THE MUNICIPALITY OF
LAMBTON SHORES

2025 Capital Program

2025-31 - Request for Tender

Kennedy Line Drain

Closing date: October 2, 2025 at 11:00am

INFORMATION TO BIDDERS
DOWNLOADING THIS DOCUMENT

Bidders downloading this document from the Municipality of Lambton Shores website must register with the Community Department to be added to the Bidders list. Interested Bidders are required to complete the information below and return this form via email to:

works@lambtonshores.ca

Bidders who do not register may not receive any additional information or addendums relating to this project.

Bidder Registration Form

Company Name: _____

Address: _____

City: _____

Contact Name: _____

Phone Number: _____ Fax Number: _____

Email Address: _____

Project Name: Kennedy Line Drain

Return by email: works@lambtonshores.ca
Attention: Community Services Department

SCHEDULE OF TENDER PRICES

TENDER PRICE

A. **Offer by:** _____

Name: _____

Address: _____

_____

HST #: _____

Date: _____

To: The Municipality of Lambton Shores

We, the undersigned, having examined the site of the Work, having carefully investigated the conditions pertaining to the Work and having secured all the information necessary to enable us to submit a bid, and having inspected all the Contract Documents and Drawings, hereby agree to enter into a Contract and perform all the Work in accordance with the Contract Documents and Drawings to the satisfaction of the Contract Administrator for the total bid price **INCLUDING HST** of:

_____

_____ ($)

1. **ADDENDA**
   We agree that we have received addenda ___ to ___ inclusive, and the bid price includes the provisions set out in such addenda.

TENDER TABLE

Item No.	Item Description	Quantity	Unit	Unit Cost	Total
1.0	Station 0+000 to 0+337 Work				
	Traffic Control	1	LS		
	Brushing & Tree Removal	1	LS		
	Open Channel Excavation including resloping south bank as required from Sta. 0+000 to 0+337	337	m		
	Supply and Installation of 250mmø HDPE c/w Drainage Stone Bedding to Springline from Sta. 0+073 to 0+337	264	m		
	Restoration of the open channel c/w topsoil & hydroseed Sta. 0+015 to 0+337	1	LS		
	R. & D. of Excess Excavated Material	1	LS		
	Supply and Install Rip Rap at Outlet Sta. 0+073	15	t		
	Supply and Install Rodent Grate Outlet Sta. 0+073	1	LS		
	Environmental Considerations (Silt Fence)	1	LS		
				1.0 Total	
2.0	Station 0+337 to 0+790 Work				
	Brushing & Tree Removal	1	LS		
	Open Channel Excavation c/w One Bank Resloping Sta. 0+337 to 0+570	233	m		
	Open Channel Excavation (Bottom Cleanout Only) Sta. 0+570 to 0+790	220	m		
	Strip and Level Topsoil	233	m		
	Levelling	453	m		
	Environmental Considerations (Silt Fence)	1	LS		
				2.0 Total	
3.0	Culvert No. 1 - Station 0+023				
	R.& D. Culvert c/w Excess Material	1	LS		
	Supply and Installation of 750mmø HDPE	9	m		
	Supply Clearstone Bedding	20	t		
	Place Native Backfill	1	LS		
	Supply Granular "B" Backfill	100	t		
	Supply Granular "A" Driveway	20	t		
	Rip Rap Endwalls	15	t		
	Environmental Considerations (Silt Fence)	1	LS		
				3.0 Total	

Item No.	Item Description	Quantity	Unit	Unit Cost	Total
4.0	Culvert No. 2 - Station 0+146				
	R.& D. Culvert c/w Excess Material	1	LS		
	Supply and Installation of 750mmø HDPE	9	m		
	Supply Clearstone Bedding	20	t		
	Place Native Backfill	1	LS		
	Supply Granular "B" Backfill	60	t		
	Supply Granular "A" Driveway	20	t		
	Rip Rap Endwalls	15	t		
	Environmental Considerations (Silt Fence)	1	LS		
				4.0 Total	
5.0	Branch A Work				
	Traffic Control	1	LS		
	R.& D. Exisitng Road Culvert	1	LS		
	Daylight and Work Around Utilities	1	LS		
	Supply and Installation of 300mmø HDPE Road Culvert by Open Cut	13	m		
	Supply and Installation of 250mmø HDPE Tile by Open Cut	18	m		
	Supply and Installation of 250mmø HDPE 45-degree elbows	2	Ea		
	Supply and Installation of 450mmø HDPE Junction Box c/w Lid and Connections	1	Ea		
	Supply Clearstone Bedding	30	t		
	Place Native Backfill	1	LS		
	Supply Granular "A" Backfill	100	t		
	Supply Rip Rap endwalls on Road Culvert	15	t		
	Restoration c/w Topsoil and Hydroseed	1	LS		
				5.0 Total	

Item No.	Item Description	Quantity	Unit	Unit Cost	Total
5.0	Branch B Work				
	Excavate and Lower North end of Road Culvert	1	LS		
	Supply Clearstone Bedding	10	t		
	Restoration & Reshape Road Ditch on North Side	1	LS		
	Rip Rap Endwalls	15	t		
				5.0 Total	
6.0	Contingency			**6.0 Total**	5,800.00
		Subtotal 1.0 + 2.0 + 3.0 + 4.0 + 5.0 + 6.0			
				HST (13%)	
				Total Tender	

Tender Deposit in the form of a certified cheque or bid bond in the amount of 10% of the total tender price payable to the **Municipality of Lambton Shores** is enclosed.

Work will begin on or before _____

Work will be completed on or before _____

The Contractor shall fill in the above starting and completion date. Failure to do so may render the tender invalid and subject to rejection by the Township.

OFFERED ON BEHALF OF THE CONTRACTOR	ACCEPTED ON BEHALF OF THE TOWN
Name _____	Mayor _____
Address _____	Clerk _____
_____	Date _____-

……

Date _____

This Form of Tender, when signed and completely filled in by both the Contractor and the Town, shall constitute a formal contract.

CONDITIONS OF BID

1. The lowest or any bid will not necessarily be accepted by the Owner.

2. Contract Drawing No. 1 to 7 and the attached Specifications of Work for the **Kennedy Line Drain** are made part of this Contract Bid. The Contractor is to complete construction in accordance with the Drawings and the conditions indicated within this Bid Document.

3. TENDER DEPOSIT

   The tender shall be accompanied by a tender deposit in the form of a certified cheque or a Bid Bond payable to the Owner (Municipality of Lambton Shores) in the amount of 10% of the value of the tender price.

   The Tenderers shall keep their tenders open for acceptance for 45 days after the closing date. Withdrawal during this period will result in forfeiture or enforcement of the tender deposit.

4. CONTRACT SECURITY

   There are two (2) options:

   Bonding: The Contractor shall furnish the Municipality of Lambton Shores with a 100% Performance Bond and 100% Labour and Material Payment Bond. The Performance and Labour and Material Payment Bonds shall include a maintenance clause for 100% of the Tender price extending for a twelve (12) month period from the date of substantial completion. If bonding is used then the tender deposit will be returned once the contract security is in place.

   OR

   10% Certified Cheque: The certified cheque submitted as the tender deposit will be held until the date of substantial completion, as determined by the Engineer.

5. SCHEDULE AND LIQUIDATED DAMAGES

a) The Contract is to be completed on or before – **November 30th, 2025**

b) If the time limit above is not sufficient to permit completion by the Contractor working a normal number of hours, the Contractor shall make changes to permit the Work to be completed by the above date. Additional costs incurred shall be deemed to be included in the price bid for the Works.

6. EXAMINATION

a) Upon receipt of Documents, verify that they are complete; notify the Contract Administrator should the Documents be incomplete.

b) Each firm submitting a Tender shall carefully examine the Documents for discrepancies or omissions, and immediately notify the Consultant upon finding discrepancies or omissions, at least four (4) days prior to the date specified for closing.

c) All firms submitting Tenders will acknowledge receipt of Addenda in the space provided in the Tender Form. If no Addenda are received, insert the word "None" in the space provided.

7. EXAMINATION OF SITE

a) The Tenderers shall visit the site of the Work before submitting their Tender and shall by personal examination satisfy themselves as to the local conditions that may be encountered during construction of the Work. They shall make their own estimate of the facilities and difficulties that may be encountered and the nature of the subsurface materials and conditions.

b) The Tenderer shall not claim at any time after submission of their Tender that there was any misunderstanding of the terms and conditions of the Contract relating to site conditions.

