Tender Documents for

CHANT DRAIN IMPROVEMENT 2025

Township of Norwich

STREAMLINE ENGINEERING INC.

6 Mill Street East
Lower Unit, PO Box 9
Milverton Ontario, N0K 1M0

January 2026

0023

Tender Summary:

Owner	Township of Norwich
Contract Administrator	Michael Siemon Streamline Engineering Inc. michael@streamlineeng.ca (226) 622-9618
Bid Closing Time	Tuesday January 27, 2026 @ 3:00pm
Submission Details	Paper copies delivered in a sealed opaque envelope to the Township of Norwich's office 285767 Airport Road Norwich, Ontario N0J 1P0
Estimated Tender Value	$141,700 (not including HST)
Tender/Contract Surety	Certified Cheque in the value of $14,200 payable to the Owner to be released upon Substantial Performance of the Contract. or Bid Bond in the value of 10% of the Bid Price and an Agreement to Bond for both a Performance and Labour and Material Bond in the amount of 100% of the Bid Price.
Insurance Requirements	$5,000,000 (for Commercial General Liability and Automotive) Township of Norwich and Streamline Engineering Inc. to be named as co-insured
Required Work Completion Date	November 30, 2026
Warranty Holdback	3% of the total Contract value

1 Form of Tender

1.1 Examination of the Site, Drawings, and Specifications

The Bidder is fully responsible to examine the site and thoroughly review the specifications, permit requirements, and drawings (see Appendices A, B and C) which form part of this Contract, in order to satisfy themselves of the existing conditions and extent of work to be completed. Any estimates of quantities shown or indicated in the drawings or specifications are provided for the convenience of the Bidder only. The Bidder shall perform their own quantity calculations in the determination of their Bid, and shall utilize the provided quantities at their own risk. No allowance shall subsequently be made on behalf of the Contractor by reason of any error on their part.

1.2 Tender Questions, Discrepancies, Ambiguities and Addenda

Bidders requiring clarification with any portion of the Tender or Bidders that find any discrepancies, errors, omissions, etc. with the Tender documents shall notify the Contract Administrator promptly to

provide an interpretation. Any interpretations by the Contract Administrator shall be in the form of an Addendum to the Contract Documents which will be forwarded to all Bidders.

The Owner may change any provisions to the Bid documents at any time and shall communicate the changes in the form of an Addendum, which will be forwarded to all Bidders.

Bidders are responsible to ensure that they have received all Addenda prior to the Bid Closing time and must acknowledge receipt of said Addenda.

1.3 Contractor's Standard of Care

In performing this Contract, the Contractor shall exercise a standard of care, skill, judgement, and diligence that would normally be exercised by an experienced, skilled, and prudent contractor supplying similar services for similar projects. The Contractor acknowledges and agrees that, throughout this Contract, the Contractor's obligations, duties and responsibilities shall be interpreted in accordance with this standard. The Contractor shall exercise the same standard of care, skill, judgement, and diligence in respect of any products, subcontractors, suppliers, personnel, or procedures which it may recommend or employ on the Project.

The Contractor represents, covenants, and warrants that:

- The personnel it assigns to the project are appropriately experienced;
- There are sufficient staff of qualified and competent personnel to replace its designated supervisor and project manager, subject to the Owner's approval, in the event of death, incapacity, removal or resignation, and
- There are no pending, threatened or anticipated claims that would have a material effect on the financial ability of the Contractor to perform the Work under the Contract.

The Contractor shall perform the work to avoid disturbing the occupants of the place of the work, any adjacent structures, or the public in general, and shall respect and comply with local regulations and requirements regarding permitted work hours, noise levels and work conditions.

1.4 Tender and Contract Security

The Tender shall be accompanied by either a Certified Cheque in the amount of **$14,200** payable to the Owner **or** an executed Bid Bond valid for a minimum 60 days following the Bid closing, in the amount of **ten percent (10%) of the Bid Price**. If the Tender security is a Bid Bond, then the Bidder shall include with their Tender an **Agreement to Bond** by an authorized surety company from which they propose to obtain the required bonds valid for a minimum 60 days following the Bid closing, indicating that the Bidder is able to obtain from such a surety for a **Performance Bond and Labour and Material Payment Bond**, **each for 100% of the Total Bid Price**.

The Certified Cheque shall be released to the successful Bidder upon the Substantial Performance of the Contract.

In cases where a Bidder withdraws their Bid before the Council has considered the Bids and has awarded a Contract, the amount of the Tender deposit of the Bidder may be forfeited to the Owner. Furthermore, the Tender deposit shall be forfeited if the Bidder refuses or fails to sign the Contract within five days of it being presented by the Contract Administrator.

The Tender security of unsuccessful Bidders shall be returned upon the award and execution of the Contract.

1.5 Bid Pricing and Taxes

The Bid price or prices shall be full compensation for all labour, equipment, and materials and utility and transportation services necessary to preform and complete all work under the Contract, including all miscellaneous work, whether specifically included in the Tender Documents or not. It is the intention of the Drawings and Specifications to provide finished work. Any items omitted therefrom which are clearly necessary for the completion of the work shall be considered part of the work, though not directly specified in the Tender Documents.

The Bid Price shall be in Canadian Dollars and include all applicable federal and provincial sales taxes, excise taxes, and other taxes, including the HST, customs and duties in the designated location on the Bid Form.

All expenses involved with the preparation and submission of the Tender, or any work performed in connection with the Tender shall be borne by the Bidder. No payment shall be made for any Tenders received, nor for any other effort required of, or made by, the Bidder prior to the commencement of the work.

1.6 Contract Schedule

If awarded, the Bidder agrees to substantially perform the work specified in this Contract by November 30, 2026.

1.7 Insurance Requirements

The successful Bidder is required to provide proof of insurance for both Commercial General Liability and standard non-owned automotive Insurance with limits not less than $5,000,000 per occurrence. All insurance coverage shall remain in effect for the entire Contract period including the warranty period which expires one year after the Substantial Performance of the Contract.

The following shall be named as co-insured:

- Township of Norwich
- Streamline Engineering Inc.

1.8 Workplace Safety and Insurance Board (WSIB) Clearance

The successful Bidder is required to be in good standing with the Workplace Safety and Insurance Board (WSIB) and provide a Clearance Certificate demonstrating such within seven days of the Contract award and shall maintain said clearance for the entire Contract period including the warranty period.

1.9 Submission of Bids

The Bidders shall submit their Bids to the Township of Norwich's office (285767 Airport Road Norwich, Ontario N0J 1P0) before the Bid closing time which is, 3:00:00pm Tuesday January 27, 2026 as displayed by the clock at the Township of Norwich's office.

All Bids must be legible, and it is the sole responsibility of the Bidder to ensure that the Bid is received by the Owner prior to the Bid closing time.

The Bid is irrevocable by the Bidder and shall remain in effect and open for acceptance by the Owner for a period of 90 days after the Bid closing. The Bidder may not amend a Bid, but can submit a new Bid prior to the Bid closing time. When more than one Bid is submitted by a Bidder the last Bid to be received prior to the Bid closing time shall supersede any prior Bid.

1.10 Clarification of Submitted Bids

The Owner is not obligated to seek clarification of any aspect of a Bid.

The Owner reserves the right, at any time following the Bid closing time that any one or more Bidders clarify their Bid. The Owner may, in its sole and absolute discretion, choose to meet with one, some, or all of the Bidders to clarify aspects of their Bids and may require Bidders to submit supplementary documentation. The supplementary documentation shall be considered to form part of the applicable Bid of those Bidders.

In the event of an arithmetical error or inconsistency, the Owner reserves the right to recalculate the error, and accept the Bid with the adjusted price. Without limiting generality of the foregoing, any unit prices submitted by the Bidder shall be deemed to represent the Bidder's intention and any amount calculated by multiplying the estimated quantities by the unit prices will be corrected accordingly.

1.11 Negotiations of Bids

The Owner may in its sole and absolute discretion enter into negotiations or discussions with one or more of the Bidders and reserves the right, to reduce the extent of work to be performed in this Contract. If the preferred Bidder is unable to come to an acceptable mutual agreement, the Owner is within their right to proceed to the next preferred Bidder. The Owner at any time, without liability, may withdraw from negotiations with any Bidder.

1.12 Bid Acceptance

By submitting a Bid to the Owner, the Bidders acknowledge that they have read and agree to be bound by the Bid Documents.

The Owner's consideration and selection process will be based on which Bidder has provided a Bid in which the Owner determines in its sole and absolute discretion to be the most beneficial to, and in the best interests of, the Owner. The Owner reserves the right to reject any or all of the Tenders received. The lowest Bid or any Bid will not necessarily be accepted. Special consideration may be placed upon the commencement and completion date as provided as part of the Contractor's Bid.

Failure to complete the Tender in full or neglect any other requirements set out in these documents, will render the Tender liable to rejection by the Owner.

1.13 Termination of the Contract

If the Contractor should be adjudged bankrupt, or if they should make a general assignment for the benefit of their creditors, or if a receiver should be appointed on account of their insolvency, or if they should refuse or fail to supply enough properly skilled labourers or proper materials after having received seven days' notice in writing from the Contract Administrator to supply additional labourers or materials to commence or complete the works, or if they should fail to make prompt payment to Sub-Contractors, or for material, or labour, or persistently disregards laws, ordinances, or the instruction of the Contract Administrator, or otherwise be guilty of a substantial violation of the provisions of the Contract, then the Owner, upon the certificate of the Contract Administrator that sufficient cause exists to justify such action, may without prejudice to any other right or remedy, by giving the Contractor written notice, terminate the employment of the Contractor and take possession of the premises, and of all materials, tools and appliances thereon, and may finish the work by whatever method the Contract Administrator may deem expedient but without delay or expense. In such a case, the Contractor shall not be entitled to receive any further payment until the work is completed. If the unpaid balance of the Contract price will exceed the expense of finishing the work including compensation to the Contract Administrator for their additional services and including the other damages of every name and nature, such excess shall be paid by the Contractor. If such expense will exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner, as herein provided, shall be certified by the Contract Administrator.

If the Contract is terminated by the Owner due to the Contractor's failure to properly commence the works, the Contractor shall forfeit the Certified Cheque Bid Deposit and furthermore shall pay to the Owner an amount to cover the increased costs, associated with a new Tender for the Contract being terminated.

If any unpaid balance and the Certified Cheque do not match the monies owed by the Contractor upon termination of the Contract, the Owner may also charge such expense against any money which may thereafter be due to the Contractor from the Owner.

STREAMLINE
ENGINEERING INC.

Bid Form

BID FORM

Bidder Information:

Name of Company: _____

Address: _____

Signing Authority and Title: _____

Email: _____

Phone: _____

Signature: _____

Date: _____

ADDENDA

The Bidder hereby acknowledges and agrees that the following addenda below form part of the Bid Document and has carefully examined the addenda having included all aspects thereof in their Bid:

Addendum Number	Date	Received by Bidder (√)
		☐
		☐

*If no Addenda have been issued then this table may be left blank

SUBCONTRACTORS

The following is a list of Subcontractors proposed to be used. Any changes or additions to the subcontractors to be utilized must be approved in writing by the Owner prior to any work being performed by that Subcontractor.

Scope of Work	Subcontractor Name and Contact	Phone Number	Email

PROPOSED ALTERNATIVES TO WORK

It is mandatory for the Bidder to submit a price for the work as specified.

Should the Bidder not agree with the materials or methods specified in the Tender Documents, they shall notify the Contract Administrator, in writing, stating their reason for objection and may submit a suggested alternative. In such an event, the Contract Administrator may choose to issue an addendum.

REFERENCES

The Bidder shall provide three (3) references for work similar in scope as described in this Tender.

Year Completed	Desc. of Work	Company and Contact Name	Phone Number	Email

SCHEDULE OF PRICES

The Bidder shall note the following abbreviations/acronyms.

