1W9

_____ the undersigned, having examined the locality and site of the Works, Drawings and Specifications as prepared by BRUCE D. CROZIER ENGINEERING INC., 99 Queens Avenue, Suite 1, Leamington, Ontario N8H 3H1 hereby offer to furnish all materials including all appropriate sales taxes and perform all the work necessary as described in the above documents and in accordance with the said documents under the supervision of the said Consulting Engineer, or the Drainage Superintendent of the Town of Tecumseh, for the sum of

_____ DOLLARS (\$) _____) including H.S.T. and made up as follows:

CONSTRUCTION

- 1) 4,000.0 Cubic metres of excavation to be undertaken along the length of the drain and disposed of offsite:
- a) Between Station 6+637.3 and Station 5+760.0, approximately 350.0 cubic metres
 - b) Between Station 5+760 and Station 5+241.4, approximately 152 cubic metres
 - c) Between Station 5+224.4 and Station 4+680, approximately 302 cubic metres
 - d) Between Station 4+460 and Station 3+600, approximately 930 cubic metres
 - e) Between Station 3+600 and Station 2+520, approximately 1,060 cubic metres
 - f) Between station 2+250 and Station 1+440, approximately 660 cubic metres
 - g) Between Station 1+440 and Station 0+360, approximately 407 cubic metres

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>Description & Unit Price</u>	<u>Amount</u>
		h) Between Station 0+360 and Station 0+000, approximately 133 cubic metres. Complete at \$_____per cubic metre.	\$_____
2)	L.S.	Brushing and grubbing along both banks and bottom of the open drain including removal and disposal of brush and trees from site to a location determined by the contractor. Complete at \$_____ Lump Sum.	\$_____
3)	L.S.	Work to be carried out on existing driveway access culvert between Station 5+936 and Station 5+928.5: - Remove existing granular material and concrete box culvert, approximately 7.5 m long and dispose of offsite - Supply and set approximately 7.5 m of 3300 x 2080 mm pipe arch with 68 x 13 mm corrugations and 2.8 mm wall thickness -Supply, place and compact approximately 35.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore driveway -Supply, place and compact approximately 92.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across driveway -Supply and set 2 concrete jute bag headwalls Complete at \$_____ Lump Sum.	\$_____
4)	L.S.	Work to be carried out on the existing 8 th Concession road crossing between Station 5+244.4 and Station 5+224.2: - Remove existing granular material, headwalls and 3050 x 2000 mm C.S.P. pipe arch, approximately 17.2 m long and dispose of offsite - Supply and set approximately 20.2 m of 3300 x 2080 mm pipe arch with 68 x 13 mm corrugations, 2.8 mm wall thickness and 600 mm diameter prefabricated stub 2.5 m from the east outlet -Supply, set and connect to prefabricated stub approximately 9.0 m of 600 mm diameter C.S.P. with 2.0 mm wall thickness and 68 x 13 mm corrugations -Supply, place and compact approximately 60.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore roads	

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>Description & Unit Price</u>	<u>Amount</u>
		<ul style="list-style-type: none"> -Supply, place and compact approximately 215.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across road -Supply and set 2 concrete jute bag headwalls -Supply, place, spread and compact approximately 152.0 square metres of H.L. 4 asphaltic concrete with a thickness of 50 mm to restore roads -Supply, place, spread and compact approximately 152.0 square metres of H.L.3 asphaltic concrete with a thickness of 40 mm to restore roads 	
		Complete at \$ _____ Lump Sum.	\$ _____
5)	L.S.	<p>Work to be carried out on existing driveway access culvert between Station 4+793.75 and Station 4+785.75:</p> <ul style="list-style-type: none"> -Remove existing granular material, concrete deck, wingwalls and footings - Supply and set approximately 8.0m of 2400 mm diameter C.S.P pipe with 68 x 13 mm corrugations and 2.8 mm wall thickness -Supply, place and compact approximately 25.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore driveway -Supply, place and compact approximately 85.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across driveway -Supply and set 2 concrete jute bag headwalls 	
		Complete at \$ _____ Lump Sum.	\$ _____
6)	L.S.	<p>Work to be carried out on the existing 9th Concession road crossing between Station 3+862 and Station 3+841.8:</p> <ul style="list-style-type: none"> - Remove existing granular material, headwalls and 2500 x 1830 mm C.S.P. pipe arch, approximately 15.5 m long and dispose of offsite - Supply and set approximately 20.2 m of 2800 x 1950 mm pipe arch with 68 x 13 mm corrugations, 2.8 mm wall thickness and 800 mm diameter prefabricated stub 4.0 m from the east outlet -Supply, set and connect to prefabricated stub approximately 7.0 m of 800 mm diameter C.S.P. with 2.0 mm wall thickness and 68 x 13 mm corrugations -Supply, place and compact approximately 62.0 tonnes of 	

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>Description & Unit Price</u>	<u>Amount</u>
		granular 'A', as per O.P.S.S. 1010, as bedding material and to restore road -Supply, place and compact approximately 260.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across road -Supply and set 2 concrete jute bag headwalls -Supply, place, spread and compact approximately 130.0 square metres of H.L. 4 asphaltic concrete with a thickness of 50 mm to restore road -Supply, place, spread and compact approximately 130.0 square metres of H.L.3 asphaltic concrete with a thickness of 40 mm to restore road Complete at \$_____ Lump Sum.	\$_____
7)	L.S.	Work to be carried out on existing driveway access culvert between Station 2+866.7 and Station 2+857.3: - Remove, salvage and reset existing 9.4 m of 2000 x 1500 C.S.P. pipe arch with 125 x 25 mm corrugations -Remove existing headwalls and dispose of offsite -Supply, place and compact approximately 35.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore driveway -Supply, place and compact approximately 170.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across driveway -Supply and set 2 concrete jute bag headwalls Complete at \$_____ Lump Sum.	\$_____
8)	L.S.	Work to be carried out on the existing 10 th Concession road crossing between Station 2+500.7 and Station 2+482.5: - Remove existing granular material, headwalls and 2500 x 2000 mm C.S.P. pipe arch, approximately 12.9 m long and dispose of offsite -Supply and install 18.2 m of 2800 x 1950 mm C.S.P. pipe arch with 68 x 13 mm corrugations, 2.8 mm wall thickness and 800 mm diameter prefabricated stub 2.0 m from the east outlet -Supply, set and connect to prefabricated stub approximately 7.0 m of 800 mm diameter C.S.P. pipe with 2.0 mm wall thickness and 68 x 13 mm corrugations -Supply, place and compact approximately 45.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and	

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>Description & Unit Price</u>	<u>Amount</u>
		<p>to restore road</p> <ul style="list-style-type: none"> -Supply, place and compact approximately 210.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across road -Supply and set 2 concrete jute bag headwalls -Supply, place, spread and compact approximately 107.0 square metres of H.L. 4 asphaltic concrete with a thickness of 50 mm to restore road -Supply, place, spread and compact approximately 107.0 square metres of H.L.3 asphaltic concrete with a thickness of 40 mm to restore road 	
		<p>Complete at \$_____ Lump Sum.</p>	<p>\$_____</p>
<p>9)</p>	<p>L.S.</p>	<p>Work to be carried out on the existing Malden Road crossing between Station 2+400.7 and Station 2+379.5:</p> <ul style="list-style-type: none"> - Remove existing granular material, headwalls and 2500 x 2000 mm C.S.P. pipe arch, approximately 15.5 m long and dispose of offsite -Supply and install 21.2 m of 2800 x 1950 mm C.S.P. pipe arch with 68 x 13 mm corrugations, 2.8 mm wall thickness and an 600 mm diameter prefabricated stub 0.7 m from the west outlet and an 800 mm diameter prefabricated stub 1.5 m from the east outlet -Supply, set and connect to prefabricated stub approximately 9.0 m of 600 mm diameter C.S.P. pipe with 2.0 mm wall thickness and 68 x 13 mm corrugations -Supply, set and connect to prefabricated stub approximately 7.0 m of 800 mm diameter C.S.P. pipe with 2.0 mm wall thickness and 68 x 13 mm corrugations -Supply, place and compact approximately 54.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore road -Supply, place and compact approximately 200.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across road -Supply and set 2 concrete jute bag headwalls -Supply, place, spread and compact approximately 125.0 square metres of H.L. 4 asphaltic concrete with a thickness of 50 mm to restore road 	