8. INSURANCE

a) The successful Bidder shall file with the Municipality within 10 calendar days of award of Contract – $5 million General Liability, Automobile and Property Damage Insurance coverage.

9. WORKER'S SAFETY INSURANCE BOARD

a) The successful Bidder will file with the Municipality within 10 calendar days of award of Contract, a current Certificate of good standing from the Worker's Safety Insurance Board (WSIB).

10. TIME CONSTRAINTS

a) All Work shall be completed within the times outlined in the Municipality of Lambton Shores noise by-law regulations.

b) No weekend Work is permitted without prior approval by the Municipality of Lambton Shores.

11. PAYMENT & SUBSTANTIAL PERFORMANCE

a) The project will be considered substantially performed when all parts of the Contract are completed in accordance with the Contract for the **Kennedy Line Drain** as outlined in the General Conditions of Ontario Provincial Standards GC 105 and Section 11.c below.

b) The Contractor shall be entitled to receive monthly payments at the rate of 87% of the work completed and materials in place according to the Contract, less all stipulated forfeitures and deductions. These payments shall be made on progress payment certificates.

c) The contract shall be deemed Substantial Performance, as defined by the Construction Act, a Certificate of Substantial Performance will be issued by the Engineer to the Contractor. The Contractor shall advertise the project is substantial complete in the Daily Commercial News. The Contractor is required to provide to the Engineer with the following:

i) The certified copy of the publication of the Certificate of Substantial Performance in a construction trade newspaper;

ii) A statutory declaration in a form satisfactory to the Engineer, that all liabilities incurred by the Contractor, their subcontractors, and suppliers in carrying out the Contract have been paid and that there are no liens, garnishes, attachments, or claims relating to the work; and

iii) A satisfactory WSIB Clearance Certificate.

d) The publication date begins the construction sixty (60) day holdback period. After this date, or as soon as possible thereafter, the 10% holdback for work done shall be paid to the Contractor, with the 3% remaining held as a Guaranteed Maintenance.

e) The Contractor shall be entitled to receive monthly payments for work remaining to be done after the date of Substantial performance at the rate of 97% of the work done and materials supplied as explained in paragraph (a) above. When all this remaining work has been completed, the process for completion, as stated in Section 12.b will be followed and the 3% will be paid.

12. GUARANTEE MAINTENANCE PERIOD

a) The Contractor shall guarantee the Material and Work for a period of twelve (12) months from the date of publication of the certificate of substantial performance remain in such condition as will meet the Contract Administrator's approval, and that they will make good in a permanent manner, satisfactory to the Contract Administrator, any imperfections due to materials or workmanship used in the construction and any damage caused by such imperfections. The decision of the Contract Administrator shall be final as to the nature and cause of such imperfections and the necessity for remedying them.

b) On the expiration of the 12-month maintenance period from the date of substantial performance, as set out on the Certificate of Substantial Performance, and after all imperfect work has been rectified in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will issue a “Completion Certificate” for

the contract. The completion certificate will deem that the Engineer is satisfied that the Contractor has discharged all their obligations under the Contract. At this point, the 3% guarantee maintenance can be released to the Contractor.

c) It is the desire of the Owner that all work, including payable and non-payable items of the tender, all cleanup and deficiencies, be finished and that all claims be resolved by the Date of Completion. Deductions from the Completion Payment Certificate will be made for any unfinished work or unresolved claims at the Date of Completion.

d) Should the Contractor fail to comply with the directions of the Contract Administrator, the Contract Administrator may, after giving the Contractor forty-eight (48) hours written notice, perform the necessary Work, and the cost may be deducted, or collected by the Owner as provided in the Contract.

e) Notwithstanding the provision of the subsection (a) of this clause, the Contract Administrator may, in cases of danger or public safety, make such immediate arrangements for repairs as he/she sees fit, and the Contract Administrator will inform the Contractor of such action. The cost of such emergency Work shall be borne by the Contractor.

f) If the Contract Administrator notifies the Contractor, in writing, of imperfections prior to the termination of the guarantee period, the Contractor shall make good the imperfections as required in subsection (a) above, notwithstanding that such Work of making good may commence after or extend beyond the end of the guarantee period.

13. EXTRA WORK

a) Extra Work shall be undertaken as described in subsection GC3.10.02 of the General Conditions listed in the OPSS.

b) If applicable tender items are provided in other parts of the Contract, extra Work shall be performed using the appropriate unit prices from these parts.

c) Extra Work shall be paid under the Contingency Allowance.

14. QUANTITY OVERUNS AND UNDERUNS

a) Compensation for quantity over runs and under runs shall be as described in GC 8.01.02 of the General Conditions listed in the OPSS.

15. DAMAGE

a) Any damage to existing infrastructure and neighboring properties shall be repaired by the Contractor to the satisfaction of the Contract Administrator. Any costs associated with the damage shall be borne by the Contractor.

16. UTILITIES

a) The Contractor shall secure locates at no extra cost to the Contract prior to any construction activities.

b) If applicable, the Contractor shall follow the requirements for working with mechanical equipment in the vicinity of any active pipelines when undertaking work within the distances specified by Utility Company.

17. CONSTRUCTION LAYOUT

a) The Contractor will be responsible for the layout of all lines and grades from the plans at no extra cost to the Contract. Control information will be provided to the successful Bidder by R. Dobbin Engineering Inc.

b) All discrepancies are to be reported to the Contract Administrator prior to proceeding with the work. The Contract Administrator will review the layout in the field prior to construction.

18. INCLEMENT WEATHER

a) There will be no compensation for inclement weather other than consideration of an extension for lost time at the end of the Contract that will be at the discretion of the Contract Administrator.

19. ONTARIO PROVINCIAL STANDARDS

a) GENERAL CONDITIONS OF CONTRACT (OPSS.MUNI 100), November 2006 apply to this Contract.

b) THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) and DRAWINGS (OPSD) apply to this contract. All required OPS Specifications can be downloaded at:

http://www.raqsb.mto.gov.on.ca/techpubs/ops.nsf/OPSHomepage

SPECIAL SPECIFICATIONS:

The following Special Specifications form part of the Contract. No additional costs will be made for completing work within these specifications. Payment for work associated with these specifications shall be included in the applicable unit price item.

1. The Contractor shall supply all material, labour, and equipment required to complete the job to the satisfaction of R. Dobbin Engineering Project Manager.

2. **For any questions related to the project please contact Mr. David Moores at 519-331-3675**.

3. R. Dobbin Engineering shall be notified at least **3 days in advance** of arriving onsite to commence construction so that inspection can be arranged. Please Contact Mr. David Moores, Project Manager at 519-331-3675.

4. Geotechnical investigation has not been undertaken within the project limits.

5. The Contractor is responsible to complete the Contract within the schedule specified.

6. If the successful contractor choses bonding as contract security, then the cost of bonding must form part of the overall tender amount.

R. Dobbin Engineering Inc.
4218 Oil Heritage Road
Petrolia, Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233
www.dobbineng.com

June 26, 2025

The Mayor and Council
Municipality of Lambton Shores
9577 Port Franks Road
Thedford, Ontario
N0M 2N0

Re: Kennedy Line Drain

In accordance with your instructions, R. Dobbin Engineering has undertaken an examination with regards to providing a municipal drain to service agricultural drainage along Kennedy Line, west of Northville Road.

Authorization under the Drainage Act

This Engineers Report that has been prepared under Section 4 of the Drainage Act as per a petition from affected Landowners.

R. Dobbin Engineering Inc. was appointed by council on April 30, 2024.

A petition for the drainage by means of a drainage works of an area requiring drainage as described in the petition may be filed with the Clerk of the local Municipality in which the area is situate by,

(a) the majority in number of the owners, as shown by the last revised assessment roll of lands in the area, including the owners of any roads in the area;

(b) the owner or owners, as shown by the last revised assessment roll, of lands in the area representing at least 60 per cent of the hectarage in the area;

(c) where a drainage works is required for a road or part thereof, the engineer, road superintendent or person having jurisdiction over such road or part, despite subsection 61(5);

(d) where a drainage works is required for the drainage of lands used for agricultural purposes, the Director. R.S.O. 1990, c.D.17, s.4(1).