Abbreviation/Acronym		Description
m	=	Linear metre
m^2	=	Square metre
m^3	=	Cubic metre (compacted)
LS	=	Lump Sum
ea.	=	each
t	=	Tonnes (2,204.6 lbs)
hrs	=	hours
CB	=	Catchbasin
DICB	=	Ditch Inlet Catchbasin
JB	=	Junction Box
c/w	=	Complete with
ROW	=	Right of Way

This schedule must be completed in full and attached to the form of Tender.

Tender Bid Form

CHANT DRAIN

Item No.	SP No.*	Description	Approx. Quantity		Unit Price	Total
A1	1	Pre-construction meeting, mobilization, de-mobilization		LS		$
A2	2	Supply 19mm (¾") clear crushed stone.	100	tonne	$	$
A3	3	Supply 150mm to 300mm dia. rip-rap and required geotextile underlay.	70	tonne	$	$
A4	4	Tree clearing, grubbing, and brushing as specified.		LS		$
A5	5	Construct a temporary rock check dam (OPSD 219.211) c/w removal once construction area has stabilized (Sta. -0+015).		LS		$
A6	6	Excavation of stilling basin and channel including installation of rip-rap as per the accompanying details, not including the supply of rip-rap (Sta. -0+015 to 0+000).		LS		$
A7	7	Hand seeding of disturbed and exposed channel banks and work area as specified (Sta. -0+015 to 0+000).		LS		$
A8	8	a) Supply 525mm dia. solid, split coupler, HPDE pipe (320 kPa) c/w required couplers and rodent grate.	48	m	$	$
		b) Install HDPE pipe via wheel trencher c/w destruction of existing drain along its entire length (Sta. 0+000 to 0+048).	48	m	$	$
A9	8	a) Supply 450mm dia. concrete tile (2000D) and required geotextile.	94	m	$	$
		b) Install concrete tile via wheel trencher c/w destruction of existing drain along its entire length (Sta. 0+048 to 0+142).	94	m	$	$
A10	8	a) Supply 450mm dia. solid, split coupler, HPDE pipe (320 kPa) and required couplers.	6	m	$	$
		b) Install HDPE pipe c/w laneway restoration (Sta. 0+142 to 0+148).	6	m	$	$
A11	8	a) Supply 450mm dia. concrete tile (2000D) and required geotextile.	384	m	$	$
		b) Supply one 45 degree, 450mm dia. HDPE elbow with plain ends and required geotextile (Sta. 0+480).		LS		$
		c) Install concrete tile via wheel trencher c/w installation of elbow and destruction of existing drain along its entire length (Sta. 0+148 to 0+532).	384	m	$	$

*SP No. refers to the Special Provisions - Project Specific Construction Specification Associated with the Item

Item No.	SP No.*	Description	Approx. Quantity	Unit Price	Total
A12	8	a) Supply 450mm dia. solid, split coupler, HPDE pipe (320 kPa) and required couplers.	12 m	$	$
		b) Install HDPE pipe c/w laneway restoration (Sta. 0+532 to 0+544).	12 m	$	$
A13	9	a) Supply 900mm x 1200mm concrete DICB	LS		$
		b) Install DICB (Sta. 0+544)	LS		$
A14	10	Construct berm including placement of rip-rap for spillway, and complete regrading as specified (Sta. 0+539).	LS		$
A15	7	Hand seeding of berm and disturbed areas.	LS		$
A16	11	a) Supply 250mm dia. hickenbottom c/w necessary tees, couplers, etc.	LS		$
		b) Supply approximately 3m of solid, split coupler, 250mm dia. HDPE pipe (320 kPa) and 45 degree elbow, 250mm dia. HDPE elbow for connection to proposed structure.	LS		$
		c) Install hickenbottom c/w connection to proposed structure (Sta. 0+544).	LS		$
A17	8	a) Supply 400mm dia. concrete tile (2000D) and required geotextile.	247 m	$	$
		b) Supply 22.5 degree, 450mm dia. HDPE elbow with bell ends with required geotextile (Sta. 0+547 and 0+788).	2 ea.	$	$
		c) Install concrete tile via wheel trencher c/w installation of elbows and destruction of existing drain along its entire length (Sta. 0+544 to 0+791).	247 m	$	$

*SP No. refers to the Special Provisions - Project Specific Construction Specification Associated with the Item

Item No.	SP No.*	Description	Approx. Quantity	Unit Price	Total
Work on Oxford Road 59					
A18	9	a) Supply 600mm x 600mm concrete DICB	LS		$
		b) Remove and dispose of existing CB	LS		$
		c) Install DICB and complete ditch regrading as specified (Sta. 0+791).	LS		$
A19	12	a) Supply approx. 24m of 406mm outside dia. smoothwall steel pipe (9.53mm thickness).	24 m	$	$
		b) Install steel pipe via jack and bore c/w daylighting and verification of existing utilities (Sta. 0+791 to 0+815).	24 m	$	$
		c) Grouting of existing municipal drain crossing of Oxford Road 59.	LS		$
A20	7	Hand seeding of grassed road banks disturbed by jack and bore.	LS		$
A21	9	a) Supply 600mm x 600mm concrete CB	LS		$
		b) Remove and dispose of existing CB	LS		$
		c) Install CB and complete ditch regrading as specified (Sta. 0+815).	LS		$
A22	13	a) Supply 200mm dia. solid, split coupler, HPDE pipe (320 kPa) c/w required couplers.	32 m	$	$
		b) Install HDPE pipe via excavator c/w connection to proposed structure and existing drain (upstream of Sta. 0+815).	32 m	$	$
SUBTOTAL - CHANT DRAIN					**$**

*SP No. refers to the Special Provisions - Project Specific Construction Specification Associated with the Item

Provisional Items

These costs are included to account for construction activities that may or may not be required at the time of construction.

Item No.	SP No.*	Description	Approx. Quantity	Unit Price	Total
P1	14	Increased cost to install drain on 19mm (¾") clear stone bedding in areas of soil instability as per Drain Installation on Stone Bedding (typ.) detail, not including the supply of clear stone.	125 m	$	$
P2	15	Removal of wheel trencher due to stony conditions	5 ea.	$	$
P3	16	Tile connections into the proposed drain with core drilled hole and coupler.			
		a) 100mm dia. connection	5 ea.	$	$
		b) 150mm dia. connection	2 ea.	$	$
		c) 200mm dia. connection	2 ea.	$	$
P4	17	Import all clay material (approx. 75m3) necessary for berm construction	LS		$
SUBTOTAL - Provisional Items					**$**

TOTAL BID (Including Prov. Items) $

HST (13%) $

TOTAL (INCLUDING HST) $

Note: All prices are in Canadian Dollars

WORK SCHEDULE

Proposed Start Date: _____

Proposed Completion Date: _____

*SP No. refers to the Special Provisions - Project Specific Construction Specification Associated with the Item

Appendix A

Construction Specifications

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1 Special Provisions

Special Provisions are directions specific to this project. A project specific specification is included in the Special Provisions for each line item bid for the project. Should a discrepancy be noted between the Special Provisions and General Conditions/Specifications, the Special Provisions shall take precedence.

1.1 Working Space and Access Routes

The Contractor shall be entitled to undertake work and stage construction equipment/materials in the following working areas:

- The footprint of the proposed channel and stilling basin as well as a 20m width to the south
- A 20m width centered on the proposed tile drain
- A 6m width centered on the existing tile drain where tile destruction only is required
- A 20m x 20m construction staging area as required on the following properties
  - Sunnydene Farms Limited (Roll No. 2-112)
  - Scott, Geoffrey & Lisa Buckrell (Roll No. 5-055)
  - James Koppert & Theodora De Haan (Roll No. 5-045)

The Contractor shall be entitled to utilize the following access routes, which shall be a maximum 6m in width:

- Access Route #1 – From Oxford Road 59 to the house access laneway for the Sunnydene Farms Limited (Roll No. 2-112) property and through the farm yard to the field access laneway heading west to the proposed tile alignment.
- Access Route #2 – From McCready Line to the field access laneway for the James Koppert & Theodora De Haan (Roll No. 5-045) property and north through the field along the McCready Line ROW, then east through the field along the Oxford Road 59 ROW to the proposed tile alignment.

The Contractor shall obtain approval from the Contract Administrator and relevant property owner(s) prior to exceeding the noted working spaces, or if they wish to use an alternative access route. The Contractor shall be responsible for any damages to lands, crops, etc. outside of the specified working areas or access routes.

1.2 Utilities

A utilities investigation was undertaken during the design stage to determine possible conflicts prior to the time of construction. The following utilities were noted in the area of the proposed drain:

- Enbridge Gas indicated that they had no facilities in the area through Oxford Road 59
- Overhead hydro approx. 10m south of the Oxford Road 59 ROW
- Execulink telecom copper cables and fibre north of the road in the Oxford Road 59 ROW.

All public and private utilities shall be located by the Contractor prior to the construction of the proposed drain. If required by the specific utility, the Contractor shall be responsible to coordinate for a representative of the utility to be on-site during the relevant construction works.

1.3 Agency Project Requirements

The Contractor shall ensure that all relevant permits have been obtained prior to the commencement of any regulated construction activities and if required, ensure that they have a printed copy of the permit(s) available on-site.

Long Point Region Conservation Authority (LPRCA)

A permit from the LPRCA has been obtained by Streamline Engineering. All work is to be in accordance with the terms and conditions of this permit.

The Department of Fisheries and Oceans Canada (DFO)

No modifications to an existing channel that contains fish at any time during any given year are proposed as part of this report. As a result, this project does not require review by DFO.

The Ministry of Environment, Conservation and Parks (MECP)

There is no indication of any adverse impacts to Species at Risk because of the proposed works.

1.4 Project Specific Construction Specifications

SP1 Pre-Construction Meeting, Mobilization, and De-Mobilization

The Contractor shall not complete any construction activities prior to an executed Contract being completed, as well as confirmation of their anticipated construction start date with the Contract Administrator.

The Contractor shall be responsible to notify all property owners, the Drainage Superintendent and Contract Administrator and conduct a pre-construction meeting prior to the commencement of any construction activities. A minimum 48 hours' notice shall be provided by the Contractor.

Furthermore, this item covers the Contractor's costs associated with facilitation and attendance at the pre-construction meeting, the transportation and/or accommodation (meals and lodging) of labour, equipment, offices, conveniences, and other items not required to form part of the permanent works and not covered by other items in the Schedule of Unit Prices. This line item shall only apply to the first/ primary mobilization/demobilization required to fulfill the Contract. Additional mobilization costs will not be paid if the Contractor chooses to leave the site on their own accord following the initial mobilization. However, if at the discretion of the Contract Administrator a situation warrants the Contractor to demobilize from site to complete the remainder of the work at a later date, the costs associated with this may be negotiated with the Contract Administrator and paid as an extra item.

Payment at the Lump Sum price set out in the schedule of unit prices for the pre-construction meeting, mobilization and demobilization will be made as follows:

- 25% payable following the pre-construction meeting.
- 50% payable following the first mobilization.
- 25% payable on the Substantial Performance of the Contract.

SP2 Supply 19mm (¾ inch) Diameter Clearstone

For the unit price bid per tonne, the Contractor shall supply 19mm (¾ inch) dia. clear crushed stone as per requirements in OPSS.MUNI 1004. This unit price shall be used as payment for all 19mm clear crushed stone installed for this project.

The Contractor shall provide tickets and/or adequate supporting documentation to the Contract Administrator to support the quantity of clearstone proposed to be paid.

SP3 Supply Rip-Rap Erosion Protection and Geotextile Underlay

For the unit price bid per tonne, the Contractor shall supply 150 to 300mm (as per OPSS.MUNI 1004 R-50 classification) diameter quarry stone rip-rap. This unit price shall be used for payment for all rip-rap installed for this project.