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>Description & Unit Price</u>	<u>Amount</u>
		-Supply, place, spread and compact approximately 125.0 square metres of H.L.3 asphaltic concrete with a thickness of 40 mm to restore road	
		Complete at \$_____ Lump Sum.	\$_____
10)	13.0	Metres of existing 2200 mm diameter C.S.P. pipe at the 11 th Concession road crossing, Station 1+136.3 to Station 1+123.3, to be cleaned complete at \$_____per metre.	\$_____
11)	L.S.	<p>Work to be carried out on existing driveway access culvert between Station 0+828 and Station 0+820:</p> <ul style="list-style-type: none"> - Remove existing granular material, headwalls and 900 mm diameter C.S.P. pipe, approximately 8.0 m long and dispose of offsite -Supply and install 8.0 m of 900 mm C.S.P. pipe with 68 x 13 mm corrugations and 2.8 mm wall thickness -Supply, place and compact approximately 20.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore driveway -Supply, place and compact approximately 65.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across driveway -Supply and set 2 concrete jute bag headwalls <p>Complete at \$_____ Lump Sum.</p>	\$_____
12)	L.S.	<p>Work to be carried out on existing driveway access culvert between Station 0+701.6 and Station 0+693.6:</p> <ul style="list-style-type: none"> - Remove existing granular material, headwalls and 900 mm diameter C.S.P. pipe, approximately 8.0 m long and dispose of offsite -Supply and install 8.0 m of 900 mm C.S.P. pipe with 68 x 13 mm corrugations and 2.8 mm wall thickness -Supply, place and compact approximately 20.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore driveway -Supply, place and compact approximately 65.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across driveway 	

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>Description & Unit Price</u>	<u>Amount</u>
		-Supply and set 2 concrete jute bag headwalls	
		Complete at \$_____ Lump Sum.	\$_____
13)	L.S.	Work to be carried out on existing driveway access culvert between Station 0+630.55 and Station 0+622.55:	
		- Remove existing granular material, headwalls and 900 mm diameter C.S.P. pipe, approximately 8.0 m long and dispose of offsite	
		-Supply and install 8.0 m of 900 mm C.S.P. pipe with 68 x 13 mm corrugations and 2.8 mm wall thickness	
		-Supply, place and compact approximately 20.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore driveway	
		-Supply, place and compact approximately 65.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across driveway	
		-Supply and set 2 concrete jute bag headwalls	
		Complete at \$_____ Lump Sum.	\$_____
14)	L.S.	Work to be carried out on existing driveway access culvert between Station 0+277.75 and Station 0+269.75:	
		- Remove existing granular material, headwalls and 900 mm diameter C.S.P. pipe, approximately 8.0 m long and dispose of offsite	
		-Supply and install 8.0 m of 900 mm C.S.P. pipe with 68 x 13 mm corrugations and 2.8 mm wall thickness	
		-Supply, place and compact approximately 20.0 tonnes of granular 'A', as per O.P.S.S. 1010, as bedding material and to restore driveway	
		-Supply, place and compact approximately 65.0 tonnes of granular 'B', as per O.P.S.S. 1010, as covering material and backfill across driveway	
		-Supply and set 2 concrete jute bag headwalls	
		Complete at \$_____ Lump Sum.	\$_____

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>Description & Unit Price</u>	<u>Amount</u>
15)	L.S.	Supply and place seed and mulch on all excavated portions of the open drain side slopes. Complete at \$ _____ Lump Sum.	\$ _____
16)	6.6	Metres of 3300 x 2080 mm C.S.P. pipe arch with 68 x 13 mm corrugations and 2.8 mm wall thickness to be supplied and set, if the landowner prefers sloped gabion stone end of pipe protection instead of concrete jute bag headwalls as specified on the drawing, complete at \$ _____ per metre.	\$ _____
17)	6.1	Metres of 2400 mm diameter C.S.P. pipe with 68 x 13 mm corrugations and 2.8 mm wall thickness to be supplied and set, if the landowner prefers sloped gabion stone end of pipe protection instead of concrete jute bag headwalls as specified on the drawing, complete at \$ _____ per metre.	\$ _____
18)	4.2	Metres of 900 mm diameter C.S.P. pipe with 68 x 13 mm corrugations and 2.8 mm wall thickness to be supplied and set, if the landowner prefers sloped gabion stone end of pipe protection instead of concrete jute bag headwalls as specified on the drawing, complete at \$ _____ per metre.	\$ _____
19)	210.0	Tonnes of granular 'B' to be supplied and placed as backfill as per O.P.S.S. 1010, to be used as backfill should the landowner prefer sloped gabion stone end of pipe protection instead of jute bag headwalls as specified on the drawing complete at \$ _____ per tonne.	\$ _____
20)	11.0	Tonnes of granular 'A' to be supplied and placed as bedding material, as per O.P.S.S. 1010, to be used as bedding should the landowner prefer sloped gabion stone end of pipe protection instead of jute bag headwalls as specified on the drawing, complete at \$ _____ per tonne.	\$ _____
21)	95.0	Square metres of Gabion Stone (300 mm thick) supplied and laid on Terrafix 270 R filter fabric complete at \$ _____ per square metre.	\$ _____

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>Description & Unit Price</u>	<u>Amount</u>
22)	L.S.	The Contractor shall provide a traffic control plan to the Town of Tecumseh and the County of Essex for approval before construction commences. The Contractor shall supply, install and maintain the necessary signage during the construction period according to the latest revision of the Ontario Traffic Manual Book 7, Temporary Conditions, complete at \$ _____ Lump Sum.	\$ _____
TOTAL CONSTRUCTION COST			\$ _____
13.0 % H.S.T.			\$ _____
TOTAL TENDER PRICE			\$ _____

Enter this amount on Page T-1

_____ declare that this Tender is made without any connection, knowledge, comparison of figures or arrangement with any other company, firm or person making a Tender for the same work and is in all respect, fair and without collusion or fraud.

A bid bond, cash deposit or certified cheque in the amount of \$ 34,000.00 shall accompany this Tender as surety that _____ will enter into a Contract suitable to the CORPORATION OF THE TOWN OF TECUMSEH.

The successful Tenderer will be required to furnish a Performance & Maintenance Bond and a Labour & Materials Payment bond satisfactory to the Clerk of the CORPORATION OF THE TOWN OF TECUMSEH, in the amount of 100% of the Tender.

_____ Further agree to leave this Tender open for acceptance for a period of 60 calendar days from the closing date of Tenders.

_____ Further agree to enter into a Contract with the CORPORATION OF THE TOWN OF TECUMSEH for the above work within 10 days after the Contract is awarded to _____.

It is understood that the CORPORATION OF THE TOWN OF TECUMSEH is not bound to accept the lowest, any or any particular bid. The criteria to be considered by the Municipality in awarding the contract will include a combination of price, scheduling, expertise, qualifications and such other conditions as may be determined by the Municipality to be in its own best interests. Additions, alterations, deletions or other irregularities in the bid form may, but will not necessarily, result in the Municipality's rejection of the bid. The bidder acknowledges that it shall have no claim against, or entitlement to damages from, the Municipality by reason of the Municipalities rejection of its bid or of all bids.

A Certificate of Good Standing from the Workplace Safety & Insurance Board will be required before commencement of the work and before final payment is made.

The Tenderer agrees to have the required equipment and labour at the site and to work continuously on this project (weather conditions permitting) within _____ weeks from the date of the signing of the Contract.

The Tenderer agrees to complete the Works within the time to be known as the "Time of Completion" of _____ weeks from the date of commencing the work.

TENDERED BY _____

ADDRESS _____

H.S.T. REGISTRATION NO. _____

DATED AT _____ THIS _____ DAY OF _____ 2010

_____)	_____
_____)	_____
_____)	_____
_____)	_____
_____)	_____
Signature of Witness)	Signature of Tenderer

NOTE:

If the Tender is submitted by or on behalf of a Corporation, it must be duly signed in the name of such Corporation by the duly authorized officers and the seal of the Corporation must be affixed. If the Tender is submitted by or on behalf of an individual or a partnership, a seal must be affixed opposite the signature of the individual or partner.