Petition for Drainage Works by Owners using Form 1 was submitted by roll no. 60-18101, roll no. 60-18103, roll no. 60-18102, roll no. 60-18100, roll no. 60-18000, and roll no. 60-18200.

The petitions are determined to be valid based on Section 4 (1)(b).

Onsite Meeting

An Onsite Meeting was held on June 18, 2024.

The following were present at the meeting:

- David Moores (R. Dobbin Engineering)
- Jake Zruna (R. Dobbin Engineering)
- Ryan Griffin (Municipality of Lambton Shores)
- Cody Wilcox (Execulink)
- Eric Bastiaansen (Landowner)
- Frank Smeekens (Landowner)
- Warren McCoy (Landowner)

The following is a brief summary of the meeting:

- General discussion of the Drainage Act and Landowners rights under the Drainage Act.
- Landowners were made aware that a petition was received from surrounding landowners for drainage along Kennedy Line, west of Northville Road.
- Landowners expressed their concerns of drainage along Kennedy Line, that the ditch on the south side of Kennedy Line required cleaning.
- Eric Bastiaansen required an outlet for sub surface drainage on the north side of the road. He outlined that he would be tiling the properties on the north side of Kennedy Line and needed outlet to the ditch on the south side of Kennedy Line. He thought possibility the ditch could be deepened to allow this.
- Eric Bastiaansen also expressed concerns with water ponding in front of roll no. 60-18100 and that the road crossing pipe was too high to take water to the ditch due to a buried utility cable.
- Landowners informed the Engineer that roll no. 60-15000 has a tile drain that runs under Northville Road and outlets into the ditch along Kennedy Line.
- Execulink stated that they have cable on the north side of the road.
- Landowners informed the Engineer that there is a buried collection line from the wind turbines that crosses the road and is located along the top of the south ditch bank on the south side of Kennedy Line.
- Landowners were informed that the area would be surveyed and the utilities would be daylighted.
- Landowners were informed that a Public Consultation Meeting would be held when the report is completed prior to going to Council.

Discussion and Investigation

The area was surveyed and a culvert inspection report was completed. It identified there are three (3) culverts along the ditch on Kennedy Line and two (2) road crossing culverts under Kennedy Line. The open channel is full of sediment and brush and requires work.

Daylighting of utilities took place along Kennedy Line to confirm depths.

The original thought was the ditch along the south side of Kennedy Line could be deepened to accommodate an outlet for roll no. 60-18101. After surveying, it was determined that the ditch would have to be deepened too much, leading to extensive allowances being paid and the north drain bank too close to the road. Therefore, the option chosen was to install a tile drain under the open drain to accommodate sub surface drainage for roll no. 60-18101.

Below is a summary of the condition of the existing culverts:

Culvert Number	Location	Existing Culvert Size	Condition
1	Roll Number 60-18000	6m x 400mm dia. CSP	Fair condition but under sized for the drainage area.
2	Roll Number 60-18000	8m x 700mm dia. CSP	Poor condition with rotted bottom.
3	Roll Number 60-18000	5m x 400mm dia. CSP	Unable to inspect due to water and sediment in culvert. Rust showing above the waterline.

Recommendations

It is therefore recommended that the following work be carried out:

1. The ditch along the south side of Kennedy Line west of Northville Road to the Golden Creek Drain shall be incorporated as a municipal drain and shall be known as the “Kennedy Line Drain”.

2. Open channel improvements including brushing, bottom cleanout, and deepening shall be completed from Station 0+000 to 0+790.

3. A 250mm dia. tile drain shall be installed under the open drain from Station 0+073 to 0+337.

4. Culvert No.1 at Station 0+023 shall be replaced.

5. Culvert No.2 at Station 0+146 shall be replaced. This culvert shall be the primary access to the property.

6. Culvert No.3 shall be incorporated and future replacement specifications developed.

7. A branch drain at Station 0+337 shall be installed from the south side of Kennedy Line to the north side consisting of a 250mm dia. tile drain along and a 300mm dia. surface road crossing pipe. This shall be known as "Branch A".

8. The road crossing pipe at Station 0+707 shall be incorporated as part of the drain with the north section lowered to accept water from the road ditch. This shall be known as "Branch B".

9. Maintenance provisions for future drainage works shall be prepared.

Design

All agricultural and residential culverts have been designed to meet a 1 in 2 yr storm event. The tile drain has been designed to accommodate a drainage coefficient of 37mm in 24 hrs in accordance with the Drainage Guide of Ontario (Publication 29). The tile drain has been designed to have cover of a minimum of 300mm and freeboard of 150mm.

Estimate of Cost

It is recommended that the work be carried out in accordance with the accompanying Specification of Work and the Profile, which form part of this Report. There has been prepared an Estimate of Cost in the amount of $157,825.00 including the cost of engineering. A Plan has been prepared showing the location of the work and the approximate drainage area. An estimate for tendering, inspection, and contract administration has been provided. This estimate includes attendance at the Meeting to Consider and the Court of Revision, but does not include any appearances before appeal bodies beyond the Court of Revision.

Assessment

As per section 21 of the Drainage Act, the Engineer in his report shall assess for benefit and outlet for each parcel of land and road liable for assessment. Lands, roads, buildings, utilities, or other structures that are increased in value or are more easily maintained as a

result of the construction, improvement, maintenance, or repair of a drainage works may be assessed for benefit. (Section 22)

Lands and roads that use a drainage works as an outlet, or for which, when the drainage works is constructed or improved, an improved outlet is provided either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek, or watercourse may be assessed for outlet. The assessment for outlet shall be based on the volume and rate of flow of the water artificially caused to flow into the drainage works from the lands and roads liable for such assessments. (Section 23)

The Engineer may assess for special benefit any lands for which special benefits have been provided by the drainage works. (Section 24)

A Schedule of Assessment for the lands and roads affected by the work and therefore liable for the cost thereof will be prepared as per the Drainage Act. Also, assessments may be made against any public utility or road authority, as per Section 26 of the Drainage Act, for any increased cost for the removal or relocation of any of its facilities and plant that may be necessitated by the construction or maintenance of the drainage works. Items to be assessed under Section 26, as specified, shall be tendered separately with the actual cost plus a portion of the engineering (25% of the construction cost).

The estimated cost of the drainage works has been assessed in the following manner:

1. Open channel works along Kennedy Line from Station 0+000 to 0+337 has been assessed using the equivalent cost of a cleanout with 80% of the cost applied as a benefit assessment to the road authority, 10% of the cost applied as a benefit assessment to roll no. 60-18000 and the remainder assessed to upstream lands and roads as an outlet assessment based on equivalent hectares. The additional costs to deepen the drain and the disposal of excess material to accommodate the tile drain has been assessed to the cost of installing the 250mm diameter tile drain.

2. Open channel work along Kennedy Line from Station 0+337 to 0+790 has been assessed with 70% of the cost applied as a benefit assessment to the road authority, 20% of the cost applied as a benefit assessment split between roll numbers 60-18000 and 60-15000, and the remainder assessed to upstream lands and roads as an outlet assessment based on equivalent hectares.

3. The 250mm dia. tile drain under the open drain from Station 0+073 to 0+337 and the junction box on the north side of Kennedy Line has been assessed with 100% of the cost applied as an outlet assessment to roll numbers 60-18101, 60-18103, 60-18100, and 60-18102.

4. Branch A work except for the junction box on the north side of the road and any utility costs has been assessed with 100% of the cost applied as a special benefit assessment to the road authority under Section 26. This will be tendered separately and the actual cost plus 25% of engineering assessed to the road authority.

5. Branch B works has been assessed with 100% of the cost applied as a special benefit assessment to the road authority under Section 26. This will be tendered separately and the actual cost plus 25% of engineering assessed to the road authority.

6. Culvert No.2 is the primary access to roll no. 60-18000 and shall be assessed with 50% of the cost applied as a benefit assessment to the owner, 17% of the cost assessed to the road authority and the remainder assessed to upstream lands and roads based on equivalent hectares.

7. Culverts No.1 and No.3 have been assessed with 100% of the cost applied as a benefit assessment to the owner of the property as additional culverts to the property.