Unless specified otherwise, it shall be assumed that the rip-rap erosion protection is to be installed on geotextile underlay and the Contractor shall include the cost to supply the geotextile in the bid of this line item. It should also be assumed that the bid price per tonne provided by the Contractor applies only to the tonnage of rip-rap provided.

SP4 Clearing, Close Cut Clearing, Grubbing, and Brushing

Clearing means the cutting of all standing trees, brushing, and other vegetation to a maximum height of 300mm above the original ground level.

Close Cut Clearing means the cutting of all standing trees, brushing, and other vegetation to the original ground level.

All trees greater than 150mm in diameter shall be felled, delimbed, cut into lengths no larger than 6m, and neatly stacked in piles to the satisfaction of the Contract Administrator.

Grubbing means the removal of all stumps, roots, embedded logs, debris, and secondary growth. The Contractor shall remove and dispose of all grubbed material off-site. Burying of grubbed material shall not be permitted.

Brushing means the removal of trees, limbs, and brush less than 150mm in diameter by the using one of the following methods:

- Chipped in place by an excavator equipped with a hydraulic brushing attachment.
- Chipped using a woodchipper and piled or spread within the ROW.
- Piled and burned in accordance with the Township of Norwich's burning regulations and by-law(s).

The method preferred by the Contractor shall be discussed at the pre-construction meeting and shall be completed to the satisfaction of the Contract Administrator.

Any trees required to be removed for this project are specified in the table below:

Station Range	Description of Work
-0+015 to 0+000	• All trees within the footprint of the proposed channel shall be brushed, cleared, and grubbed. Approx. seven trees greater than 150mm dia. • All trees within the working space shall be brushed and close cut cleared. Approx. eight trees less than 150mm dia. and one greater than 150mm dia. • Logs shall be stacked in piles in an area agreed upon by the landowner and Contract Administrator, determined at the time of the pre-construction meeting.
0+539 to 0+544	• All trees within the footprint of the proposed berm shall be brushed, cleared, and grubbed. Approx. six trees and one stump greater than 150mm dia.

SP5 Temporary Rock Flow Check Dam

The Contractor shall install a temporary rock flow check dam as per OPSD 219.211 in the Big Creek Drain No. 3, immediately downstream of -0+015, prior to commencement of any work on the remainder of the proposed drain. After the completion of the work and when so instructed by the Contract Administrator, the rock flow check dam shall be removed. The excess stone may be incorporated into the surrounding channel features.

SP6 Stilling Basin and Minor Channel Works

A permanent stilling basin shall be installed immediately downstream of the outlet pipe as per the accompanying details to the satisfaction of the Contract Administrator.

Prior to the construction, the Contractor shall strip the topsoil from the work areas. The topsoil shall be stockpiled separately from the subsoil material and later used for restoration.

The dimensions of the channel shall be trapezoidal with a 1.0m bottom width, side slopes no steeper than 2H:1V, and to the elevations noted on the accompanying drawings. Approx. volume of material to be excavated is 100m^3.

A minimum 450mm thickness of 150mm to 300mm dia. rip-rap with geotextile underlay shall be installed on the side banks and the same bank as the outlet pipe by the Contractor to a minimum elevation of 266.60 from -0+010 to 0+000 as per the Typical Stilling Basin Detail.

All spoil resulting from the excavation shall be spread within the working space. This shall be included in the bid of the line item.

Excavated material shall be placed on the specified side of the drain and a clear buffer of at least 1m shall be maintained between the top edge of the open drain and all excavated material. No excavated material be left in any low runs, depressions, or low areas which would cause water to pond behind the spoil bank. The excavated spoil shall be levelled to a maximum depth of 200mm unless otherwise specified. The material shall be levelled such that it may be cultivated without causing difficulty to the farm machinery and property owner. No excavated material shall cover any logs, large stones, etc. Any stones or boulders which exceed 300mm in any dimension shall be removed and disposed of at a location coordinated with the property owner.

SP7 Seeding

As grass seed shall be as per the General Requirements.

Following the completion of construction work, the following areas shall be handseeded by the Contractor to the satisfaction of the Contract Administrator.

- The newly excavated channel banks from station -0+015 to 0+000
- The disturbed area around the Big Creek Drain No. 3
- The disturbed area on and surrounding the berm
- All disturbed area in the Oxford Road 59 ROW

SP8 Tile Installation

All concrete tile shall be 2000D strength. All HDPE pipe shall be solid dual-wall (i.e. smooth inner wall) pipe with a minimum 320 kPa stiffness at 5% deflection.

Topsoil Stripping

Topsoil shall be stripped and stockpiled separately from subsoil material in all areas where excavation work is proposed. The Contractor shall strip the topsoil from the area of the proposed tile trench as per the minimum widths specified table below.

Tile Diameter	Minimum Topsoil Stripping Width
<450mm	4m
450mm – 750mm	6m

The Contractor shall consider circumstances where additional topsoil stripping may be required, and any additional stripping work shall be included in their bid of the associated line item.

Trenching

Trenching shall be completed by the Contractor with equipment capable of excavating a trench with a rounded trench bottom (i.e. wheel trencher or approved equivalent) as per the Typical Drain Installation detail with the rounded bottom conforming to the outside diameter of the proposed pipe. The minimum trench width shall be equal to the outside diameter of the pipe plus 100mm on each

side of the pipe. The maximum trench width shall be equal to the outside diameter of the pipe plus 300mm on each side of the pipe.

Where the tile installation exceeds the maximum digging depth of the Contractor's excavation equipment, they shall lower the surface grade in order that the Contractor may excavate at the correct depth and include the cost to complete such work in their bid of the associated line item.

Concrete Tile Installation

The concrete tiles shall be laid carefully so that successive tiles align both horizontally and vertically as firmly as possible and at a regular grade and alignment in accordance with the drawings. The maximum acceptable gap between any tiles shall be 10mm. Any ground/debris along the edges, faces, or inside of the tile shall be scraped off by the Contractor prior to the tile being laid. If requested by the Contract Administrator, the Contractor shall use a concrete saw to cut the edges of any concrete tile to bevel the tile and minimize the gap between the butt joints at a turn in the proposed drain.

The Contractor shall wrap all concrete tile joints with RM-150 (4 oz.) non-woven geotextile or approved equivalent centered on the tile joints with the following minimum widths.

- 300mm wide for tiles sizes smaller than 450mm in diameter
- 400mm wide for tiles sizes 450mm in diameter or larger

High Density Polyethylene Pipe Installation

All HDPE pipe shall be laid carefully so that the successive tiles align both horizontally and vertically as firmly as possible and at a regular grade and alignment in accordance with the drawings. The joints of the HDPE pipe shall be secured with a prefabricated coupler, or with the spigoted end of the pipe inserted into a gasketed bell end of the successive pipe to the satisfaction of the Contract Administrator.

Backfilling

Once sufficient time has been given for the Contract Administrator to verify the elevation of the tile, backfilling of the trench may commence. The tile installation trench shall be backfilled by the Contractor at the end of each working day. Clean native material free of stones greater than 150mm in diameter and organic material shall be used within 300mm of the proposed tile. In cases, where in the opinion of the Contract Administrator the backfill material is too stony to be used as backfill around the tile, the Contractor shall use 19mm clear stone as backfill up to 150mm overtop of the tile. The Contractor shall take care to ensure that the area between the tile and the trench wall is backfilled as to avoid any voids between the tile and the trench wall. The remainder of the trench may be backfilled with the remaining native material.

Topsoil Restoration

Following backfilling with the native material, the topsoil shall be replaced to the satisfaction of the Contract Administrator. The trench shall be mounded to allow for the settlement of the backfill material to ensure that no depression remains after settling has occurred, and conversely that the trench can be easily cultivated with ordinary farm equipment without causing undue hardship to the farm machinery and farm personnel.

Under no circumstances shall frozen topsoil be levelled or placed over top of the drain. If the Contractor elects to install the drain during winter months, the Contractor shall return to the site and level the topsoil when conditions are appropriate. No additional mobilization charges shall be made for returning the site to complete the levelling of topsoil.

Tile Installation Specifics

The existing drain shall be destroyed entirely along its length. In locations where the tile is not destroyed in the installation of the new drain, it shall be located and destroyed by the Contractor for its entire length and the cost to complete such work shall be included in the Contractor's bid of the associated line item.

The proposed drain shall be bid and installed considering information highlighted in the table below:

Station Range	Comments
0+000 to 0+532	• A rodent grate shall be supplied and installed on the HDPE outlet pipe. • The HDPE pipe shall be butt jointed to the concrete tile at 0+048 and double wrapped with geotextile. • Existing granular material through the laneway from 0+142 to 0+147 shall be initially stripped and stockpiled for use in the restoration of the laneway. The laneway shall be restored to the satisfaction of the Contract Administrator. • The HDPE pipe shall be butt jointed to the concrete tile at 0+142 and 0+148 and double wrapped with geotextile. • A 45°, 450mmØ HDPE elbow to be installed at approx. 0+480. The concrete tile both upstream and downstream of the elbow shall be butt jointed to the HDPE elbow. Both elbow joints shall be double wrapped with geotextile.
0+532 to 0+544	• Depth from existing ground to the proposed tile invert elevation exceeds 2.0m through this length. • Existing granular material through the laneway from 0+535 to 0+539 shall be initially stripped and stockpiled for use in the restoration of the laneway. The laneway shall be restored to the satisfaction of the Contract Administrator. • The HDPE pipe shall be butt jointed to the concrete tile at 0+532 and double wrapped with geotextile.

0+544 to 0+791	• 22.5°, 450mmØ HDPE elbows with bell ends to be installed at approx. 0+547 and 0+788. The concrete tile both upstream and downstream of the elbow shall be inserted into the bell end of the HDPE elbow. Both elbow joints shall be wrapped with geotextile. • The Contractor shall anticipate a deviation of the proposed tile alignment from the alignment of the existing drain through this section and consider this in the bid of this line item with regard to the destruction of the existing tile.

All of the aforementioned work shall be included as part of the work of the associated tile installation line item. An extra payment will not be made for the stripping, stockpiling and replacing of topsoil.

The Contractor shall be responsible for any damage to the new tile throughout the warranty period.

Provisional Items Associated with Tile Installation

Except where noted, the Contractor shall bid the installation on the basis of using a wheel trencher or approved equivalent, however, as specified in the provisional items, the Contractor shall provide additional unit prices for instances that may require transition to a special installation technique or the temporary removal of the wheel trencher.

Should the Contractor choose to voluntarily install tile using an excavator, where in the opinion of the Contract Administrator conditions would be suitable for installation with a wheel trencher, provisional item costs shall not apply and any additional material, labour, equipment, etc. costs incurred by the Contractor in doing so shall be their sole responsibility.

SP9 Structure Installation

The proposed catchbasins shall be manufactured with cored holes, knockouts, and sumps as per the applicable structure details, and shall be installed as oriented on any applicable detail drawings. Any existing structures in the general vicinity of a proposed structure shall be removed and disposed of offsite by the Contractor unless specified otherwise. The Contractor shall include the cost to complete all necessary tile connections c/w parging on the interior and exterior of the proposed structure as part of the associated line item.

All catchbasins shall have a minimum 300mm deep sump unless specified otherwise.

All catchbasins shall be cast in sections and include a minimum one 50mm to 150mm riser to allow for adjustment of the top elevation during construction to account for the field conditions. All catchbasin sections shall be wrapped with a minimum 400mm thickness of RM-150 (4 oz.) non-woven geotextile or approved equivalent.

All ditch inlet catchbasins (DICBs) shall have a 2H:1V slope if they are a 600mm x 600mm DICB and a 3H:1V slope if they are a 900mm x 1,200mm DICB.