Monthly progress orders for payment shall be furnished to the Contractor by the Commissioner in charge and such orders shall not be for more than 90% of the value of the work done and the materials furnished on the site. The paying of the full 90% does not imply that any portion of the work has been accepted. The remaining 10% will be paid 45 days after the final acceptance and completion of the work.

AGREEMENT

THIS AGREEMENT made in triplicate this _____ day of _____ 2010

BETWEEN THE CORPORATION OF THE TOWN OF TECUMSEH

(hereinafter called the Corporation) of the first part,

AND

(hereinafter called the Contractor) of the second part.

WHEREAS the Corporation is desirous that certain works should be constructed, viz., the construction of the:

REPAIR AND IMPROVEMENTS TO THE COLCHESTER TOWNLINE DRAIN

in the Town of Tecumseh and appurtenances and has accepted a Tender by the Contractor for the construction, completion and maintenance of such works:

NOW THIS AGREEMENT WITNESSES AS FOLLOWS:

1. The Contractor hereby covenants and agrees to provide and supply at his expense, all and every kind of labour, machinery, equipment and materials for, and to undertake and complete in strict accordance with his Tender dated the

_____ day of _____ 2010

and the Contract Documents (consisting of the General Conditions of Contract, Drawings, Specifications, Information to Tenderers, Special Provisions of Contract, if any, (including all modifications thereof and incorporated in the said documents before their execution) prepared by Bruce D. Crozier Engineering Inc., and all of which said documents are annexed hereto and form part of this Agreement to the same extent as if fully embodied herein, the construction of the above noted works for the sum of

_____ /100 (\$ _____) including H.S.T.

2. The Contractor further covenants and agrees to undertake and complete the said work in a proper workmanlike manner under the supervision and direction and to the entire satisfaction of Bruce D. Crozier Engineering Inc., within the specified time in his Tender. Time shall be deemed the essence of the Contract.
3. The Contractor further covenants and agrees that he will at all times, indemnify and save harmless, the Corporation of the Town of Tecumseh and Bruce D. Crozier Engineering Inc., along with their respective officers, servants and agents, from and against all loss and damages whatsoever which may be made or brought against the above listed by reason or in consequence of the non-execution or negligent execution thereof by the Contractor, its servants, agents or employees.
4. The Contractor further covenants and agrees to furnish, in accordance with the Contract Documents, a Performance & Maintenance Bond and a Labour & Material Payment Bond in an amount equivalent to One Hundred Per Cent (100%) of the Tender Price, in such form and issued by such surety as may be approved by the Consulting Engineers and/or the Corporations Solicitor, guaranteeing the faithful performance of the said Work in accordance with the terms of this Agreement.
5. The Corporation hereby covenants and agrees that if the said Work is duly and properly executed and materials are provided as aforesaid, and if the said Contractor carries out, performs and observes all of the requirements and conditions of this Agreement, the Corporation will pay to the Contractor, the price set forth in his Tender, such payment or payments to be made in accordance with the provisions of the General Conditions of the Contract referred to above.
6. This Agreement and everything herein contained shall endure to the benefit of and be binding upon the parties hereto, their heirs, executors, administrators, successors and assigns, respectively.

IN WITNESS WHEREOF the parties hereto have hereunto affixed their Corporate Seals, if any, duly attested by the signature of their proper officers in that behalf, respectively.

WITNESS AS TO SIGNATURE
OF CONTRACTOR

Contractor's Signature and Seal

Contractor's Name

Contractor's Address

**CORPORATION OF THE
TOWN OF TECUMSEH**

WITNESS AS TO SIGNATURE OF
CORPORATION

Mr. Gary McNamara, Mayor

Ms. Laura Moy, Clerk

INFORMATION TO TENDERERS
FOR THE
COLCHESTER TOWNLINE DRAIN
IN THE
TOWN OF TECUMSEH
PROJECT REFERENCE BC-09-020

1. SCOPE OF WORK

The Contractor shall furnish all labour, supervision, plant and materials necessary for the construction of the following:

- a) Removal and replacement of existing road crossings and access culverts and installation of jute bag headwalls
- b) Cleaning of existing access culvert
- c) Cleaning and reshaping existing open drain along with hauling excavated material off-site.

2. TENDERS

Tenders will be received by:

The Corporation of the Town of Tecumseh
917 Lesperance Road
Tecumseh, Ontario
N8N 1WY

up until the hour of: **2:00 p.m. Local Time on Thursday, September 9, 2010**

Tenders will be publicly opened shortly after closing. Tender results will be forwarded to the engineer for review, and recommendations. The Town Council will consider the engineer's recommendations at the first council meeting following the tender closing.

Tenders will be held open for a period of sixty (sixty) days after closing of tenders.

3. **DEPOSIT WITH TENDERS**

Every Tender shall be accompanied by a certified cheque or bid bond, payable to the Corporation of the Town of Tecumseh or cash deposit in the amount of \$ 34,000.00 as evidence of good faith, that if awarded the Contract, the Tenderer will execute and enter into a formal agreement with the Corporation within the time requested and will furnish the security required to secure the performance of the terms and conditions of this Contract. If a Bid Bond is provided said Bond must be issued by a Surety Company licensed in Canada and authorized by law to carry out business in the Province of Ontario.

4. **ACCEPTANCE AND REJECTION OF TENDERS**

It is understood that the Corporation of the Town of Tecumseh is not bound to accept the lowest, any or any particular bid. The criteria to be considered by the Municipality in awarding the contract will include a combination of price, scheduling, expertise, qualifications and such other conditions as may be determined by the Municipality to be in its own best interests. Additions, alterations, deletions or other irregularities in the bid form may, but will not necessarily, result in the Municipality's rejection of the bid. The bidder acknowledges that it shall have no claim against, or entitlement to damages from the Municipality by reason of the Municipality's rejection of its bid or of all bids.

5. **EXAMINATION OF SITE, PLANS AND SPECIFICATIONS**

Each Tenderer must visit the site and review the plans and specifications before submitting his tender and must satisfy himself as to the extent of the work and local conditions to be met during the construction period. He is not to claim at any time after submission of his tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions. The quantities shown as indicated on the drawings or in the report are estimates only and are for the sole purpose of indicating to the Tenderers the general magnitude of the work. The Tenderer is responsible for checking quantities for accuracy prior to submitting his tender. Payment will be based on the final quantity installed where unit prices are provided.

6. **OMISSIONS AND DISCREPANCIES**

- a) Should a Tenderer find discrepancies in or omissions from the Drawings or Contract Documents, or should he be in doubt as to their meaning, he should notify the Consulting Engineer who may send written instructions to all Tenderers.
- b) No oral interpretation shall be made to a Tenderer as to the meaning of any of the Contract Documents or be effective to modify any of the provisions of the Contract Documents. Every request for an interpretation shall be made in writing, addressed and forwarded to the Consulting Engineer.
- c) Addenda to the Tender shall be either delivered or sent by registered mail. The addenda shall be inserted in the Tender Documents immediately preceding the Form of Tender.

7. **WITHDRAWAL OR QUALIFYING OF TENDERS**

- a) A Tenderer who has already submitted a Tender may submit a further Tender at any time up to the official closing time. The last Tender received shall supersede and invalidate all Tenders previously submitted by that Tenderer for this Contract.
- b) 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 Owner. No telegrams or telephone calls will be considered.

8. **SIGNATURE AND INFORMAL TENDERS**

- a) All entries in the Form of Tender shall be made in ink or by typewriter. Entries or changes made in pencil shall, unless otherwise decided by the Owner, be invalid or informal.
- b) The Tenderer shall fill in the total Tender price in words and in figures. Where required the Tenderer shall fill in the unit price and amount opposite every item in extending the schedule of prices and the total amount. In the case of an arithmetic error, the unit price shall be used to determine the corrected Tender price.
- c) Tenders that contain prices which appear to be so unbalanced as likely to affect adversely the interests of the Owner may be disqualified.