8. The cost to daylight and survey the utilities in the vicinity of the drain has been assessed 100% of the cost applied as special benefit assessment to each utility under Section 26.

9. The cost to develop the maintenance schedules have been assessed as 100% outlet assessment to upstream lands and roads based on equivalent hectares.

All final costs included in the cost estimate of this report shall be pro-rated based on the Schedule of Assessment, unless otherwise noted above. Any additional costs shall be assessed in a manner as determined by the Engineer.

Allowances

Under section 29 of the Drainage Act, the Engineer in his report shall estimate and allow in money to the Owner of any land that it is necessary to use for the construction or improvement of a drainage works or for the disposal of material removed from a drainage works. This shall be considered an allowance for right of way.

Under section 30 of the Drainage Act, the Engineer shall determine the amount to be paid to persons entitled thereto to damage, if any, to ornamental trees, fences, land, and crops occasioned by the disposal of material removed from a drainage works. This shall be considered an allowance for damages.

Allowances have been made, where appropriate, as per section 30 of the Drainage Act for damages to lands and crops. Allowances for right of way are based on a land value of $37,000.00 per hectare ($15,000.00 per acre). Allowances for crop loss are based on $2,000.00 per hectare for the first year and $1000.00 for the second year ($3,000.00 per hectare total).

In this report, allowances have been made under section 30 for damages to lands occasioned by the operation of excavation equipment to replace the culverts and for access to culverts.

Access and Working Area

Access to the drain for open channel improvements, the installation of culverts and the tile drain shall be from Kennedy Line, using existing laneways and along the length of the drainage works.

The working corridor for the open channel from Station 0+000 to 0+790 shall be from the south side of the drain when along agricultural lands and the north side of the drain when along residential lands.

When working from the south side the working area shall be 15 meters measured from the top of the drain. The working area at each culvert to be replaced, maintained, or repaired either under this Report or in the future shall extend 10 metres on either side of the culvert within the same property or road.

Approvals and Drain Classification

The Kennedy Line Drain is unclassified along its length. The Golden Creek Drain is a Class C Drain.

The proposed improvements and culvert replacements will have very little effect on the drainage works if carried out during low flows in the channel. The work area is to be maintained in a dry condition during construction by the Contractor.

The proposed work will require a permit from the Ausable Bayfield Conservation Authority. A request for review will be sent to the Fisheries and Oceans Canada (DFO). No works can take place until all approvals are received.

Restrictions

No trees and shrubs shall be planted nor shall permanent structures be erected within 10 metres of either side of the proposed drain without prior written permission of Council. If trees are planted that interfere with access for future maintenance of the drainage works, they shall be removed at the expense of the Owner.

Attention is also drawn to sections 80 and 82 of the Drainage Act that refer to the obstruction of a drainage works.

Agricultural Grant

It is recommended that application for subsidy be made for eligible agricultural properties. Any assessments against non agricultural properties are shown separately in the Schedule of Assessment.

Maintenance

The open channel shall be maintained and repaired in accordance with the specifications and drawings contained within this report and assessed out using the Schedule of Maintenance No.1.

The 250mm dia. tile drain under the open channel and the junction box on the north side of Kennedy Line shall be maintained and repaired in accordance with the specifications and drawings contained within this report and assessed out using Schedule of Maintenance No.2.

Culvert No.2 shall be maintained and repaired in accordance with the specifications and drawings contained within this report and assessed out with 50% of the cost applied as a benefit assessment to the owner of the property, 17% of the cost applied as benefit assessment to the road authority, and the remainder of the cost assessed as outlet assessment to upstream lands based on equivalent hectares including the benefiting owner.

Culvert No.1 and No.3 are additional accesses to roll no. 60-18000. Both culverts shall be maintained and repaired in accordance with the specifications and drawings contained within this report and assessed out with 100% of the cost applied as benefit assessment to roll no. 60-18000.

Branch A including the 250mm dia. pipe under the road, the 300mm dia. surface road pipe shall be maintained and repaired in accordance with the specifications and drawings contained within this report with 100% of the costs assessed to the road authority.

Branch B shall be maintained and repaired in accordance with the specifications and drawings contained within this report with 100% of the cost assessed to the road authority.

Trucking of excavated material during maintenance work shall be assessed 100% to the property requesting the material to be removed offsite.

Any extra cost as a result of the location of underground utilities shall be assessed 100% to the utility as per section 26 of the Drainage Act.

If an owner requests an additional length of culvert beyond that specified in this report, the extra cost shall be borne by the owner making the request including the future maintenance and repair. Each property is allowed one access culvert for each municipal drain with any second culvert on the property maintained and repaired 100% by the owner.

These above conditions will apply unless otherwise altered under the provisions of the Drainage Act.

All of the above is submitted for your consideration.

Yours truly,

Josh Warner, P. Eng.

Estimate of Cost

To install a new 250mm diameter tile drain, to replace two access culverts and one road culvert, and open channel improvements along Kennedy Line.

Allowances 3,280.00

	Quantity	Unit	Unit Cost	Total
Station 0+000 to 0+337				
Traffic Control	1	LS	1,000.00	1,000.00
Brushing & Tree Removal	1	LS	500.00	500.00
Open Channel Excavation including resloping south bank as required from Sta. 0+000 to 0+337	337	m	15.00	5,055.00
Supply and Installation of 250mmø HDPE c/w Drainage Stone Bedding to Springline from Sta. 0+073 to 0+337	264	m	120.00	31,680.00
Restoration of the open channel c/w topsoil & hydroseed Sta. 0+015 to 0+337	1	LS	5,000.00	5,000.00
R. & D. of Excess Excavated Material	1	LS	2,500.00	2,500.00
Supply and Install Rip Rap at Outlet Sta. 0+073	15	t	100.00	1,500.00
Supply and Install Rodent Grate Outlet Sta. 0+073	1	LS	200.00	200.00
Environmental Considerations (Silt Fence)	1	LS	150.00	150.00
				47,585.00
Station 0+337 to 0+790				
Brushing & Tree Removal	1	LS	2,000.00	2,000.00
Open Channel Excavation c/w One Bank Resloping Sta. 0+337 to 0+570	233	m	20.00	4,660.00
Open Channel Excavation (Bottom Cleanout Only) Sta. 0+570 to 0+790	220	m	5.00	1,100.00
Strip and Level Topsoil	233	m	5.00	1,165.00
Levelling	453	m	2.00	906.00
Environmental Considerations (Silt Fence)	1	LS	150.00	150.00
				9,981.00
Culvert No. 1 - Station 0+023				
R.& D. Culvert c/w Excess Material	1	LS	600.00	600.00
Supply and Installation of 750mmø HDPE	9	m	650.00	5,850.00
Supply Clearstone Bedding	20	t	40.00	800.00
Place Native Backfill	1	LS	500.00	500.00
Supply Granular "B" Backfill	100	t	30.00	3,000.00
Supply Granular "A" Driveway	20	t	40.00	800.00
Rip Rap Endwalls	15	t	100.00	1,500.00
Environmental Considerations (Silt Fence)	1	LS	100.00	100.00
				13,150.00