All structures shall be placed on either firm native material, or if necessary, 19mm clearstone bedding. All structures shall be levelled by the Contractor to the satisfaction of the Contract Administrator.

Excavated subsoil material may be used by the Contractor as backfill surrounding the catchbasins, however the Contractor shall be responsible to address any settlement around the structure during the warranty period.

The Contractor shall place a minimum 1m width of rip-rap with geotextile on all sides of all catchbasins and install each catchbasin with tabs, and approved post and marker. All catchbasins shall be topped with a birdcage type steel grate which shall be removable and shall be inset into a recess around the top of the structure.

The following specific notes shall be considered by the Contractor in their bid of the associated line item:

DICB at 0+544 – The Contractor shall grade the berm and required rip-rap to conform to the slope of the ditch inlet. The Contractor shall install the connection from the hickenbottom to this structure.

DICB at 0+791 – The Contractor shall regrade the road ditchline to ensure positive drainage from the existing surface culvert to the low-wall of the structure. The north road ditch bank and required rip-rap shall be graded to conform to the slope of the ditch inlet.

CB at 0+816 – The Contractor shall complete the connection from the existing Municipal Drain to this structure.

SP10 Berm Construction

A berm shall be constructed as per the accompanying details. Approximately 75m^3 of approved clayey fill material shall be sourced from a location agreed upon by the landowner and Contract Administrator on-site and relocated by the Contractor for the construction of the berm. If material on site is deemed unsatisfactory for use in the berm construction, the Contractor shall import approved clayey material and it shall be paid as per the unit price provided in the applicable provisional item. The Contactor shall place and compact the clayey material in maximum lifts of 300mm to the satisfaction of the Contract Administrator. The Contractor shall install an approximately 20m^2 footprint, 450mm thick, rip-rap (150 to 300mm dia.) spillway as per the accompanying details.

The berm shall have the topsoil stripped for the entire footprint of the berm and or an additional 2m surrounding its footprint. The topsoil shall be stockpiled out of the construction area and replaced over top of the berm once completed (min. 100mm depth in all locations).

The Contractor shall regrade an area of the field immediately upstream of the proposed berm as per the accompanying details to ensure positive drainage from the low area of the field, approx. 30m south of the berm, to the location of the proposed hickenbottom to the satisfaction of the Contract Administrator. All topsoil shall be stripped and placed in a pile separate from the subsoil material. Following the completion of the berm, all stockpiled topsoil shall be spread over the disturbed area to the satisfaction of the Contract Administrator.

SP11 Hickenbottom Installation and Connection

The Contractor shall supply and install a 250mm dia. hickenbottom (Spec HBI-1010) consisting of a the above grade standpipe, riser section and tee in the existing low area as per the accompanying details. The hickenbottom tee shall be placed on firm native material or a 19mm clear crushed stone bedding. Once assembled and installed in place, the hickenbottom may be backfilled with native material, or if the material is deemed unsuitable, with 19mm clear crushed stone for a minimum 0.3m radius around the tee and riser and the stone shall be paid out based on the bid unit price in the Tender and not included in the bid of this line item. The Contractor shall place a minimum 0.6m width of 450mm thickness of rip-rap with geotextile around the hickenbottom at the ground surface to the inlet elevation specified on the accompanying drawings.

The Contractor shall supply and install approximately 3m of 250mm dia. split coupler, HDPE pipe (320 kPa), a 250mm Ø 45° HDPE elbow, and any other couplers necessary on firm native material or 19mm clear crushed stone bedding to connect to the proposed catchbasin as depicted in the accompanying details.

SP12 Oxford Road 59 Jack and Bore Road Crossing

The crossing shall be as completed as per the accompanying drawings and details.

Pipe Requirements. The pipe or steel casing shall be smooth wall steel pipe manufactured from weldable steel, and identified as per the requirements in OPSS.MUNI 1802 with a wall thickness specified in the Contract Documents.

The pipe ends shall be bevel edged on the outside to an angle of 30 degrees for butt weld splicing. Lengths of pipe shall be joined with a weld as per OPSS.MUNI 1802.

Notification. The Contractor shall give the Authority responsible for the lands being crossed a minimum five days' notice before they commence any work on the crossing and shall provide a traffic control plan for review by the Authority at that time. The plan shall be approved by the Owner prior to the beginning of construction. This information shall be provided to Shawn Vanacker at Oxford County (email: svanacker@oxfordcounty.ca, phone: 1-800-755-0394 ext. 3106).

Traffic Control. The Contractor shall be responsible for providing, erecting, maintaining and removing all signage and traffic control in accordance with the Ontario Traffic Manual (OTM) and the OTM Book 7 Temporary Conditions – Field Edition. Any required traffic control measures shall be the responsibility of the Contractor and the cost of the traffic control is to be included in the bid price for the jack and boring.

Construction. The Contractor shall note dewatering requirements noted in the General Specification for the crossing excavation. The location of the bore pit shall be discussed with the Contractor at the pre-construction meeting. Additionally, the Contractor shall note that the elevations of the utility lines through Oxford Road 59 have not been confirmed. At the onset of the project the Contractor shall daylight all utilities in the location of the proposed bore and confirm that there is clearance between

the elevations of the utilities and the proposed bore pipe. If the Contractor anticipates clearance to be an issue, they shall immediately inform the Contract Administrator to decide on the appropriate course of action.

Prior to the excavation of the bore pit all topsoil shall be stripped and placed in a pile separate from the subsoil material. Following the completion of the jack and bore, all stockpiled topsoil shall be spread over the backfilled material to the satisfaction of the Contract Administrator.

The boring pit required to accommodate the boring machine shall be excavated such that the edge of the pit is no closer than 3m from the edge of the road and the slopes of the excavation shall be as per OPSD 802.010. Any required shoring, sheeting, etc. shall be in accordance with all governing regulations and Acts.

The pit shall be left open for a minimum amount of time, and if possible, work should be scheduled to ensure that the pit excavation, pipe installation and backfilling of the bore pit can be completed in one working day. If a bore bit is required to be left unattended, the pit shall be secured by the Contractor (i.e. install barricades, warning signs, fencing, etc.) at no extra charge to the satisfaction of the Contract Administrator.

The pipe or steel casing shall be installed by means of continuous flight augering inside the steel casing and simultaneous jacking to advance the casing immediately behind the tip of the auger.

Any settlement or impact caused to the road shall be the sole responsibility of the Contractor. Any voids surrounding the pipe shall be filled with grout by the Contractor during construction and may be paid as an extra. The Owner of the crossing shall be contacted by the Contractor regarding any issues pertaining to the pipe installation on their property, prior to leaving the site. Any issues shall be remedied to the satisfaction of the Contract Administrator and Owner.

Restoration. The finished work shall be left in a clean and orderly condition flush or slightly higher than the adjacent ground so that after settlement it will conform to the surrounding ground. Excess spoil shall be evenly distributed in the pit area to the satisfaction of the Contract Administrator and if required be hauled away by the Contractor at no extra cost.

Following topsoil restoration with the stockpiled material, disturbed areas that were previously grassed shall be seeded as per the General Requirements.

Grouting Existing Municipal Drain Crossing. The existing Municipal Drain crossing shall be filled with grout where it crosses Oxford Road 59 to the satisfaction of the Contract Administrator. The crossing is assumed to be 200mm in diameter and is required to be grouted for a length of approximately 37m. The Contractor shall verify size and length of the existing crossing prior to filling.

SP13 HDPE Pipe Installation for Existing Drain Connection

The Contractor shall supply & install approx. 32m of 200mmØ dual-wall HDPE pipe (320 kPa) for the connection of the existing Municipal Drain via excavator on 19mm clearstone bedding as per the accompanying details.

Topsoil stripping, HDPE pipe installation, backfilling, and restoration shall be as per SP8.

SP14 Special Installation Technique

If poor construction conditions are encountered where, in the opinion of the Contractor, it is not feasible to use the wheel trencher, the Contractor shall immediately inform the Contract Administrator to obtain approval to switch to:

- Installation on a minimum depth of 100mm of 19mm dia. clear crushed stone (or approved equal) with 19 mm clear crushed stone backfill up to the springline of the pipe at a minimum.

The Contractor shall bid the additional unit price per lineal metre of trench, including all additional labour, equipment and materials (excluding the supply cost of 19mm clearstone) required, to install the pipe on 19mm (¾ inch) diameter clear crushed stone as per the details in the accompanying drawings, with a hydraulic excavator instead of a wheel trencher. The supply cost of the 19mm clearstone shall be paid based on the bid unit price in the Tender and not included in the bid of this line item. The Contractor shall note that the wrapping of tile joints still applies under original items.

The Contractor shall keep a list of stations where these installation techniques were used, to be confirmed with the Contract Administrator on a daily basis. When soil conditions are again favourable in the opinion of the Contractor and the Contract Administrator, the wheel trencher must again be used for tile installation as soon as possible.

All costs are to be included in the associated special installation technique provisional item costs. No extra payment will be made for the removal of the wheel trencher, crew downtime, or other costs for this transition when the Contractor is required to change to a special installation technique.

SP15 Removal of Wheel Trencher

When large boulders or stony areas force the removal of the wheel trencher from the trench for cleanout and stone removal, prior to recommencing with the wheel trencher, the Contractor shall be paid a fixed sum as per the provisional item cost for each time this takes place between periods of continuous wheel trenching.

For the unit bid price per occurrence, the Contractor shall specify the cost for the removal of the wheel trencher as a result of large stones and/or poor soil conditions, as required for continued pipe installation with the wheel trencher. This cost shall include the time to complete the transition and the downtime for the working crew during the transition.

The Contractor shall keep a detailed list and review each pullout of the trencher with the Contract Administrator at the end of each working day. Stones or obstructions causing the wheel trencher removal shall be kept to the side of the trench as evidence for the Contract Administrator to verify. Pullouts of the trencher without sufficient evidence from the Contractor shall not be paid under this item at the discretion of the Contract Administrator.

In cases where the wheel trencher is removed to immediately switch to a special installation technique, the provisional item cost for this item will not apply. Under this scenario, the additional payment for the applicable alternate installation method will be applicable only.

SP16 Tile Connections

For the unit bid price, the Contractor shall provide all labour and material required to connect any private drains encountered during construction to the proposed drain with appropriately sized agricultural tubing or approved equivalent (assuming a length of 6m or less). Initially the Contractor shall connect to the existing tile with an appropriate coupler or reducer. The connection shall be adequately supported with 19mm clear stone bedding and the stone supply cost shall be paid out based on the bid unit price in the Tender and not included in the bid of this line item. Connections directly to a length of tile shall be installed into the drain with a core drilled hole and manufactured HDPE tee/coupler fitting as per the detail in the accompanying drawings. Connections directly to a structure shall be into the appropriate opening/knockout provided, and parged on the interior and exterior of the structure.

The Contractor shall also cap the unconnected tile with an end cap, geotextile, or other item to the satisfaction of the Contract Administrator.

The Contractor shall be responsible for all tile connections made, or any missed tile connections over the course of the warranty period, and is required to rectify any deficiencies related to the connections.

SP17 Supply of Clay Material

Should the local material not be suitable for the construction of the engineered berm, the Contractor shall import clean, clayey material for use in the construction of the berm off-site. The material shall have a minimum clay content of 20% and shall be to the satisfaction of the Contract Administrator. The Contractor shall be paid at the bid lump sum item assuming that all berm material is being imported from a source off-site.

2 General Requirements

2.1 Order of Precedence

In the case of any inconsistency or conflict between construction specifications, the following order of precedence shall apply:

- Direction of the Contract Administrator
- Special Provisions
- Contract Drawings
- General Specifications
- General Requirements
- OPSS.MUNI 100

2.2 Periodic and Final Construction Review

Periodic review of the construction works will be made by the Contract Administrator during the completion of the work. The Contract Administrator may order the Contractor to daylight any aspect of the work completed so that they may verify elevations, or review any other aspect of the work.