9. **PERFORMANCE AND LABOUR & MATERIAL BONDS**

The Contractor, upon receipt of written notice of the Municipality awarding him the Contract, shall be required to furnish a Performance & Maintenance Bond for the amount of 100% of the total Tender to guarantee the full and due performance of the work, including maintenance of the work for a period of 12 months.

The Contractor will also be required to furnish a Labour & Material Payment Bond in the amount of 100% of the total Tender guaranteeing payment of all costs of labour, materials, services and other obligations which the Contractor may incur in the performance of this Contract.

All Bonds shall be executed under Corporate Seal by the Contractor and a Surety Company licensed in Canada and authorized by Law to carry out business in the Province of Ontario, and shall be acceptable to the Corporation in every way.

The Tenderer shall include the cost of the bonds in the price of the tender items as no additional payment will be made in this regard.

10. **SUB-CONTRACTORS AND/OR SUPPLIERS**

If the Contractor proposes to use any product or any Sub-Contractor for any part of the work, he shall request approval in writing from the Engineer and the Owner. The Owner reserves the right at any

time to object or refuse to accept any Sub-Contractor or Supplier's product for inclusion in the work and shall not be required to give any reason for such objection or refusal.

No substitute for any Sub-Contractors shall be allowed without written approval from the Engineer. Nothing contained in the Contract Documents shall create any contractual relationship between any Sub-Contractor and the Owner. Should the Contractor be requested to change his Sub-contractor, the Owner will not be responsible for any additional costs incurred by the Contractor as a result of this request.

11. DELETION OF WORK

The Tenderer shall take note that the Owner reserves the right to delete any portion of the work for its own interest. The Tenderer shall further take note that any such deletion of any part of any of the work shall not invalidate his Tender. The Tenderer shall enter into a satisfactory Contract and otherwise comply with all of the requirements of the Contract Documents for any portions of the work remaining to be done after any such deletion.

12. AGREEMENT AND GENERAL CONDITIONS

Tenders will be received and contracts awarded only in the form of a lump sum contract unless otherwise provided, for the completion of the whole work or of specified sections thereof in accordance with the plan, profile and specification. The Contractor agrees to enter into a formal contract with the Municipality upon acceptance of the tender.

All work included in the contract must be completed on or before the date fixed in the contract and must, at the time of completion and final inspection, be in first class condition and comply fully with the specifications.

Final inspection will be made by the Engineer within 20 days after the Engineer or the Town Drainage Superintendent has received notice in writing from the Contractor that the work is completed, or as soon thereafter as weather conditions permit.

The Contractor will be held liable for any damage or expenses occasioned by his failure to complete the work on time and for any expenses of inspecting, superintending or reletting due to his neglect or failure to prosecute the work satisfactorily. Any such expense or damages may be deducted by the Engineer from the amount of the Contract or may be recovered by the Municipality from the Contractor and his sureties.

13. INSURANCE

Within ten (10) days after the contract has been awarded to him, the Contractor shall furnish to the Clerk of the Municipality, satisfactory evidence that he has insurance to cover risk and liability in accordance with the General Conditions for the period of the execution of the work.

The Liability Insurance shall have a limit of liability of not less than 2 Million Dollars inclusive for any one occurrence. The Contractor shall note that where construction work is to be performed within the lands owned by a railway company or a road allowance owned by the

Ministry of Transportation the liability insurance shall have a limit of liability of not less than 5 Million Dollars inclusive for any one occurrence. It shall be a comprehensive liability insurance covering all operations and liability assumed under the Contract and it shall name the Town of Tecumseh, its officials and the Consulting Engineer as equally insured under the policy and shall also contain a cross liability and save harmless clause for the said Town of Tecumseh and said Consulting Engineer. The liability insurance shall not contain any exclusions or limitations in respect to shoring, underpinning, raising or demolition of any building or structure, pile driving, caisson work, collapse of any structure or subsidence of any property, structure or land from any cause. The liability insurance shall be endorsed to provide that the policy shall not be altered, cancelled or allowed to lapse without 30 days prior written notice to the Municipality. Such copy of this policy to be submitted to the Clerk of the Municipality prior to commencement of the work.

14. WORKPLACE SAFETY & INSURANCE

The Contractor will be required to submit to the Municipality, a Certificate of Good Standing from the Workplace Safety & Insurance Board prior to the commencement of the work and the Contractor will be required to submit to the Municipality, a Certificate of Clearance for the project from the Workplace Safety & Insurance Board before final payment is made to the Contractor.

The Contractor shall provide and maintain the necessary first aid items and equipment as called for under the First Aid Regulations of the Workplace Safety & Insurance Act.

15. CONSTRUCTION SAFETY ACT

The Contractor shall comply with all the requirements of the Occupational Health and Safety Act, 1990 and Regulations for Construction Projects and Amendments, as administrated by the Ontario Ministry of Labour and all subsequent amendments of the said Act. In the event that the Contractor fails to comply with the requirements of the above mentioned Act, the Engineer may suspend the operation of the work forthwith and the suspension will remain in effect until the Contractor has taken whatever remedies are necessary to comply with the said Act. Suspension of the work by the Engineer on account of the provisions of this clause, shall not allow the Contractor any extension of the Time of completion and the Contractor may be liable for liquidated damages to the Municipality.

16. CONTRACTORS LIABILITY

The Contractor, his agents and all workmen or persons under his control including sub-contractors, shall use due care that no person or property is injured and that no rights are infringed in the prosecution of the work. The Contractor shall be solely responsible for all damages, by whomsoever claimable, in respect to any injury to persons or property of whatever description and in respect of any infringement of any right, privilege or easement whatever, occasioned in the carrying on of the work, or by any neglect on the Contractor's part.

The Contractor, shall indemnify and hold harmless the Municipality and the Engineer, their agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the contract.

17. **HARMONIZED SALES TAX**

All prices tendered for the works and for any additional or extra works shall be:

Harmonized Sales Tax Included.

The Tenderer shall allow in his/ her prices for all Retail Sales Tax he/ she may be required to pay on materials and equipment to be utilized or expended in the construction of the works. The Owner will not consider any claim by the Contractor or any subcontractor for reimbursement of Retail Sales Tax paid. The successful Tenderer agrees to work with the Owner and supply information to allow the Owner to apply for HST credit.

18. **EMERGENCY TELEPHONE NUMBER**

The Contractor shall have a representative from his staff on call, 24 hours a day, seven days a week. The representative should be familiar with the project, and be able to handle any emergency that may arise during the course of the construction.

19. **CONTRACT DOCUMENTS**

The Tenderer shall take note that the Contract Documents shall include a Performance & Maintenance Bond, a Labour & Material Payment Bond, a Contract Agreement, a Certificate from the Workplace Safety & Insurance Board, a Certificate of Insurance all to be furnished by the Tenderer on a form satisfactory to the Owner's solicitor. The Tenderer shall consult with the Owner's solicitor as to the forms required for the Contract and the Tenderer shall not qualify his Tender in respect to these matters.

20. **LIQUIDATED DAMAGES**

Liquidated damages, consisting of additional costs incurred by the engineer and/or the Municipality, may be charged to the Contractor if the work is not completed within the specified Time of Completion.

Additional costs incurred by the engineer and/or municipality to inspect or recheck corrective work, resulting from incorrect work by the Contractor or work not accepted by the engineer, may be charged to the Contractor.