	Quantity	Unit	Unit Cost	Total
Culvert No. 2 - Station 0+146				
R.& D. Culvert c/w Excess Material	1	LS	600.00	600.00
Supply and Installation of 750mmø HDPE	9	m	650.00	5,850.00
Supply Clearstone Bedding	20	t	40.00	800.00
Place Native Backfill	1	LS	500.00	500.00
Supply Granular "B" Backfill	60	t	30.00	1,800.00
Supply Granular "A" Driveway	20	t	40.00	800.00
Rip Rap Endwalls	15	t	100.00	1,500.00
Environmental Considerations (Silt Fence)	1	LS	100.00	100.00
				11,950.00
Branch A				
Traffic Control	1	LS	1,000.00	1,000.00
R.& D. Exisitng Road Culvert	1	LS	1,000.00	1,000.00
Daylight and Work Around Utilities	1	LS	3,000.00	3,000.00
Supply and Installation of 300mmø HDPE Road Culvert by Open Cut	13	m	250.00	3,250.00
Supply and Installation of 250mmø HDPE Tile by Open Cut	18	m	200.00	3,600.00
Supply and Installation of 250mmø HDPE 45-degree elbows	2	Ea	500.00	1,000.00
Supply and Installation of 450mmø HDPE Junction Box c/w Lid and Connections	1	Ea	1,200.00	1,200.00
Supply Clearstone Bedding	30	t	40.00	1,200.00
Place Native Backfill	1	LS	1,000.00	1,000.00
Supply Granular "A" Backfill	100	t	40.00	4,000.00
Supply Rip Rap endwalls on Road Culvert	15	t	125.00	1,875.00
Restoration c/w Topsoil and Hydroseed	1	LS	500.00	500.00
				22,625.00
Branch B				
Excavate and Lower North end of Road Culvert	1	LS	1,000.00	1,000.00
Supply Clearstone Bedding	10	t	40.00	400.00
Restoration & Reshape Road Ditch on North Side	1	LS	500.00	500.00
Rip Rap Endwalls	15	t	125.00	1,875.00
				3,775.00
Contingency				5,800.00
Sub Total				118,146.00
Engineering				19,410.00
Future Maintenance Schedule				1,000.00
Future Culvert Specifications				500.00
Surveying & Daylighting Utilities				5,100.00
Tendering, Inspection & Contract Admin.				11,000.00
Total Estimate excluding HST				155,156.00
Non-Recoverable HST (1.76%)				2,670.00
Total Estimate				**$157,826.00**

Kennedy Line Drain
Municipality of Lambton Shores
June 26, 2025

SPECIFICATION OF WORK

1. Scope of Work

The work includes the replacement of two (2) access culverts, the installation of 264 meters of 250mm dia. HDPE pipe, the improvement of two (2) road crossing culverts, open channel improvements including brushing, cleanout, and deepening, and future specifications for the drain in the Municipality of Lambton Shores.

2. General

Each tenderer must inspect the site prior to submitting their tender and satisfy themselves by personal examination as to the local conditions that may be encountered during this project. The Contractor shall make allowance in the tender for any difficulties which they may encounter. Quantities or any information supplied by the Engineer is not guaranteed and is for reference only.

All work and materials shall be to the satisfaction of the Drainage Superintendent who may vary these specifications as to minor details but in no way decrease the proposed capacity of the drain.

The Contractor shall be responsible for the notification of all utilities prior to the start of construction.

3. Plans and Specifications

These specifications shall apply and be part of the contract. This specification of work shall take precedence over all plans and general conditions pertaining to the contract. The Contractor shall provide all labour, equipment, and supervision necessary to complete the work as shown in the plans and described in these specifications. Any work not described in these specifications shall be completed according to the Ontario Provincial Standard Specifications and Standard Drawings.

4. Health and Safety

The Contractor at all times shall be responsible for health and safety on the worksite including ensuring that all employees wear suitable personal protective equipment including safety boots and hard hats.

The Contractor shall be responsible for traffic control as per the Ontario Traffic Manual Book 7 – Temporary Conditions (latest revision) when working on public road allowances. A copy of a traffic control plan shall be kept on site at all times. The Contractor shall maintain suitable barricades, warning lights, and temporary traffic notices, at his expense, in their proper position to protect the public both day and night. Flagmen are the responsibility of the Contractor when working on the road allowance and when entering or exiting a worksite onto a roadway.

The Contractor shall be responsible to ensure that all procedures are followed under the Occupational Health and Safety Act to ensure that work sites are safe and that accidents are prevented. In the event of a serious or recurring problem, a notice of noncompliance will be issued. The Contractor will be responsible for reacting immediately to any deficiency and correcting any potential health and safety risk. Continuous disregard for any requirement of the Occupational Health and Safety Act could be cause for the issuance of a stop work order or even termination of the contract.

The Contractor shall also ensure that only competent workers are employed onsite and that appropriate training and certification is supplied to all employees.

Kennedy Line can be closed for the duration of the work.

5. Workplace Safety and Insurance Board

The Contractor hereby certifies that all employees and officers working on the project are covered by benefits provided by the Contractor. The WSIB clearance certificate must be furnished prior to the execution of the Contract and updated every 60 days.

6. Weather Conditions

Work shall be carried out under this Report and completed within the agreed upon Schedule as permitted by weather. The Engineer or the Drainage Superintendent reserves the right to restrict construction and access to the site based on the weather and ground conditions.

7. Access and Working Area

Access to the drain for open channel improvements, the installation of culverts and the tile drain shall be from Kennedy Line, using existing laneways and along the length of the drainage works.

The working corridor for the open channel from Station 0+000 to 0+790 shall be from the south side of the drain when along agricultural lands and the north side of the drain when along residential lands.

When working from the south side the working area shall be 15 meters measured from the top of the drain. The working area at each culvert to be replaced, maintained, or repaired either under this Report or in the future shall extend 10 metres on either side of the culvert within the same property or road.

8. Removal of Access Culverts

Access culverts set for replacement shall be removed in their entirety from the open channel. The steel culverts and end treatment shall be disposed offsite at the expense of the Contractor. All material shall be disposed offsite at the expense of the Contractor in accordance with all provincial laws and legislation.

9. Access Culverts

This item shall apply to the proposed access culvert replacements along the length of the drainage works:

<u>CULVERTS TO BE REPLACED IN THE FUTURE</u>:

Culvert No.3 (Station 0+544) – roll no. 60-180 consists of 5.0 metres of 400 mm diameter corrugated steel pipe with jute bag endwalls and a gravel drive. The pipe shall be replaced in the future with 9.0 metres of 600 mm diameter HDPE pipe with rip rap endwalls, full granular backfill, and a gravel drive.

<u>CULVERTS TO BE REPLACED UNDER THIS REPORT</u>:

Culvert No. 1 (Station 0+023) – roll no. 60-180 consists of 6.0 metres of 400 mm diameter corrugated steel pipe with earthen endwalls and a gravel drive. The pipe shall be replaced with 9.0 metres of 750 mm diameter HDPE pipe with rip rap endwalls, full granular backfill, and a gravel drive.

Culvert No. 2 (Station 0+146) – roll no. 60-180 consists of 8.0 metres of 700 mm diameter corrugated steel pipe with rip rap endwalls and a gravel drive. The pipe shall be replaced with 9.0 metres of 750 mm diameter HDPE pipe with rip rap endwalls, full granular backfill, and a gravel drive.

Culverts shall be HDPE smooth wall pipe (320 kPa) CSA approved, either bell and spigot or manufactured couplings.

The proposed access culverts shall be installed in the same general location as the existing access culverts. The culvert shall be installed with the invert 10% (minimum 150mm) below the proposed channel bottom elevation and to grade shown on the Profile.

If an owner requests a longer culvert than that specified above, please refer to the report. The culvert lengths are based on using rip rap endwalls. If concrete block endwalls are to be utilized now or in the future, the culverts may be shortened, but a minimum travel width of 6.1 meters is required.

The culvert may be moved upstream or downstream as necessary to avoid existing tile outlets. If they cannot be avoided the pipes shall be extended downstream of the proposed culvert and shall be done with non-perforated HDPE agricultural tubing with a manufactured coupling, elbow and rodent grate. Any tile outlets extended as a result of extra length requested by an owner shall be extended at the owner's expense.

The bottom of the excavation shall be excavated to the required depth with any over excavation backfilled with granular material or drainage stone. When the pipe has been installed to the proper grade and depth, the excavation shall be backfilled with clearstone from 100mm below the bottom of the pipe up to the springline of the pipe. Care shall be taken to ensure that the backfill on either side of the culvert does not differ by more than 300 mm so that the pipe is not displaced. The access culverts shall be backfilled from the springline with granular "B" to within 150mm of finished grade. The top 150mm for access culverts shall be backfilled with compacted granular "A" material to finished grade.

All backfill shall be free from deleterious material. All granular material shall be mechanically compacted to 98% modified standard proctor density. All backfill material above the springline shall be mechanically compacted using appropriate compaction equipment.

The culverts shall be installed as per manufacture recommendations with a minimum cover of 300mm over top of the pipe measured from the top of the culvert to finished

grade. It shall be the responsibility of the contractor to ensure the culvert has no traffic on it until the minimum cover is met.