Regardless of whether or not the Contractor's work has been checked by the Contract Administrator, the Contractor shall assume full responsibility for the alignment, elevations, and dimensions of each and all parts of the work.

Prior to demobilization and removal of equipment and materials from the site, the Contractor shall arrange an on-site final review of the work with the Contract Administrator. A minimum 48 hours' notice shall be provided by the Contractor.

2.3 Existing Conditions

The Contractor shall clean up and restore all disturbed areas to condition equal to or better than existing conditions using materials equal to or better than existing materials.

The Contractor shall maintain flow in all existing sewers, drains, ditches, watercourses, etc. as applicable.

2.4 Benchmarks and Temporary Construction Markers

The established benchmarks will govern the elevation of the proposed work and the Contractor shall verify the accuracy of benchmarks prior to completing any construction works. Any discrepancies shall be brought to the attention of the Contract Administrator immediately.

Both prior to and during construction, the Contract Administrator may set out temporary benchmarks, stakes, flags, or markers. The Contractor or property owner shall be held liable for the cost of re-establishing any destroyed benchmarks or temporary construction markers.

2.5 Material Specifications

Unless otherwise specified elsewhere in the Contract Documents the following specifications shall apply for the following construction materials.

- All concrete tile shall conform to the requirements of the most recent ASTM C412 specification for with a pipe strength of 2000D.
- All high-density polyethylene (HDPE) pipe shall be solid dual-wall (i.e. smooth inner wall) pipe with a minimum stiffness of 320 kPa at 5% deflection. The pipe joints shall be secured with either snap-on couplers for pipes up to and including 200mm in diameter, or split couplers for pipes larger than 250mm in diameter, or gasketed bell and spigot joints, whichever is specified in the Contract Documents.
- All non-woven geotextile shall be RM-150 (4 oz), Terrafix 270R or approved equivalent unless specified elsewhere.
- Granular 'A' material shall be as per requirements in OPSS.MUNI 1010.
- 19mm (¾ inch) crushed clear stone shall be as per requirements in OPSS.MUNI 1004.
- Rip-Rap shall be as per requirements in OPSS.MUNI 1004 and be assumed to be R-50 classification (generally ranging from 100mm to 300mm in diameter).

2.6 Iron Bars

The Contractor shall notify the Contract Administrator should they disturb an iron bar during construction so it can be replaced by an Ontario Land Surveyor. If, to the discretion of the Contract Administrator, the disturbance of the iron bar is due to negligence on the Contractor's behalf, the Contractor shall retain an Ontario Land Surveyor to replace the bar at their own expense.

2.7 Pollution

The Contractor shall keep their equipment in good repair. The Contractor shall refuel or repair equipment away from open water.

If polluted material from the construction materials or equipment is caused to flow into the drain, the Contractor shall immediately follow the relevant spill reporting and cleanup protocols specified by the relevant governing body.

2.8 Fences

The Contractor will be permitted to remove fences to the extent necessary to allow for the construction of the drain. Unless specifically noted in the Contract documents, disturbed fences shall be restored in as good of condition as they were found. Fences should be handled in such a manner to prevent any unnecessary damage. Where feasible, cutting of the fence and subsequently patching the fence shall be avoided. The Contractor shall not leave any fence open when not working in the immediate area and shall replace the fence in a timely manner.

Fences damaged beyond repair as a result of the Contractor's negligence shall be replaced with new materials similar to the existing fence to the satisfaction of the Contract Administrator, and all costs incurred shall be at the Contractor's expense.

2.9 Livestock and Standing Crops

The Contractor shall notify all property owners with a minimum 48 hours' notice prior to removing a fence that may contain livestock, or prior to damaging to any standing crops. The Contractor shall be responsible for all loss or injury of livestock, or damage to crops if they fail to provide 48 hours' notice to the relevant property owner.

Following notification, the property owner shall be responsible to keep the livestock clear of the construction activities until all such activities have concluded.

2.10 Material Disposal

The Contractor is responsible to remove and dispose of all excess construction materials off-site prior to demobilizing from the site.

2.11 Removal of Large Stones and Rock

The Contractor shall haul all stones greater than 300mm in diameter that remain at the ground surface following construction to a location approved by the property owner or, if there is no suitable location, disposed of off-site. Extra costs for such stone relocation/removal shall be to the discretion of the Contract Administrator.

2.12 Damage by Vehicles and Other Equipment

Throughout all construction activities, the Contractor shall be responsible maintain all road surfaces or other infrastructure impacted by the construction activities. This maintenance shall include but not be limited to scraping mud from the road surfaces, repairing potholes, etc.

If at any time, in the opinion of the Contract Administrator, damage is being or is likely to be done to any road or other infrastructure that is not included in the scope of work, by the Contractor's vehicles or other equipment, the Contractor shall, on the 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 in some manner remove the cause of such damage to the satisfaction of the Contract Administrator.

2.13 Equipment and Material Staging

Construction equipment and materials shall be staged in the areas specified in the Contract Documents. No construction equipment or materials shall be left unattended within five (5) metres of any road ROW.

2.14 Deficient Items

Deficient items as noted by the Contract Administrator shall be remedied by the Contractor in a timely manner. The Contract Administrator shall, at their discretion, have the authority to holdback up to 250% of the value of a deficient item. If the deficient item is not remedied in a reasonable time frame, the Contract Administrator shall notify the Contractor, and, at the Contract Administrator's discretion, procure an alternative Contractor to complete the work and any outstanding payment associated with the deficient item shall be forfeited by the original Contractor.

2.15 Construction Document Errors

The Contractor shall notify the Contract Administrator immediately with respect to any errors or omissions with any of the construction contract documents. The Contractor shall be responsible for any decisions they make of their own accord to correct such errors or omissions and no extra charge shall be incurred because of said decisions.

The Contractor and Contract Administrator shall, in a timely manner, rectify the errors and omissions and adjust the contract documents as the situation warrants.

2.16 Alterations to Work

The Contract Administrator shall have the power to make alterations in the work and the Contractor shall proceed to make such changes without causing delay. Such alterations shall in no way render the Contract void.

The valuation of such alterations shall be determined as a result of negotiations between the Contractor and Contract Administrator, but in all cases the Contract Administrator shall maintain the final responsibility for the decision. Where such changes involve additional work similar to other items in the Contract, the price for the additional work shall be determined after consideration is given to the bid price for similar items.

Furthermore, in the event that the quantity of any provisional item exceeds the quantity specified in the Bid Form by more than 150%, the Contract Administrator may request revised unit pricing resulting from economies of scale, and the Contractor shall provide updated unit pricing within one working day.

No claims for a variation or alteration in the increased or decreased price shall be valid unless done in pursuance of an order form from the Contract. In no case shall the Contractor commence work that they consider to be an extra charge before receiving approval from the Contract Administrator.

2.17 Liquidated Damages

It is agreed by the parties to the Contract, that if this Contract is not substantially performed by the required date specified in the Contract Documents without prior consultation with the Contract Administrator and Owner, that the Contractor may be subject to daily liquidated damages of $500

plus HST for each and every calendar day's delay in finishing the work to the discretion of the Contract Administrator and Owner.

2.18 Sub-Contractors

The Contractor shall not sublet the whole or part of this Contract without the approval of the Contract Administrator.

2.19 Payment

Progress payments equal to 87% of the value of work completed and materials incorporated shall be made to the Contractor on a monthly basis. The remaining 13% of the work completed shall consist of a 10% Statutory Holdback and a 3% Warranty Holdback for the project.

Payments shall be made on the written request and submission of a proper invoice by the Contractor to the Contract Administrator or Owner. A proper invoice submission, in addition to the definition provided in the Construction Act, R.S.O. 1990, c. C.30., shall require the following:

- Quantities and unit prices shall be provided for with adequate supporting documentation shall be provided by the Contractor for all necessary items. For extras in the Contract, the Contract Administrator may request a detailed labour and material breakdown.
- A current clearance certificate from the Workplace Safety and Insurance Board (WSIB).
- A detailed unit summary page denoting all payable line items, applicable holdbacks, taxes, etc.

If any of these requirements are not met to the satisfaction of the Contract Administrator, the Contract Administrator shall promptly notify the Contractor, at which time the Contractor shall revise the invoice. Prompt payment procedures shall not begin until the Contract Administrator receives a proper invoice to the satisfaction of the Contract Administrator.

2.20 Substantial Performance

Substantial performance shall be determined as per its definition in the Construction Act, R.S.O. 1990, c. C.30.

2.21 Statutory Holdback

A 10% Statutory Holdback shall be due 61 days from the date of publication of the Certificate Substantial Performance and proof of such publication. This payment shall be released once the Contractor provides a Statutory Declaration that all material and/or labour incorporated in the work has been fully paid for.

2.22 Warranty Holdback and Project Completion

A 3% Warranty Holdback shall be held for a minimum one year from the date of Substantial Performance. If the Contract Administrator notifies the Contractor in writing of any deficient items

prior to the expiration of the warranty period, they shall be remedied promptly by the Contractor notwithstanding that the rectification of the work may extend beyond the end of the warranty period. The warranty holdback shall not be considered due until all outstanding deficient items have been rectified by the Contractor to the satisfaction of the Contract Administrator.

The payment certificate including the release of the warranty holdback shall be deemed to be the certificate of completion for the project.

2.23 Tests

The cost for testing of materials supplied to the job by the Contractor shall be borne by the Contractor.

The Contract Administrator shall have the authority to subject any lengths of any pipe to a competent testing laboratory to ensure the adequacy of the pipe. If any pipe supplied by the Contractor is determined to be inadequate to meet the applicable governing standards, the Contractor shall bear the full responsibility to remove and/or replace all such inadequate pipe with pipe that satisfies the requirements of said governing standards.

2.24 Species at Risk

The Contractor is responsible to ensure that during construction, no extirpated, endangered, threatened, or special concern species or their habitats are adversely affected. Should a Species at Risk be encountered, the Contractor shall notify the Contract Administrator immediately and follow the Ministry's guidelines and guidance regarding handling of the species, measures to exclude the species from the site, safety considerations, etc.

2.25 Weather

The Contractor shall make every effort to avoid working in weather conditions that may increase the difficulty of construction activities. Should the Contractor choose to work during periods of frequent rainfall or snow, or excessively hot or cold weather, etc., extra charges resulting from working in unfavourable construction conditions caused by such weather may not be applicable and shall be to the discretion of the Contract Administrator.

2.26 Dewatering

The Contractor shall dewater excavations/trenches and maintain the groundwater level at least 0.5m below the excavation bases, thereby facilitating proper completion of the work in reasonably dry, stable conditions. If a specific line item for dewatering is not included with the Contact, the cost of such dewatering shall be included with the bid of the associated line items and no additional payments shall apply if the Contractor is required to complete damming, pumping, etc. in order to facilitate construction works.

The dewatering system shall be discharged a minimum 20m away from its re-entry point to the drain to encourage water filtration. The quality of the water re-entering the watercourse shall be to the satisfaction of the Contract Administrator and should additional means be required to ensure suitable water quality (i.e. filter bags, settling ponds, check dams, geotextile, etc.), they shall be negotiated as an extra item at the time of construction.

2.27 Erosion and Sediment Control

Appropriate erosion and sediment control measures shall be in place for the entirety of construction and the Contractor shall regularly monitor and maintain said measures. The Contractor shall ensure that the site is left each day with appropriate controls to avoid erosion. No construction activities which may cause sediment to be conveyed downstream of the working area shall commence until appropriate erosion and sediment control measures are in place.