- a) The Contractor shall complete the work within forty five (45) working days within the time specified from the date of commencement of work.
- b) Working time shall be charged until the date of substantial performance as defined by the Construction Lien Act.
- c) A working day is defined as any day:
 - (i) except Saturdays, Sundays and statutory holidays

- (ii) except a day on which the Contractor is prevented by inclement weather or conditions resulting immediately therefrom adverse to controlling operation or operations as determined by the Consultant, from proceeding with at least 60% of the normal labour and equipment force engaged on such operation or operations, for at least five (5) hours toward completion of such operations is to be construed to include any feature of the work considered at the time by the Consultant and the Contractor, which, if delayed, will delay the time of completion of the Contract.
- d) The Consultant will furnish the Contractor with a statement every week showing the number of working days charged to the Contract for the preceding week, the number of working days specified for completion of the Contract and the number of working days remaining to complete the Contract.
- e) In the event all work called for under the Contract is not finished or completed within the working time specified in the Form of Tender, it is agreed by the parties to the Contract that damages will be sustained by the Owner and the parties hereto agree that the Contractor will pay to the Owner, the sum of \$500.00 for liquidated damages for each and every calendar day's delay in finishing the work in excess of the time specified.
- f) If the Contractor is delayed by reason of alterations or changes deemed necessary by the Consultant, not contemplated by the Contract, the Time of Completion may be extended for a period to be determined by the Consultant and the Contractor shall not be liable for liquidated damages for the period of such extension.
- g) A Completion Certificate will be issued by the Consultant to the Contractor when all of the work has been satisfactorily and totally completed, including the making good of all deficiencies.

21. GRADE CONTROL

The Contractor will be required to provide laser grade control to perform the specified drainage works and shall further provide equipment operators experienced with laser control.

22. TRAFFIC CONTROL

The Contractors attention is drawn to the safety requirements for working in the road allowance. The Contractor shall provide all required flag people, signs and safety equipment as per Ontario Traffic Manual Book 7 Temporary Conditions or the latest revision thereof. The Contractor shall be permitted to close the intersection on which work is required for a short period of time upon proper notification of emergency services and the Town of Tecumseh Road Authority. Suitable signage shall be provided to notify the public of these temporary closures.

23. PAYMENT FOR CONTINGENCY ITEMS

The contingency work items will be used in the event of unforeseen or extra work and only for approved extra work directed by the Engineer. Payment for extra work will be made only for completed work directed by the Engineer in accordance to the contingency tender items.

24. PROJECT COMMENCEMENT

The Municipality and subject landowner are anticipating to commence this project as soon as possible. As this project involves a Municipal Drain certain statutory waiting periods apply. Construction may commence as soon as possible after awarding of the contract.

25. ACCESSIBLE CUSTOMER SERVICE

The Consultant shall ensure that all its employees, agents, volunteers, or others for whom the Consultant is legally responsible receive training regarding the provisions of the goods and services contemplated herein to persons with disabilities in accordance with Section 6 of Ontario Regulation 429/07 (the "Regulation") made under the Accessibility for Ontarians with Disabilities Act, effective January 1, 2010. The Consultant shall ensure that such training includes, without limitation, a review of the purpose of the Act and the requirements of the Regulation, as well as instruction regarding all matters set out in Section 6 of the Regulation. The Consultant shall submit to the Municipality, as required from time to time, documentation describing its customer service training policies, practices and procedures and a summary of its training program, together with a record of the dates on which training was provided and a list of the

employees, agents, volunteers or others who received such training. The Municipality reserves the right to require the Consultant to amend its training policies to meet the requirements of the Act and the Regulation.

SPECIFICATIONS
SPECIAL PROVISIONS
FOR THE
COLCHESTER TOWNLINER DRAIN
IN THE
TOWN OF TECUMSEH
PROJECT REFERENCE BC-09-020

1.0 EXCAVATION

The drain shall follow in general the course of the present drain and shall be of the form, size, depth, etc. as shown on the accompanying plan and profile.

When completed the drain shall have a uniform bottom and in no case shall such bottom project above the grade line as shown on the accompanying drawing and as determined from the bench mark. The open sections of the drain shall have sideslopes and bottom widths as indicated on the profile. The enclosed portions of the drain shall be the size, type and depth as shown on the accompanying drawings.

2.0 QUARRIED ROCK PROTECTION

The Contractor shall place quarried rock protection at the areas indicated on the accompanying plans. The quarried rock shall be graded in size from a minimum size of 100 mm (4") to a maximum size of 230 mm (9"). The quarried rock shall be placed 300 mm (12") in thickness on a layer of geotextile filter fabric placed on the bottom of the excavation. The filter fabric shall be "Terrafix 270-R" or equal. The Contractor shall excavate for the quarried rock so that the top of the completed quarried rock protection is level with the adjacent ground.

The Contractor shall remove all trees, brush and debris from the area on which the quarried rock is to be placed. The quarried rock shall be carefully placed by the Contractor at the locations and to the dimensions as shown on the accompanying specifications. The specified filter cloth shall be hand laid and have an overlap of 600 mm (24") and all quarried rock that is to be placed over the filter cloth shall be carefully hand or machine placed so that it does not damage the filter cloth. The filter cloth shall extend up the sides of the trench excavated to accept the quarried rock and the quarried rock shall extend 300 mm (12") above the top of the surface inlet pipe where applicable.

3.0 SEEDING

The Contractor shall place seeding and mulching to all excavated portions of the drain sideslopes and all areas backfilled, restored, excavated or disturbed in accordance with General Specifications Item Number 15.0, Page GS-6.

4.0 LOCATION OF DRAIN

The location of the drain shall follow the course of the present watercourse.

5.0 DISPOSAL OF MATERIAL

For the purpose of constructing this drain and for future maintenance as provided for under Section 16 of "The Drainage Act, 1990" the Contractor shall dispose of excavated material as follows: Where the material is specified to be disposed of the Contractor shall load and haul the surplus excavated material to a location to be determined by him and at his expense.

6.0 WORKING AREA

For the purpose of constructing this drain and for future maintenance as provided for under Section 63 of "The Drainage Act, 1990" the Contractor shall be allowed to use the working area for which the landowners have previously received an allowance for damages and land taken. The working area for this drain shall be east of the drain on the agricultural farm lands, except where noted on the drawing.

7.0 DRAIN ENCLOSURE

O.P.S.S. Forms 410 and 421 shall apply and govern as amended or extended herein.

8.0 BEDDING AND BACKFILL

Where the pipe is installed in a confined trench condition the Contractor shall provide Granular "A" bedding for all newly installed drain pipe. The bedding shall extend from 150 mm (6") below the bottom of the pipe. The backfill material shall consist of select native excavated material within the boulevard areas, and Granular "B" across all roadways and driveways. All roadways and driveways shall further be restored by supplying 300 mm (12") thickness of Granular "A" to the top of the trench area. The minimum trench width shall be equal to the outer diameter of the pipe plus 500 mm and the maximum trench width allowed shall equal the outer diameter of the pipe plus 750 mm.

In general all granular materials placed as bedding or backfill shall be compacted to 100% Standard Proctor Density. All native backfill material placed underneath grass areas shall be compacted to 95% Standard Proctor Density. The Contractor shall utilize approved compaction equipment to achieve the above noted compaction requirements and his methods and equipment shall be approved prior to the start of construction by the Town Drainage Commissioner and or Engineer. The Contractor shall take extra precautions in placing and compacting the backfill material so that the pipe is not distorted or damaged in any way. If there is evidence of deflection or damage in the drain pipe as a result of the backfilling and compaction operations, the drain may be televised as provided for by General Specifications item GSSD No. 10.

9.0 CATCH WATER BASINS (NOT REQUIRED)

The Contractor shall install catch water basins at the locations shown on the accompanying plan and in accordance with the accompanying catch water basin detail.

The catch water basins shall be placed in general as directed by the Town Drainage Superintendent. Upon completion of the installation of the main drain and catch water basins, the area over top of the drain shall be graded so that surface water is directed to the catch water basins as directed by the Drainage Superintendent or Engineer.

10.0 PRIVATE SERVICE CONNECTIONS (NOT REQUIRED)

New private service connections will not be provided to each individual property as part of this project.

All private storm service connections or storm drain tile encountered along the work and that are connected to the existing drain shall be reconnected to the new enclosed drain using similar materials as the existing private drain and approved couplers or connections as directed by the Drainage Superintendent or Engineer.

11.0 RESTORATION

The Contractor will be fully responsible for the restoration of all areas disturbed by his operations in the carrying out of this work. The Contractor shall excavate and set aside sufficient topsoil from the trench excavation or supply additional topsoil so that he can place a minimum of 100 mm in depth of topsoil over the backfilled trench as detailed on the drawings. Any depressions in any lawn caused by equipment or due to the movement of materials shall be backfilled with topsoil and satisfactorily levelled and raked in place on all lawn areas to be restored. The Contractor shall seed and mulch said areas in accordance to General Specification Item No. 17.0, Page GS-7 and the Contractor shall also spread fertilizer prior to seeding as specified.