End protection shall be rip rap quarry stone placed with a minimum slope of 1.5:1. The rip rap shall consist of 150 mm x 300 mm quarry stone or approved equal. The area to receive the rip rap shall be graded to a depth of 450mm below finished grade. Filter fabric (Terrafix 250R or approved equal) shall then be placed with any joints overlapped a minimum 600mm. The quarry stone shall then be placed with the smaller pieces placed in the gaps and voids to give it a uniform appearance.

10. Brushing

All brush, trees, woody vegetation, cattails, phragmites, etc. shall be removed from the sideslopes of the existing channel within 1.5 metres of the top of the bank. Trees and brush in the channel bottom shall be removed in their entirety including stumps and disposed offsite. Trees and brush on the sideslopes shall be close cut.

It is recommended that a mechanical grinder attached to an excavator be used for the removal of brush and trees. Any brush and trees too large to grind shall be close cut with the logs and brush disposed offsite by the Contractor. The Contractor shall be responsible for obtaining all necessary permits for any disposal sites.

Certain trees may be left in place at the direction of the Drainage Superintendent. Any trees to be salvaged by the individual landowners shall be removed by the landowners with all resulting brush and branches cleaned up prior to the start of construction. If the Contractor agrees to remove any trees and set them aside for a landowner, the landowner will be responsible for any cleanup as above.

11. Open Channel Excavation

The open channel shall be excavated to the grade line and elevations shown on the attached profile. A laser or similar approved device with a labourer onsite to ensure correctness of grade and to confirm location of tile ends.

From Station 0+000 to 0+570 the drain shall be deepened and widened as required from the south side. From Station 0+570 to 0+790 a bottom cleanout is required.

From Station 0+000 to 0+337 the drain shall be completed along with the installation of the tile drain. The open channel shall be reshaped after the tile has been installed. Any excess material shall be trucked off site to a location determined by the contractor in accordance with municipal, provincial and federal legislations.

From Station 0+337 to 0+790 the excavated material shall be cast at least 1.5 metres clear of the top of the bank. Prior to excavating the channel, the topsoil shall be stripped back from Station 0+337 to 0+570 to allow for placement of the ditch spoil as the drain is being deepened in this location. After the drain has been dug and excavated material levelled, then the topsoil shall be spread over the spoil. From Station 0+570 to 0+790 the excavated material shall be spread back and levelled to a maximum depth of 150 mm along agricultural lands.

Excavated material shall not be placed in low runs or swales outletting surface water to the channel. Stones and large branches shall be removed and disposed offsite and shall not be buried when the excavated material is spread.

12. Tile Drain

This item shall apply to the 250mm dia. HDPE pipe installed under the open channel drain from Station 0+073 to 0+337.

The tile drain shall be 264 meters of 250mm dia. HDPE smooth wall pipe, 320 kPa and CSA approved with bell and spigot joints.

The pipe shall be installed in the bottom of the existing open channel on the south side of Kennedy Line. The pipe shall be installed to the required depth with any over excavation backfilled with pea stone or 19mm clearstone. When the pipes have been installed to the proper grade and depth, the excavation shall be backfilled with clearstone from 100mm below the bottom of the pipe up to the springline of the pipe. Care shall be taken to ensure that the backfill on either side of the culvert does not differ by more than 300 mm so that the pipe is not displaced. The pipe can then be backfilled with native material ensuring a minimum of 300mm cover. In the location of Culvert No.2, the pipe shall be backfilled above the springline to the underside of the 750mm HDPE pipe with pea stone of 19mm clearstone.

Restoration shall include 100mm of screened topsoil spread over the open channel and hydroseeded after the drain has been reshaped as required.

13. Branch A

This item shall apply to the work under Kennedy Line from Station 0+337 = 1+000 to 1+018. Branch A shall consist of 18 meters of 250mm dia. HDPE pipe, 13 meters of 300mm dia. HDPE surface pipe, and a 450mm junction box at Station 1+018. All works shall be completed as per Drawing 5 of 7.

The pipe shall be HDPE smooth wall pipe 320 kPa and CSA approved with bell and spigot joints.

The pipe shall be installed to the required depth with any over excavation backfilled with pea stone or 19mm clearstone. When the pipes have been installed to the proper grade and depth, the excavation shall be backfilled with clearstone from 100mm below the bottom of the pipe up to the springline of the pipe. Care shall be taken to ensure that the backfill on either side of the culvert does not differ by more than 300 mm so that the pipe is not displaced. Both pipes shall be backfilled from the springline to finished grade with granular "A". Native material can be used outside the shoulder of the road. Any excess material shall be disposed offsite to a location determined by the contractor.

A junction box shall be installed at Station 1+018 and shall be a 450mm dia. HDPE pipe installed vertically set on a layer or pea stone or 19mm clear stone and a 600mm x 600mm patio stone. They shall be installed on the 250mm dia. pipe with one located at the property line of roll no. 60-18101 and one in the drain bottom on the south side of Kennedy Line. Connections to the junction boxes shall wrapped with filter cloth and cemented inside and outside.

At Station 0+337 = 1+000 under the open channel on the south side of Kennedy Line, two 250mm diameter 45-degree elbows shall be used to direct the pipe west. The 45-degree elbows shall be HDPE manufactured elbows, CSA approved.

End protection shall be installed on the 300mm dia. HDPE pipe. It shall consist of rip rap quarry stone placed with a minimum slope of 1.5:1. The rip rap shall consist of 150 mm x 300 mm quarry stone or approved equal. The area to receive the rip rap shall be graded to a depth of 450mm below finished grade. Filter fabric (Terrafix 250R or approved equal) shall then be placed with any joints overlapped a minimum 600mm. The quarry stone shall then be placed with the smaller pieces placed in the gaps and voids to give it a uniform appearance.

The road side ditch on the north side of Kennedy Line shall be regraded as required with the flow of water toward the 300mm dia. HDPE pipe crossing.

14. Branch B

Branch B consists of 13 meters of 300mm dia. HDPE under Kennedy Line at Station 0+707. All works shall be completed as per Drawing 6 of 7.

The north portion of road crossing shall be lowered as required to match the grade of the ditch on the north side of Kennedy Line. There is a 50mm fibre line that may have to dug back and lowered to accommodate the road crossing.

End protection shall be installed on both sides of the road. It shall consist of rip rap quarry stone placed with a minimum slope of 1.5:1. The rip rap shall consist of 150 mm x 300 mm quarry stone or approved equal. The area to receive the rip rap shall be graded to a depth of 450mm below finished grade. Filter fabric (Terrafix 250R or approved equal) shall then be placed with any joints overlapped a minimum 600mm. The quarry stone shall then be placed with the smaller pieces placed in the gaps and voids to give it a uniform appearance.

The road side ditch on the north side of Kennedy Line shall be regraded between the road crossing pipe and Northville Road ditch as required with the flow of water toward the 300mm dia. HDPE pipe crossing.

15. Silt Fence

The Contractor shall maintain a dry working area during construction. The Contractor shall install a silt fence downstream of the work area.

The silt fence shall consist of filter fabric or manufactured silt fence supported with posts (OPSD 219.110). The silt fence shall remain in place until construction is complete. Any sediment that has collected upstream of the silt fence shall be removed prior to the removal of the silt fence.

Silt fences are generally to be installed downstream of the working area or as directed by the Engineer or Drainage Superintendent.

16. Environmental Considerations

The Contractor shall take care to adhere to the following considerations.

- Operate machinery in a manner that minimizes disturbance to the banks of the watercourse.

- Erosion and sediment control measures must be installed prior to construction to prevent sediment from entering the water body.

- All granular and erosion control materials shall be stockpiled a minimum of 1.5 metres from the top of the bank or excavation. Material shall not be placed in surface water runs or open inlets that enter the channel.

- All activities, including maintenance procedures, shall be controlled to prevent the entry of petroleum products, debris, rubble, concrete, or other deleterious substances into the water. Vehicle and equipment refuelling and maintenance shall be conducted away from the channel, any surface water runs, or open inlets. All waste materials shall be stockpiled well back from the top of the bank and all surface water runs and open inlets that enter the drain.
- When possible, all construction within the open channel shall be carried out during periods of low flow or in dry conditions.

- The Contractor shall conduct regular inspections and maintain erosion and sediment control measures and structures during the course of construction.

- The Contractor shall repair erosion and sediment control measures and structures if damage occurs.

- The Contractor shall remove non-biodegradable erosion and sediment control materials once site is stabilized.