2.28 Seeding

Grass seed shall be fresh, and clean seed, and unless specified elsewhere be as per OPSS.MUNI 804 Standard Roadside Mix which is duplicated below for convenience. It shall be applied at a rate of 130kg per 10,000m^2:

- 50 % Creeping red fescue
- 10% Kentucky Bluegrass
- 35% Perennial Ryegrass
- 5% White clover

If a nurse crop is required, it shall be fall rye grain or winter wheat grain applied at a rate of 60 kg per 10,000m^2.

3 General Specifications for Open Drains

3.1 Profile

The profile drawing shows the approximate depth of cuts from the base of the existing open drain to the proposed base of the drain as well as the total existing depth of the open drain. These cuts are established for the convenience of the Contractor, however, benchmarks will govern the final elevation of the drain. Accurate grade control must be maintained by the Contractor during the work in the open drain to the satisfaction of the Contract Administrator.

3.2 Tile Outlets

During any construction activities on an open drain, the Contractor shall guard against damaging the outlet of any private or municipal pipes that outlet into the open drain.

Repair or replacement of any tile outlets shall be as per the accompanying drawings. Any marked tile drain outlets damaged during construction shall be repaired by the Contractor at their own expense. Any unmarked tile drain outlets damaged during construction shall be repaired by the Contractor and paid as a provisional item.

3.3 Crossing of Open Drains

No crossing of any drain, watercourse, or other waterbody with construction equipment shall be permitted throughout the duration of construction. Should a temporary crossing be required it shall be on a bed of rip-rap or a temporary crossing with an appropriately sized culvert shall be constructed by the Contractor. The Contractor shall be responsible for the failure of the temporary crossing or if any deleterious substances are released as a result of inadequacies with the temporary crossing.

The Contractor shall remove all materials associated with the temporary crossing when it is no longer required and restore the channel to its undisturbed conditions or better to the satisfaction of the Contract Administrator.

4 General Specifications for Tile Drains

4.1 Alignment

The Contractor shall contact the Contract Administrator to establish the approximate course of the drain at the onset of construction and provide a minimum 48 hours' notice to do so. The drain shall run in as straight a line as possible throughout its length.

Where an existing drain is to be removed and replaced by the new drain, or where the new drain is to be installed parallel to the existing drain, or between two runs of existing drains, the Contractor shall locate the existing drain(s) at intervals along the course of the drain such that the disturbance of any existing drainage systems is minimized. The frequency of drain locating shall be to the discretion of the Contractor and should be generally more frequent in areas where the existing drain is turning to avoid disturbance of the existing system. The costs of locating shall be included in the bid price and the Contractor shall be responsible to repair any tiles that are damaged during the drain locating at no additional cost.

4.2 Profile

The profile drawing shows the elevations and gradients that the tile drain shall be installed at as well as the approximate depth of cuts from the existing ground elevation to the proposed invert of the pipe in key locations. The cuts are noted for the convenience of the Contractor, however, benchmarks will govern the final elevation of the drain. Accurate grade control must be maintained by the Contractor during the installation of any tile drains to the satisfaction of the Contract Administrator.

When installing a drain towards a fixed point such as a previously installed bore pipe, the Contractor shall confirm the elevations of such a fixed point at a sufficient distance away from the pipe in order to allow for any minor adjustments to the pipe grade as required.

4.3 Trench Crossings

The Contractor shall not cross any backfilled trench with any construction equipment, except at one designated crossing location on each property. The Contractor shall ensure that the bedding and backfill material at this designated crossing location is properly placed and compacted to adequately support the equipment and vehicles that may cross the trench. The Contractor shall be responsible for any damage to the new tile resulting from the crossing of the drain.

Appendix B

Agency Documentation

Long Point Region Conservation Authority

4 Elm Street
Tillsonburg, ON
N4G 0C4
Phone (519) 842-4242
Fax (519) 842-7123
www.lprca.on.ca

PERMIT No. LPRCA-182/25

PROHIBITED ACTIVITES, EXEMPTIONS AND PERMITS
(CONSERVATION AUTHORITIES ACT - ONTARIO REGULATION 41/24)

Permission has been granted to:

Applicant:	**Dirk Kramer**	**Telephone:**	**519-667-2000 ext. 7622**
Address:	**285767 Airport Road, Norwich**	**Email:**	**dkramer@norwich.ca**
	N0J 1P0		
Agent:	**Michael Siemon, Streamline Engineering Inc.**	**Telephone:**	**226-622-9618**
Address:	**6 Mill St East, Milverton**	**Email:**	**michael@streamlineeng.ca**
	N0K 1M		

Location/Address of works: **385653 Highway 59. 32020300201120**

Lot: **9** **Concession:** **1** **Municipality:** **Oxford County**

Description of Works: to improve the existing Chant Drain by installing a new tile drainage, deepen 15 meters of open channel, construct a stilling basin with rip-rap erosion protection, and to install a rock check dam.

Type of fill: Rip rap stones.

This permit is valid on the above location only for the period of:

DATE: November 3, 2025 to November 3, 2027

This permit shall be subject to the following conditions:

The Applicant and owner, by acceptance of and in consideration of the issuance of this permit, agrees to the following conditions:

GENERAL CONDITIONS: (SEE REVERSE SIDE OF PERMIT)

SPECIFIC CONDITIONS:

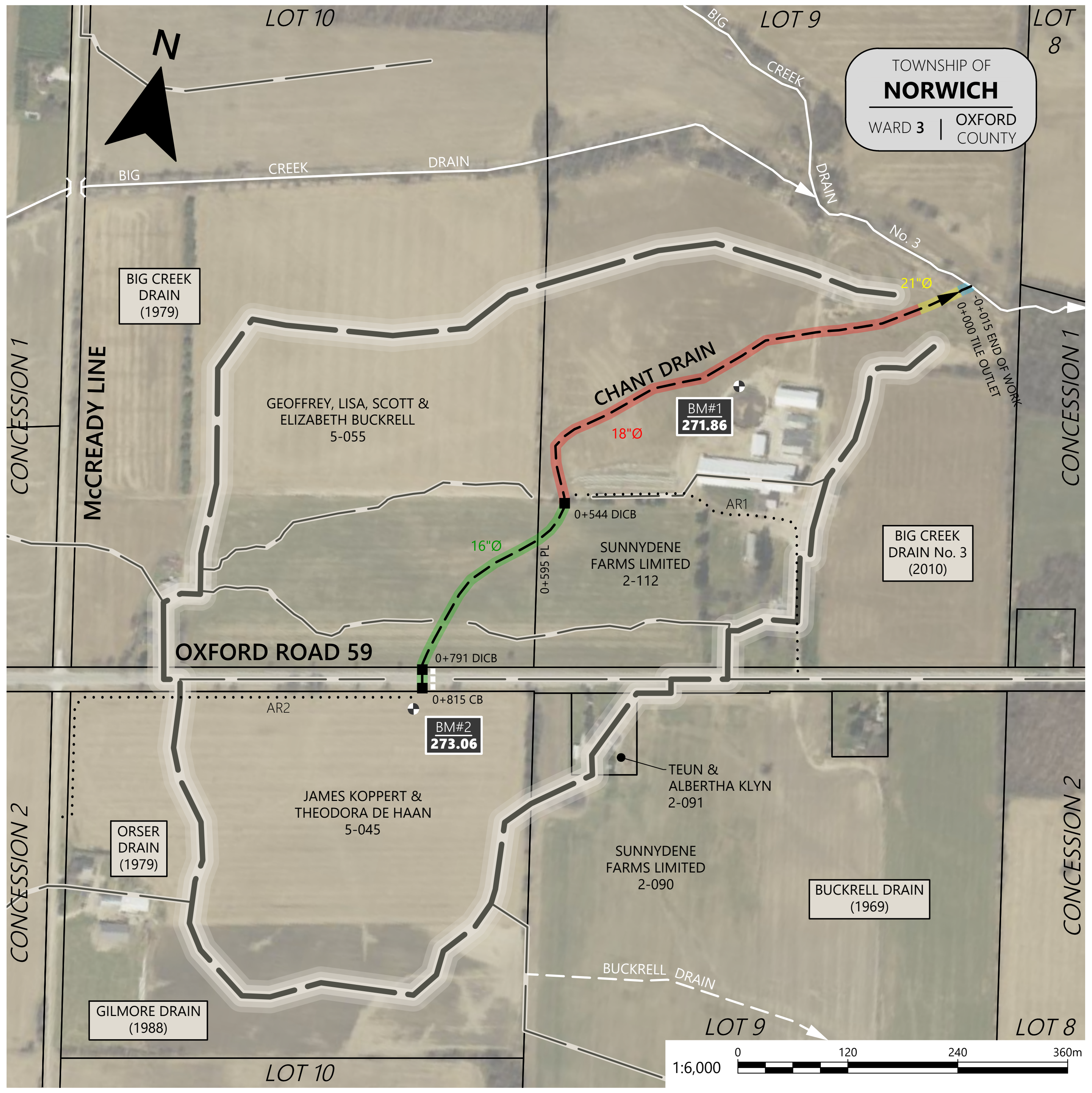
1. Locations and dimensions of proposed works must be as indicated on the enclosed copy of the work permit application dated 9/22/25 and the associated information.

GENERAL CONDITIONS:

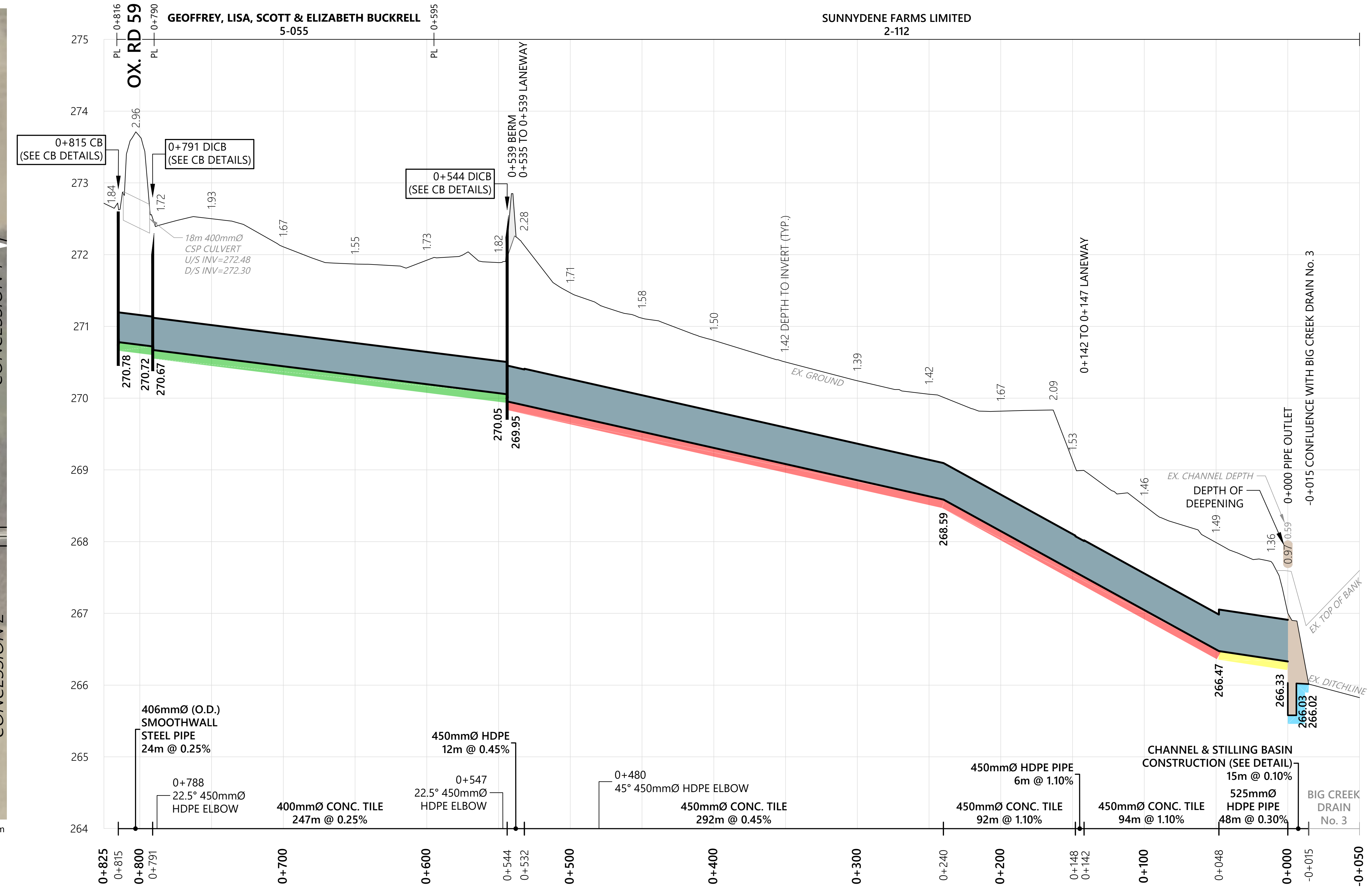
1. This permit does not preclude any approvals required by any other laws or regulations.
2. Temporary sediment & erosion control measures shall be installed around any disturbed and/or exposed ground or excavated material stockpiles, remain in place until the site has been suitably stabilized, and must be monitored regularly to ensure effectiveness. Remedial/Emergency measures must be taken at any sign of failure. This step is considered necessary to prevent the undesirable migration of silt.
3. The Conservation Authority should be contacted within 48 hours prior to the commencement of construction.
4. Authorized representatives of the Long Point Region Conservation Authority may at any time enter onto the lands which are described herein in order to make any surveys, examinations or inspections which are required for the purpose of insuring that the work(s) authorized by this permit are being carried out according to the terms of this permit.
5. It is the responsibility of the permittee to ensure the development is located within the extent of the property boundaries owned by the proponent.
6. This permit is not assignable.
7. The project shall be carried out generally as per the plans submitted in support of the application as they may be amended by conditions of this permit.
8. This approval does not guarantee the soundness of the proposed work and it is the responsibility of the permittee to monitor and maintain the construction activity to ensure the integrity of the work.
9. The applicant agrees to maintain all existing drainage patterns.
10. Any activity or development other than that identified in this permit application must be reviewed by the LPRCA; at which time, staff will determine if additional approvals or an amended permit will be required.
11. Permits are valid for two years. No notice will be issued on expiration of the permit and it is the responsibility of the permittee to ensure a valid permit is in effect at the time work is occurring.