Where the Contractor has installed the drain across any driveway or roadway or road shoulder the backfill material as specified herein shall be placed for the full width of the driveway, roadway or road shoulder and for the full width of the excavated area and the Contractor shall restore the finished surface of the driveway, roadway, or road shoulder with materials of the same quality and thickness as the existing surface. The Contractor will be further required to properly sawcut the full depth of any paved driveways or roadways which are to be restored, so as to have a straight edge parallel to the drain trench.

12.0 EXISTING UTILITIES

All utilities or private services crossing under the drain are to be hand excavated and exposed prior to commencement of construction. Any such utilities or services found to be less than 600 mm below the new drain gradeline are to be reported to the inspector. Should it be necessary to lower said services the Contractor shall coordinate his work with the utilities.

13.0 TRAFFIC CONTROL

The Contractor shall exercise all due care and attention in working within the road allowances. The Contractor shall comply to all current safety regulations, and to signing requirements according to Division 5, Temporary Conditions, of the M.T.O. Manual of Uniform Traffic Control Devices. The Contractor shall provide sufficient flag persons while working within the allowances to ensure safety to workers and the public in general.

The Ontario Traffic Manual Book 7 Temporary Conditions shall be utilized to apply traffic control devices in temporary construction, maintenance and utility work zones, to ensure worker safety, motorist safety, and motorist mobility. The plan is to be prepared and submitted prior to construction illustrating the appropriate signing and channelization required for any roadway work operations.

The Contractor shall be permitted to close the intersection on which work is required for a short period of time upon proper notification of emergency services and the Town of Tecumseh Road Authority. Suitable signage shall be provided to notify the public of these temporary closures.

14.0 GRADE CONTROL

The Contractor will be required to provide laser grade control to perform the drain excavation and culvert work. The grade shall be set on the laser by qualified personnel by the Contractor.

The grade shall be determined from the bench marks provided and shall be periodically checked by the Contractor during the course of performing the excavation work. The Contractor shall also assist the Engineer and or Drainage Superintendent in checking the laser set up or the elevation of any part of the excavated drain.

15.0 LIQUIDATED DAMAGES

Liquidated damages, consisting of additional costs incurred by the Engineer or Town, may be charged to the Contractor if the work is not completed within forty five (45) working days.

Additional costs incurred by the Engineer or Town to inspect or re-check corrective work, resulting from faulty work by the Contractor, may be charged to the Contractor.

16.0 TAXES

The Contractor shall include all applicable taxes in his tender submission.

17.0 CONTINGENCY ITEMS

Payment for extra work under the contingency item will be made only for work approved of by the Engineer prior to the extra work being commenced.

SPECIFICATIONS
ENVIRONMENTAL PROTECTION SPECIAL PROVISIONS
FOR THE
COLCHESTER TOWNLINE DRAIN
IN THE
TOWN OF TECUMSEH
PROJECT REFERENCE BC-09-020

1.0 GENERAL

These Environmental Protection Special Provisions shall apply and form part of this Contract. All costs associated to conforming with these Special Provisions shall be included in the Tender prices bid.

2.0 FIRES

Fires and burning of rubbish on site will be permitted only with special approval from the Town.

3.0 DISPOSAL OF WASTES

The Contractor shall not bury rubbish and waste materials on site unless approved by the Engineer and all applicable approving authorities. The site shall be maintained free of accumulated waste and rubbish. All waste materials should be disposed of in a legal manner at a site approved by all local approving authorities and the Engineer.

The Contractor shall not allow deleterious substances, waste or volatile materials such as mineral spirits, or paint thinner, to enter into waterways, storm or sanitary sewers.

The disposal of dredge material where applicable shall be in accordance with the above.

4.0 POLLUTION CONTROL

The Contractor shall maintain under this Contract temporary erosion, sediment and pollution control features installed.

The Contractor shall control emissions from equipment and plant to local authorities emission requirements.

The Contractor shall not cause excessive turbidity when performing in-water work. The Contractor shall not allow any debris, fill or other foreign matter to enter into the waterway. The Contractor shall remove from the waterway, all extraneous materials resulting from in-water work.

The Contractor shall abide by local noise By-Laws for the duration of the Contract. Spills of deleterious substances into waterways and on land shall be immediately contained by the Contractor and the Contractor shall cleanup in accordance with Provincial regulatory requirements. All spills shall be reported to the Ontario Spills Action Centre (1-800-268-6060), local authorities having jurisdiction and the Engineer. To reduce the risk of fuel entering the waterway, refuelling of machinery must take place a safe distance from the waterway. The Contractor shall note that the Engineer or the Owner takes no responsibility for spills, this shall be the sole responsibility of the Contractor.

5.0 WHMIS

The Contractor shall comply with the requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials and regarding labelling and the provision of material safety data sheets acceptable to Labour Canada.

6.0 DRAINAGE

The Contractor shall not pump water containing suspended materials into waterways, sewers or drainage systems. The Contractor shall be solely responsible for the control, disposal or runoff of water containing suspended materials or other harmful substances in accordance with these specifications, and local authority requirements. The Contractor shall provide temporary drainage and pumping as necessary to keep excavations and site free from water.

The Contractor shall install and maintain sediment control devices as indicated on the Contract Drawing and as directed by the Engineer.

7.0 PROTECTION OF VEGETATION

The Contractor shall exercise the utmost caution to ensure that existing trees and plants on-site and on adjacent properties are not damaged or disturbed unless noted otherwise in the Removals Special Provisions of this Contract. The Contractor shall restrict tree removal to areas indicated on the Contract Drawings and/or designated on-site. No trees or shrubs shall be removed without the approval of the Engineer.

8.0 DUST CONTROL

The Contractor will be solely responsible for controlling dust nuisance resulting from his operations, both on the site and within adjacent right-of-ways.

Water and calcium chloride shall be applied to areas on or adjacent to the site as authorized by the Engineer as being necessary and unavoidable for the prevention of dust nuisance or hazard to the public. No payment will be made for dust control unless otherwise specified in the Special Provisions.

9.0 RESTRICTIONS FOR IN-WATER WORKS

The Contractor shall only perform in-water works during times when conditions permit reasonable production rates to be achieved. The Contractor shall be required to adopt good house keeping practices that minimize disturbance to the site and the adjacent waterway.

The Contractor shall note that this Project is subject to approval from the Essex Region Conservation Authority and as such, any possible turbidity caused by the construction of the shore protection works is of key importance.

The Contractor shall minimize the turbidity (sedimentation) produced by any in-water works construction or operations. The Contractor will be ordered to cease operations if, in the opinion of the Engineer or authorities having jurisdiction, the in-water work is producing unacceptable amounts of turbidity in the waterway. Based on this, the Contractor shall either adjust his operation(s) to produce lower turbidity levels, wait for more favourable conditions before operations will be allowed to continue, or undertake approved mitigating measures (e.g. sediment control, etc.). All costs associated with the above will be the sole responsibility of the Contractor, and no claims for extras or delays will be considered.

10.0 FISH HABITAT

No work shall be undertaken when there is likelihood of adverse effects on fish spawning or fish habitat in downstream waters.

GENERAL SPECIFICATIONS
FOR CONSTRUCTION OF OPEN DRAINS
FOR THE
COLCHESTER TOWNLINE DRAIN
IN THE
TOWN OF TECUMSEH
PROJECT REFERENCE BC-09-020

1.0 EXAMINATION OF SITE, PLANS AND SPECIFICATIONS

Each tenderer must visit the site and review the plans and specifications before submitting his tender and must satisfy himself as to the extent of the work and local conditions to be met during the construction period. He is not to claim at any time after submission of his tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions. The quantities shown as indicated on the drawings or in the report are estimates only and are for the sole purpose of indicating to the tenderers the general magnitude of the work. The tenderer is responsible for checking quantities for accuracy prior to submitting his tender.

2.0 SUPPLY OF MATERIALS

The Contractor shall supply all labour, equipment and materials necessary for the proper completion of the project.