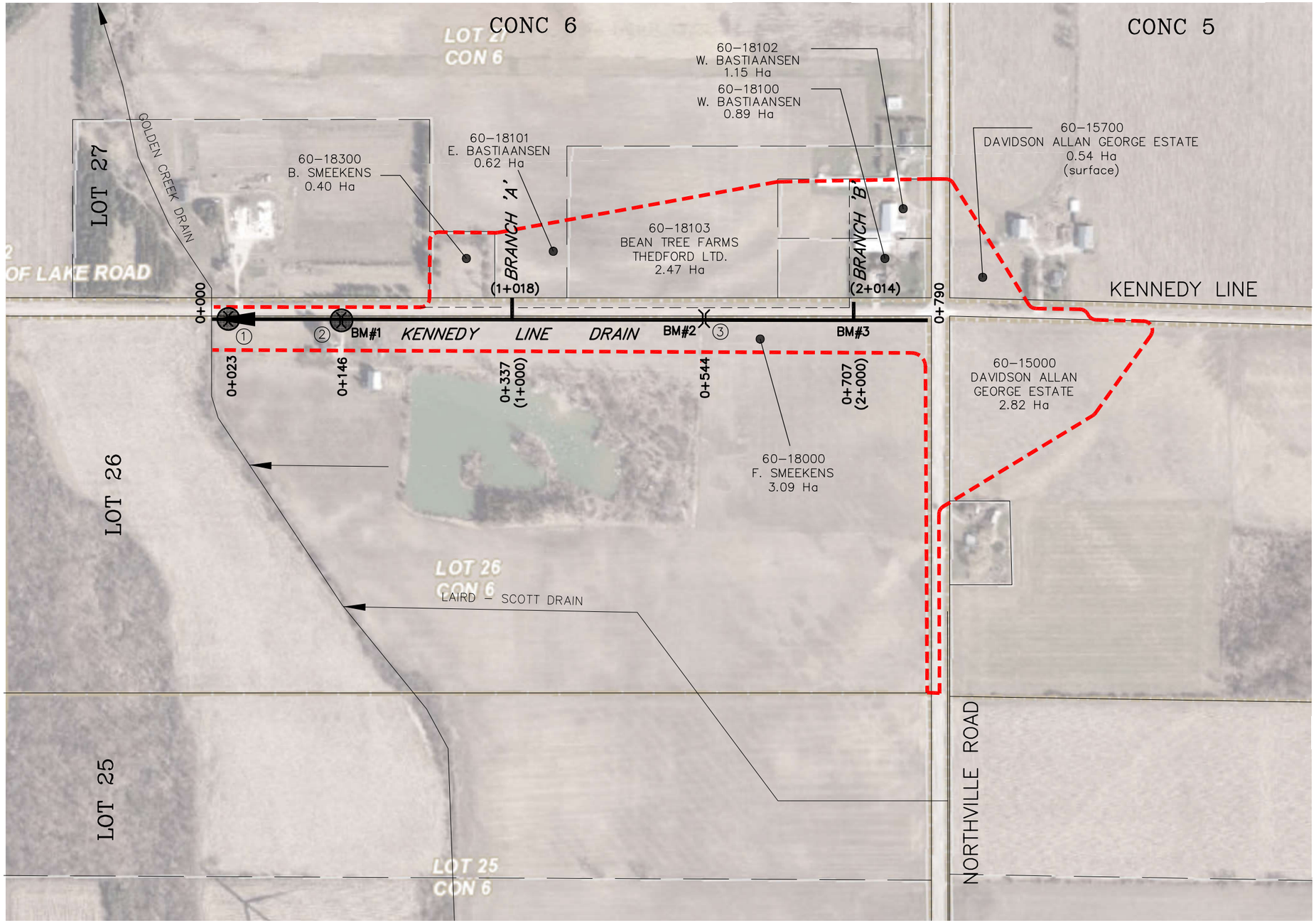
- Remove all construction materials from site upon project completion.

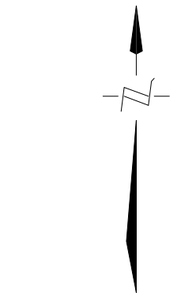
17. Benchmarks

The benchmarks are based on geodetic elevations. Elevations are available at the culvert locations shown on the profile drawings. Where these elevations are on existing structures to be replaced, they shall be moved prior to the removal of the culverts. Prior to construction, it is the responsibility of the contractor to preform a benchmark loop and report any discrepancies to the Engineer or Drainage Superintendent.

18. Miscellaneous

Any fences that must be removed to allow construction or maintenance shall be reinstalled by the Contractor using the existing materials





LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 26/25
PROVINCE OF ONTARIO

LEGEND

- DRAINAGE AREA
- KENNEDY LINE DRAIN
- MUNICIPAL DRAIN
- EXISTING CULVERT
- ① CULVERT NUMBER
- EXISTING CULVERT TO BE REPLACED

Dobbin Engineering Inc.
4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:
Kennedy Line Petition Drain Plan