Appendix C

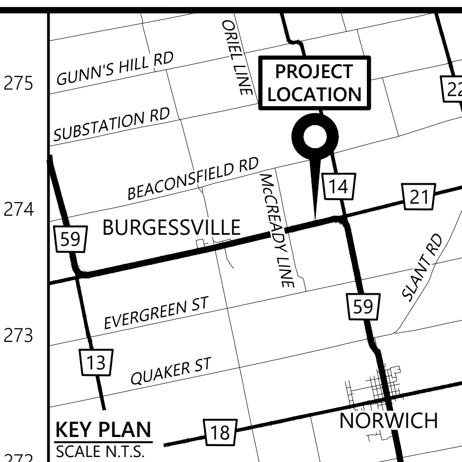
Drawings



WATERSHED PLAN
SCALE 1:6000



PROFILE
SCALE H1:3000 | V1:60



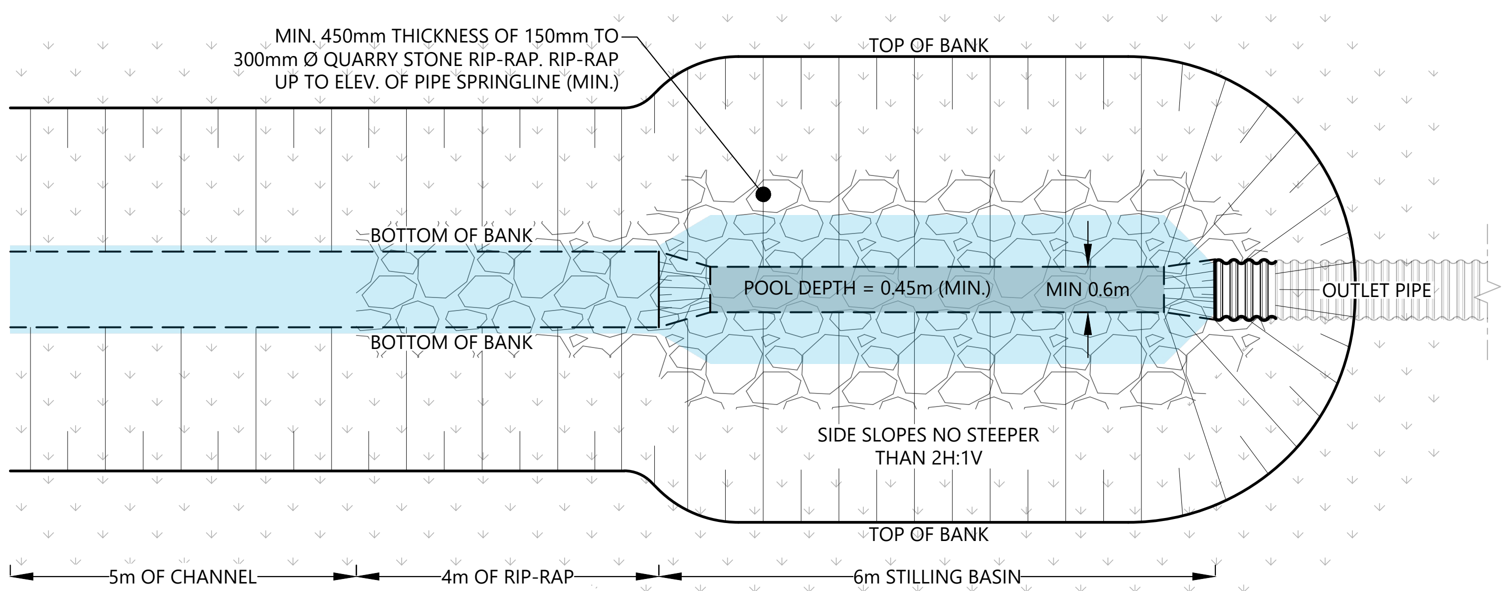
LEGEND

- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY
- APPROX. PROPERTY LINE
- EX. OPEN DRAIN / EX. TILE DRAIN
- PR. OPEN DRAIN / PR. TILE DRAIN
- EX. DRAIN CROSSING
- EX. SURFACE CULVERT
- EX. COPPER CABLE
- EX. EXECULINK FIBRE
- EX. DECIDUOUS TREE
- EX. CONIFEROUS TREE
- EX. STUMP
- PR. CATCH BASIN
- ACCESS ROUTE PATH (AR1)
- BENCHMARK LOCATION, NUMBER & ELEVATION (BM#1 ELEV)

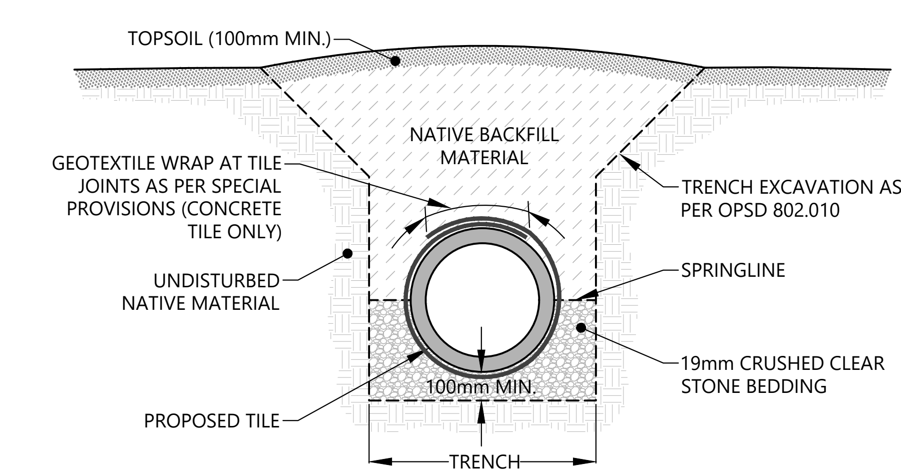
BENCHMARKS

BENCHMARK No. 1 ELEVATION=271.86m
TOP OF CONCRETE FORM TIE AT CUT CROSS IN NORTH FACE OF CONCRETE MANURE PIT ON SUNNYDENE FARMS LIMITED (ROLL 2-112) PROPERTY. APPROX. 30m SOUTHEAST OF STATION 0+273.

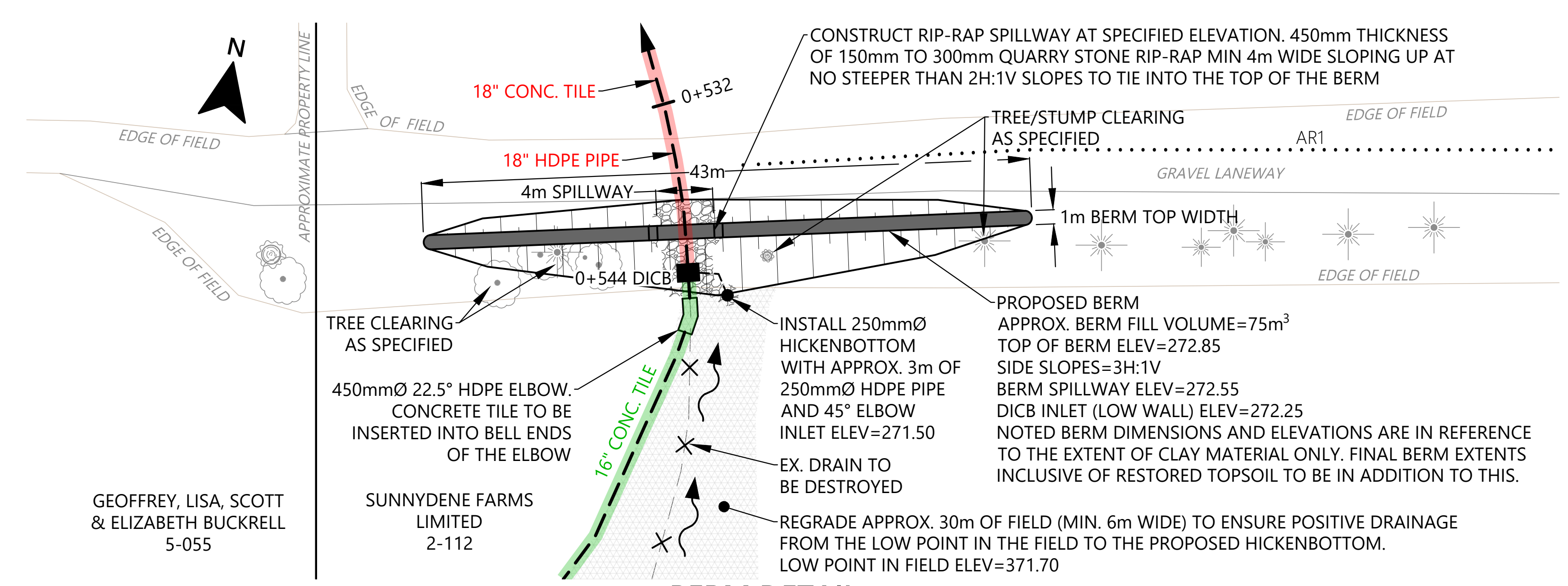
BENCHMARK No. 2 ELEVATION=273.06m
NAIL IN FACE OF HYDRO POLE WITH ID# AS78VY APPROX. 25m SOUTH OF OXFORD ROAD 59 EDGE OF PAVEMENT, APPROX. 20m FROM STATION 0+815.