3.0 PROFILE

The excavation of the drain must be at least to the depth intended by the grade line as shown on the profile, which grade line is governed by the bench marks. The profile shows, for the convenience of the Contractors and others, the approximate depth of cut from the surface of the ground at the points where the numbered stakes are set to the final invert of the channel and also the approximate depth of cut from the bottom of the existing channel to the final invert of the channel. Bench marks which have been established along the course of the drain, shall govern the final elevation of the drain. The location and elevation of the bench marks are shown on the profile.

4.0 ALIGNMENT

The alignment of the drain throughout shall be to the full satisfaction of the Commissioner in charge. The whole of the work shall be done in a neat, thorough and workmanlike manner to the full satisfaction of the Commissioner in charge. The bottom widths and side slopes of the various sections of the finished drain are to be true to line and grade as shown on the profile. When completed the drain shall have a uniform and even bottom and in no case shall such bottom project above the grade line as shown on the accompanying drawing, and as determined from the bench mark.

5.0 BRUSHING AND GRUBBING

Where there is any brush or rubbish in the course of the drain, including both side slopes of the drain, or where the earth is to be spread or on that strip of land between where the earth is to be spread and

the edge of the drain, all such brush or rubbish shall be grubbed out and close cut and the whole to be burned (with Town approval) or removed from the drain, hauled away and disposed of by the Contractor.

Existing select hardwood trees greater than 200 mm (8") in diameter situated in the drain bank within 1.0 metre from the top of the bank may be selectively left standing if the Municipal Drainage Superintendent considers the trees will not adversely affect the flow of water within the drain. Prior to removing any trees the Contractor shall meet at the site with the drainage superintendent to review if any vegetation or select trees are environmentally significant for preservation.

6.0 SPREADING EXCAVATED EARTH (NOT REQUIRED)

The excavated material where specified to be cast onto the adjoining land shall be well and evenly spread over a sufficient area so that no portion of the excavated earth is more than 100 mm in depth or as otherwise specified and kept at least 3.0 metres clear from the finished edge of the drain, care being taken not to fill up any existing tiles with the excavated material. The excavated material to be spread upon the lands shall be free from rocks, boulders, stumps, rubble, rubbish or other similar material and other materials if encountered, shall be hauled away by the Contractor and disposed of at a site to be obtained by him at his expense.

Where the drain crosses any lawn, garden, orchard or driveway, etc. the excavated material for the full width of the above mentioned areas, shall be hauled away by the Contractor and disposed of upon the adjacent lands and spread as previously specified.

7.0 FENCING

Where it is necessary to take down any fence in order to proceed with the work, the same shall be done by the Contractor across or along that portion of the work where such fence is. The Contractor will be required to exercise extreme care in the removal of any fence so as to cause a minimum of damage to the same. The Contractor will be required to replace any fence that is taken down in order to proceed with the work and the fence shall be replaced in a neat and workmanlike manner. The Contractor will not be required to procure any new materials for rebuilding the fence provided he has used reasonable care in the removing and replacing of the same. Where any fence is removed by the Contractor and the Owner thereof deems it advisable and procures new material for replacing the fence so removed, the Contractor shall replace the fence using the new materials and the materials from the present fence shall remain the property of the Owner. The Contractor is not to leave any fences open when he is not at work in the immediate vicinity.

8.0 LOCATION OF STRUCTURES AND UTILITIES

The Contractor shall satisfy himself as to the exact location, nature and extent of any existing structure, utility or other object which he may encounter during the course of the work. The Contractor shall indemnify and save harmless, the Town and the Engineer for any damages

which he may cause or sustain during the progress of the work. He shall not hold the Town or the Engineer liable for any legal action arising out of any claims brought about by such damage caused by him.

9.0 ACCESS BRIDGES

The Contractor shall satisfactorily clean through all existing access bridges to the grade line as shown on the accompanying drawing.

10.0 BACKFILL FOR CULVERTS

Where specified and after the corrugated steel pipe has been set, the Contractor shall backfill the pipe with granular "B" material, O.P.S.S. Spec. 1010 with the exception of the top 30 cm (12") of the backfill over the top and ends of the corrugated steel pipe. The top 30 cm of the backfill for the full width of the excavated area (between each side slope of the drain) and for the top width of the driveway, shall be granular "A" material, O.P.S.S. Spec. 1010. The granular backfill shall be compacted in place to a Standard Proctor Density of 100% by means of mechanical compactors. The equipment and method of compacting the backfill material shall be to the full satisfaction of the Drainage Superintendent or Engineer.

11.0 BAGGED HEADWALLS AND ROCK PROTECTION FOR CULVERTS

a) Bagged Concrete Headwalls

Where specified and after the Contractor has set in place the new pipe, he shall completely backfill the same and install new concrete jute bag headwalls at the locations indicated on the drawing. When constructing the concrete jute bag headwalls, the Contractor shall place the bags so that the completed headwall will have a slope inward from the bottom of the pipe to the top of the finished headwall, the slope of the headwall shall be one unit horizontal to five units vertical.

The Contractor shall completely backfill in behind the new concrete jute bag headwalls with granular material, Granular "A" and "B" per O.P.S.S. 1010 and as additionally specified under Special Provisions Item No. 11.0 and the granular material shall be compacted in place with a standard proctor density of 100%. The placing of the jute bag headwalls and the backfilling shall be performed in lifts simultaneously. The granular backfill shall be placed and compacted in lifts not to exceed 300 mm (12 inches) in thickness.

The concrete jute bag headwalls shall be constructed by filling jute bags with concrete. All concrete used to fill the jute bags shall have a minimum compressive strength of 20.7 MPa in 28 days and shall be provided and placed only as a wet mix, under no circumstance, shall the concrete to be used for filling the jute bags, be placed as a dry mix. The jute bags, before being filled with concrete, shall have a dimension of 460 mm X 660 mm (18" X 26"). The jute bags shall be filled with concrete so that when they are laid flat, they will be approximately 100 mm (4") thick, 300 mm (12") to 380 mm (15") wide and 460 mm (18") long. The concrete jute bag headwall to be provided at the end of the pipe shall be of single bag wall construction or as specified otherwise. The concrete filled bags shall be laid so that the 460 mm (18") dimension is parallel with the length of the new pipe. The concrete filled bags shall be laid on a footing of plain concrete being 460 mm (18") wide, extending for the

full length of the wall, and from 300 mm (12") below the bottom of the corrugated pipe to the bottom of the culvert pipe. All concrete used for the footing shall have a minimum compressive strength of 20.7 MPa in 28 days. The completed jute bag headwalls shall be securely embedded a minimum of 500 mm (20") into the side slopes of the drain.

Upon completion of the jute bag headwall the Contractor shall cap the top row of concrete filled bags with a layer of plain concrete, 150 mm (6") thick, and hand trowelled to obtain a pleasing appearance. The Contractor shall fill all voids between the concrete filled jute bags and the corrugated steel pipe with concrete, particular care being taken underneath the pipe haunches to fill all voids.

As an alternate to constructing a concrete filled jute bag headwall, the Contractor may construct a grouted concrete rip rap headwall. The specifications for the installation of a concrete filled jute bag headwall shall be followed with the exception that broken sections of concrete may be substituted for the jute bags. The concrete rip rap shall be approximately 18" square and four inches thick and shall have two flat parallel sides. The rip rap shall be fully mortared in place using a mixture composed of three parts of clean, sharp sand to one part of Portland Cement.

b) **Quarried Rock End Protection**

The backfill over the ends of the corrugated steel pipe shall be set on a slope of 1½ metres horizontal to 1 metre vertical from the bottom of the corrugated steel pipe to the top of each side slope and between both side slopes. The top 30 cm (12") in thickness of the backfill over the ends of the corrugated steel pipe shall be quarried rock. The quarried rock shall be placed on a slope of 1½ metres horizontal to 1 metre vertical from the bottom of the corrugated steel pipe to the top of each side slope of the drain and between both side slopes. The quarried rock shall have a minimum dimension of 100 mm (4") and a maximum dimension of 225 mm (9"). Prior to placing quarried rock end protection over the granular material, the Contractor shall lay a non woven geotextile filter fabric equal to a "Terrafix 270R" or approved equal. The geotextile filter fabric shall extend from the bottom of the corrugated steel pipe to the top of each side slope of the drain and between both side slopes of the drain. The Contractor shall take extreme care not to damage the geotextile filter fabric when placing the quarried rock on top of the filter fabric.