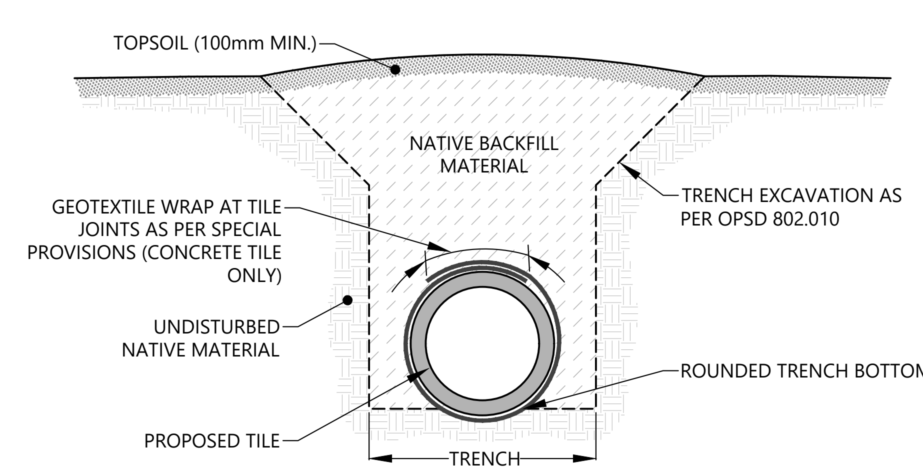
STILLING BASIN DETAIL
N.T.S.



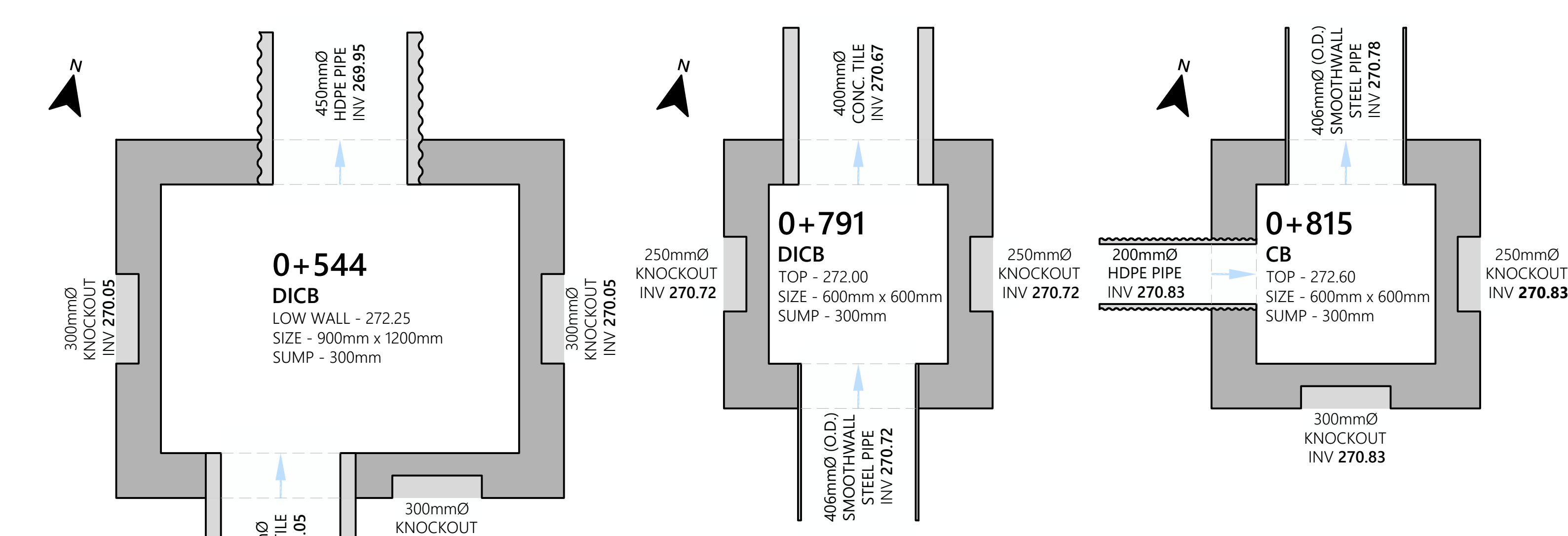
TYPICAL DRAIN INSTALLATION ON STONE BEDDING
N.T.S.



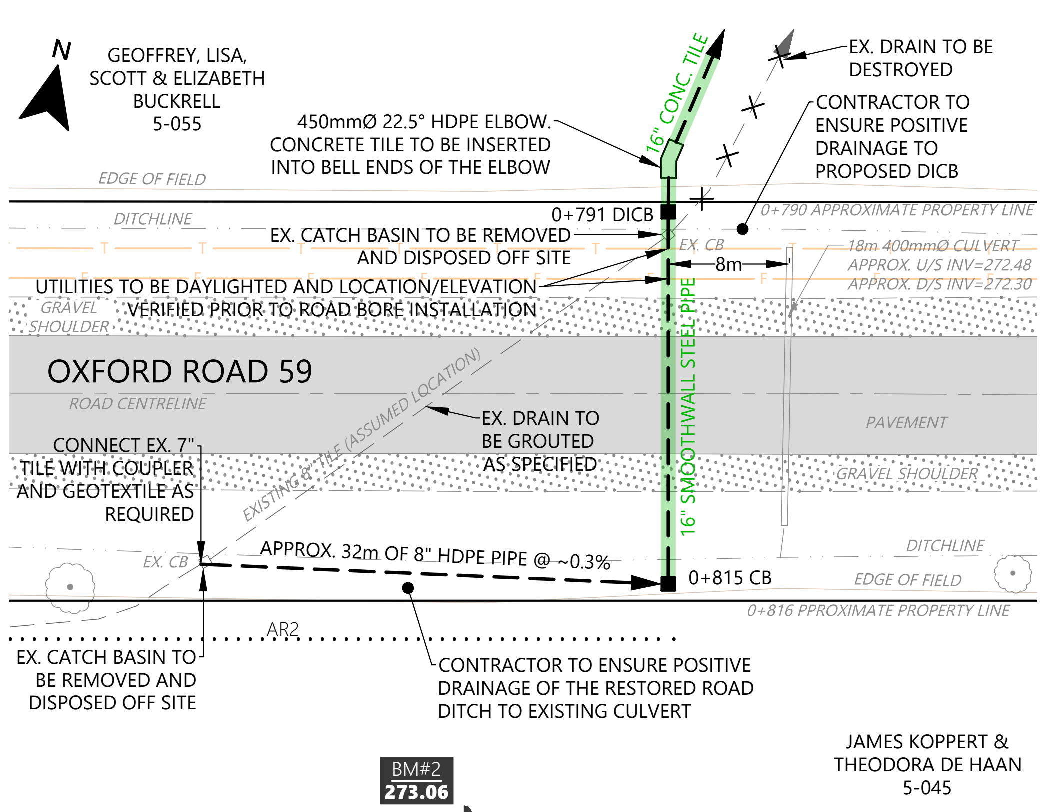
BERM DETAIL
SCALE 1:500



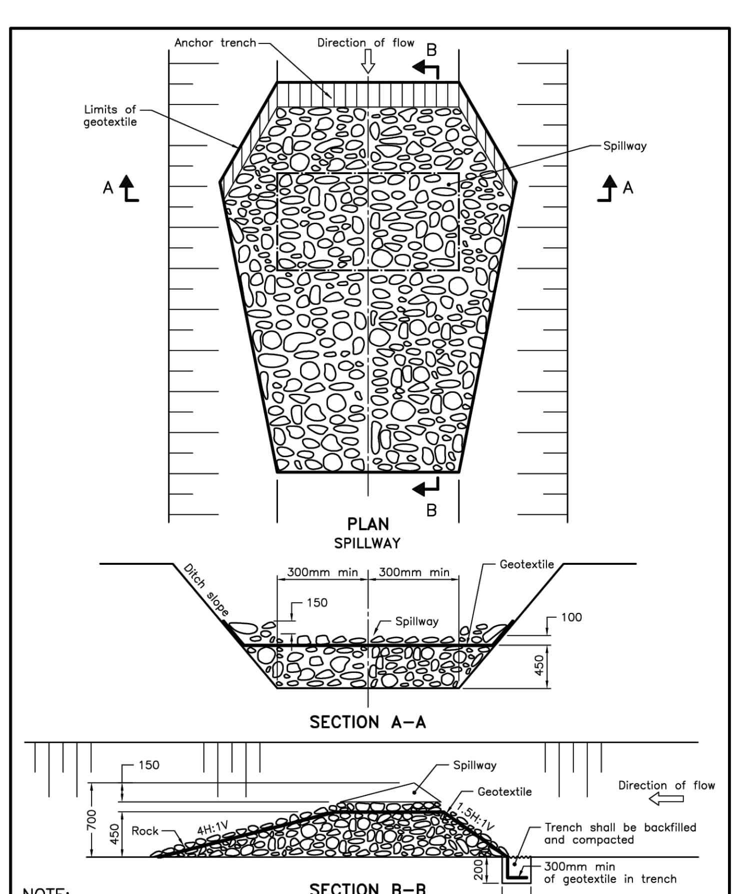
TYPICAL DRAIN INSTALLATION
N.T.S.



CB DETAILS
SCALE 1:25

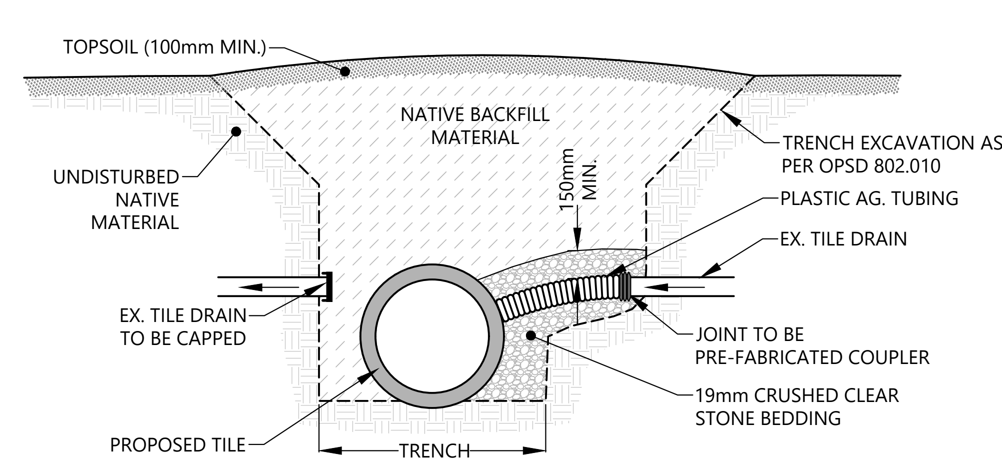


OXFORD ROAD 59 CROSSING DETAIL
SCALE 1:500



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2021	Rev 3
TEMPORARY ROCK FLOW CHECK DAM FLAT BOTTOM DITCH	OPSD 219.211	



TILE CONNECTION DETAIL
N.T.S.

PROJECT
CHANT DRAIN IMPROVEMENT 2025

STREAMLINE ENGINEERING INC.

ISSUE / REVISION	DATE
ON-SITE MEETING	APR 2025
INFORMATION MEETING	AUG 2025
ENGINEER'S REPORT	SEPT 2025
TENDER	JAN 2026

CLIENT
TOWNSHIP OF NORWICH

DRAWING: WATERSHED PLAN, PROFILE AND DETAILS

DESIGNED	DRAWN	CHECKED	PROJECT NO.	DRAWING NO.
MS	MS	TK	0023	1 OF 1