12.0 PLACING OF CORRUGATED STEEL PIPE

When specified the Contractor shall install all culvert bridges in the location directed by the Commissioner. The excavation for placing the culvert, the type and class of bedding and backfill and culvert end treatment shall be carried out to the width, depth and alignment as specified herein. The surface on which the culvert is to be laid shall be true to grade and alignment and shaped to accept the materials to be placed. The pipe shall be laid to the alignment and grade shown in the report but may not be placed on a bed containing frozen materials. The Contractor shall carefully place the bedding and backfill material so damage to or movement of the pipe is avoided. Backfill and cover materials shall be placed in layers not exceeding 250 mm (10") in thickness, loose measurement. Each layer shall be thoroughly compacted before the next layer is placed. Backfill on each side of the pipe shall be placed

simultaneously and at no time shall the levels on each side of the pipe differ by more than 250 mm. Where native backfill is approved to be used the material shall not contain boulders larger than 150 mm or other deleterious material. The Contractor will be required to fully restore all paved driveways with materials of similar type and depths. The Contractor shall neatly saw cut all paved driveways at a distance of 300 mm beyond the edge of the excavated trench and this shall be done immediately prior to final restoration of the paved driveway.

When an access culvert or bridge does not have to be lowered or replaced, the Contractor shall clean it to its full cross sectional area using care to avoid causing damage to it in the process. Where a pipe culvert is to be reset to a new grade, the Contractor shall carefully remove it, clean it to its full cross sectional area and replace it in the drain as specified herein. Where a culvert is to be replaced, the Contractor shall carefully remove the existing pipe from the drain, clean it to its full cross sectional area and leave it on the drain bank unless otherwise specified. Should either the property owner or the Commissioner in charge not require the salvaged pipe then the Contractor shall dispose of the pipe at the Contractors expense.

The helical corrugated steel pipe, when specified shall be installed so that the helix angle is constant for the total length of the installation and each pipe section shall be installed next to the previous section such that the lock seam forms a continuous helix. Riveted corrugated steel pipe, when specified, shall be laid with the inside circumferential laps pointing in the direction of flow. The longitudinal laps shall be located in the upper half of the pipe. Corrugated steel pipe sections shall be joined together by means of a plant manufactured steel coupler. The couplers shall be installed to lap approximately equal portions of pipe sections being connected, such that the corrugations or projections of the coupler properly engage the pipe corrugations.

The Contractor if using a batter board system for establishing the grade of the culvert pipe, shall utilize a minimum of three batter board stakes for each culvert. The Contractor shall ensure that the batter board stakes placed on the grade stakes shall line up, this being done prior to any excavation taking place for the proposed culvert.

Where pipes are scheduled to be moved or replaced the Contractor shall confirm the new location of the culvert pipe with the owner prior to installation. Where the Contractor has excavated a culvert pipe which has been scheduled to be cleaned and reinstalled and it is found that the condition of the existing culvert pipe is not satisfactory to be reused, the Contractor shall immediately notify the Commissioner in charge who will verify the condition of the existing pipe and may instruct the Contractor to supply a new length of corrugated steel pipe.

Where pipes are scheduled to be cleaned and flushed only, the material which is removed from the culvert pipe is to be loaded and hauled away. Over digging of the drain at the downstream end of the culvert to accommodate material flushed from a culvert pipe will not be allowed.

13.0 CUTS

The cuts as shown on the accompanying drawing are to be taken from the ground beside the stakes to the bottom of the finished drain, unless otherwise noted on the drawing.

14.0 DAMAGE TO TRAVELLED PORTION OF MUNICIPAL ROAD

The Contractor will be responsible for any damage caused by him to any portion of the municipal road system, especially to the travelled portion. When excavation work is being carried out and the excavation equipment is placed on the travelled portion of a road, the travelled portion shall be protected by having the excavation equipment placed on satisfactory timber planks or timber pads. If any parts of the travelled portion of the road is damaged by the Contractor, the Municipality shall have the right to have the necessary repair work done by its employees and the cost of all labour and materials used to carry out the repair work shall be deducted from the Contractor's contract and credited to the Municipality.

15.0 SEEDING AND MULCHING

The Contractor shall fine grade the finished surfaces and shall apply hydroseeding and mulch. The seeding and mulching operation shall be carried out according to O.P.S.S. Spec. 572 or as amended herein and the operation shall include the supplying and placing of the following:

- A) Seed Mixture - Creeping Red Fescue - 50%
 - Red Top - 20%
 - Canada Blue Grass - 15%
 - Kentucky Blue Grass - 15%
- B) Nurse Crop - Oats if seeding and mulching is performed during May or June.
 - Annual Rye Grass if seeding and mulching is performed during Sept. or Oct.
- C) Fertilizer - 5-20-10 mixture
- D) Mulch - Wood Cellulose Fibre or Straw
- E) Adhesive - Asphalt Emulsion if straw mulch used
 - Liquid Polyvinyl Acetate if wood fibre mulch used

The application rates shall be as follows:

- A) Grass Seed Mixture - 90 lbs./acre
- B) Fertilizer - 350 lbs./acre
- C) Nurse Crop Seed - 55 lbs./acre
- D) Mulch - 1300 lbs./acre if wood fibre used
 - 1" to 2" depth if straw used
- E) Adhesive - 200 imp.gal/acre for Asphalt Emulsion
 - 205 lbs./acre for Liquid Polyvinyl Acetate

The seeding and mulching operation shall be only carried out as weather conditions permit during the months of May and June in the Spring, and September and October in the Fall. If the excavation work is carried out during the months of May and June, or September or October, the Contractor has the option of contacting the Drainage Superintendent and if the Contractor receives his written permission, the seed mixture as above

specified, may be placed on the excavated side slopes by the Contractor by hand, daily, at the completion of his daily excavation operation. If the Contractor has been given written permission by the Drainage Superintendent to place the seeding mixture by hand daily, at the completion of his daily excavation operation, the Contractor shall be responsible to give the side slopes a rough, harrowed texture prior to placing the seed mixture.

16.0 QUARRIED ROCK

The Contractor shall place quarried rock protection at the areas indicated on the accompanying plans. The quarried rock shall be graded in size from a minimum size of 100 mm (4") to a maximum size of 230 mm (9"). The quarried rock shall be placed 300 mm (12") in thickness on a layer of geotextile filter fabric placed on the bottom of the excavation. The filter fabric shall be "Terrafix 270-R" or equal. The Contractor shall excavate for the quarried rock so that the top of the completed quarried rock protection is level with the adjacent ground.

The Contractor shall remove all trees, brush and debris from the area on which the quarried rock is to be placed. The quarried rock shall be carefully placed by the Contractor at the locations and to the dimensions as shown on the accompanying specifications. The specified filter cloth shall be hand laid and have an overlap of 600 mm (24") and all quarried rock that is to be placed over the filter cloth shall be carefully hand or machine placed so that it does not damage the filter cloth. The filter cloth shall extend up the sides of the trench excavated to accept the quarried rock and the quarried rock shall extend 300 mm (12") above the top of the surface inlet pipe where applicable.

17.0 MAINTAINING FLOW AND EXISTING SEWERS

The Contractor shall support and maintain the flow and existing sewers and house connections and any other drainage works encountered in the progress of the work and at no expense to the owner. The Contractor shall obtain written approval from the engineer to stop up any drain, and if necessary, provide pumping equipment, build necessary by-passes, etc. at no expense to the owner.

18.0 SPECIAL PROVISIONS

The part of the Specifications headed "Special Provisions" which is attached hereto forms part of this Specification and is to be read with it. Where there is any difference between the requirements of this General Specification and those of the Special Provisions, the Special Provisions shall govern.

19.0 REMOVAL OF TREES

Whenever practical, existing trees not scheduled for removal will be preserved. The Contractor shall exercise the utmost caution to ensure that the trees are not damaged or disturbed.