PROJECT No.
2024–1624

APPROVED
J. WARNER

CHECKED
D. MOORES

DRAWN
C. SAUNDERS

NO.	REVISIONS	DATE	BY
1	FINAL REPORT	JUNE 26, 2025	CS

SCALE 1:5,000
0 40 80 120m

MUNICIPALITY of LAMBTON SHORES

KENNEDY LINE DRAIN
PLAN

1
OF 7

Last Updated: June 24, 2025

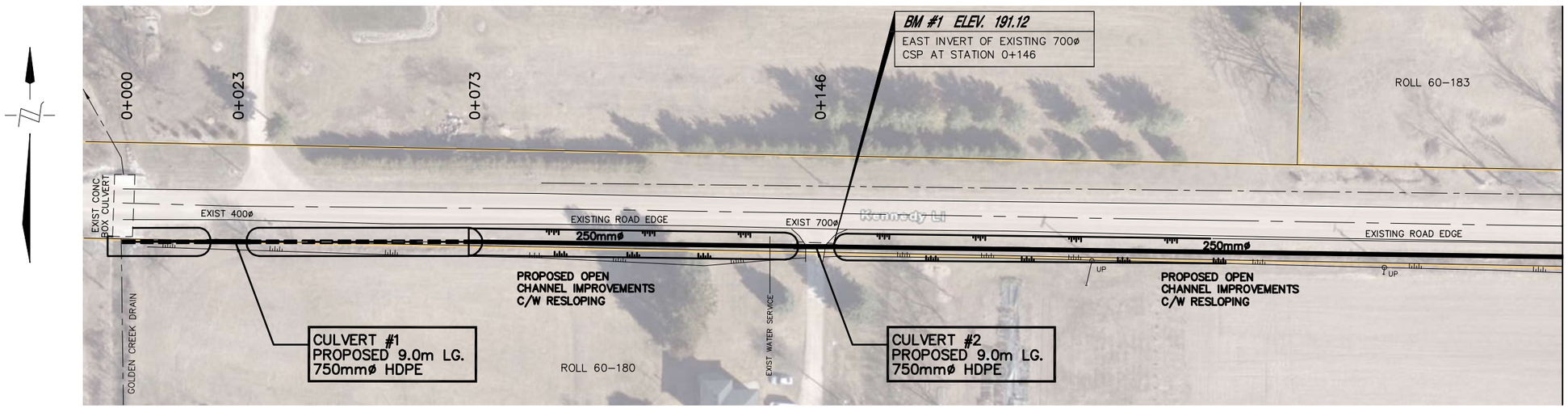
GENERAL NOTES

1. UPPER NUMBERS NOT IN BRACKETS ARE DEPTH FROM TOP OF BANK TO BOTTOM OF NEW CHANNEL.

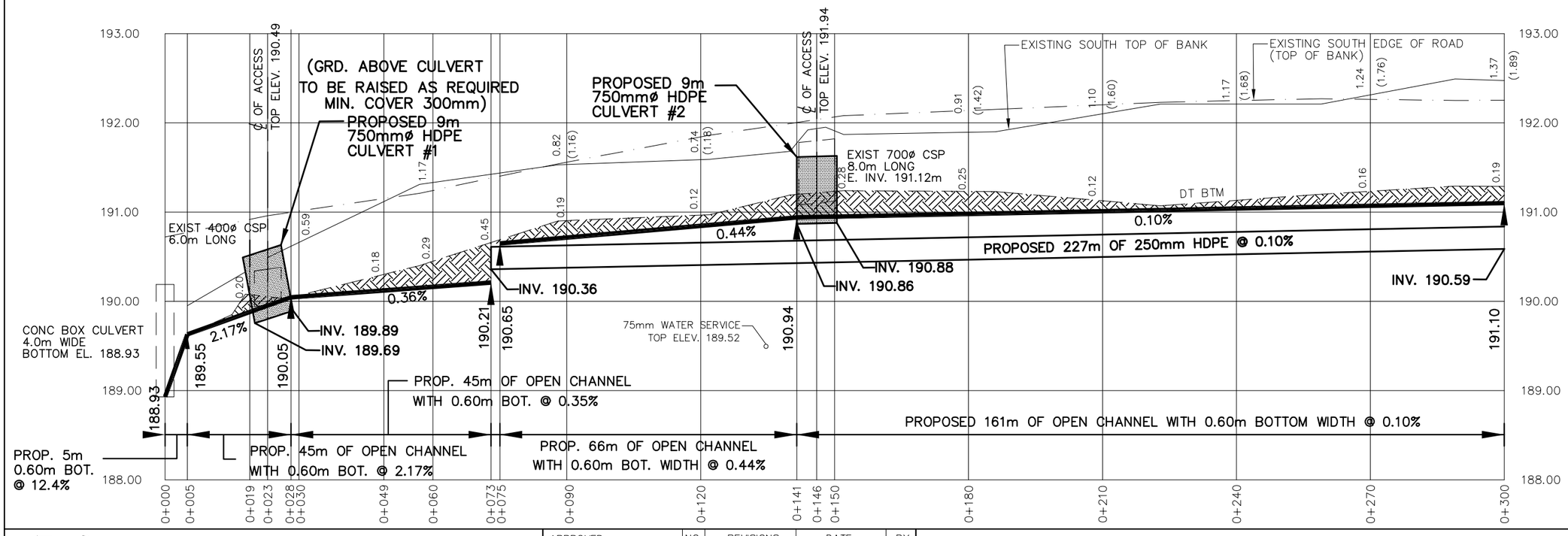
UPPER NUMBERS IN BRACKETS ARE DEPTH FROM TOP OF BANK TO INVERT OF PROPOSED TILE.

LOWER NUMBERS ARE DEPTH FROM TOP OF SEDIMENT TO PROPOSED DRAIN BOTTOM.

LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 26/25
PROVINCE OF ONTARIO



KENNEDY LINE



Dobbin Engineering Inc.
4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME: Kennedy Line Drain Plan & Profile 1

PROJECT No. 2024-1624

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	JUNE 26, 2025	DM
D. MOORES				
DRAWN				
C. SAUNDERS				

SCALE 1: 1000

0 10 20 30m

MUNICIPALITY of LAMBTON SHORES

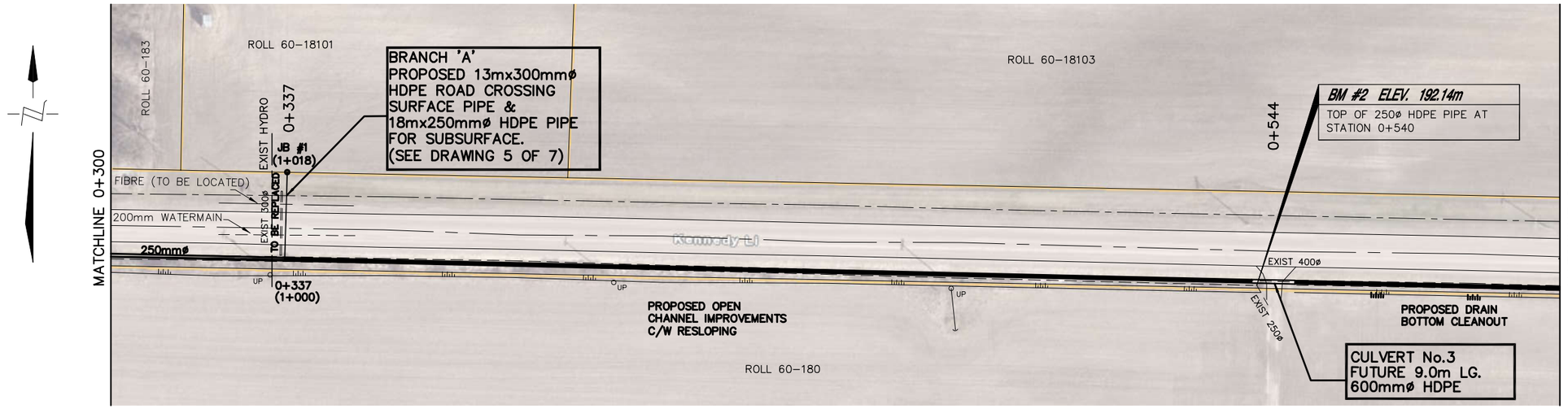
KENNEDY LINE DRAIN
PLAN & PROFILE

2
OF 7

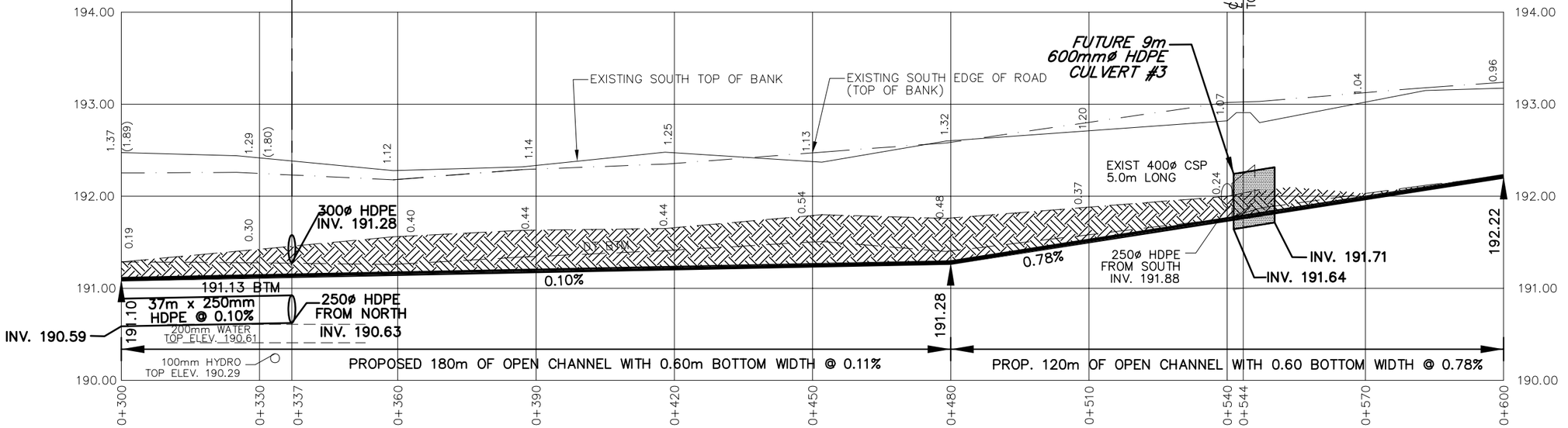
Last Updated: June 24, 2025

GENERAL NOTES

1. UPPER NUMBERS NOT IN BRACKETS ARE DEPTH FROM TOP OF BANK TO BOTTOM OF NEW CHANNEL. UPPER NUMBERS IN BRACKETS ARE DEPTH FROM TOP OF BANK TO INVERT OF PROPOSED TILE. LOWER NUMBERS ARE DEPTH FROM TOP OF SEDIMENT TO PROPOSED DRAIN BOTTOM.



KENNEDY LINE



Dobbin Engineering Inc.
4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2333

DRAWING NAME: Kennedy Line Drain Plan & Profile 2

PROJECT No. 2024-1624

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	JUNE 26, 2025	DM
D. MOORES				
DRAWN C. SAUNDERS				

SCALE 1: 1000

0 10 20 30m

MUNICIPALITY of LAMBTON SHORES

KENNEDY LINE DRAIN PLAN & PROFILE

3 OF 7

Last Updated: June 24, 2025

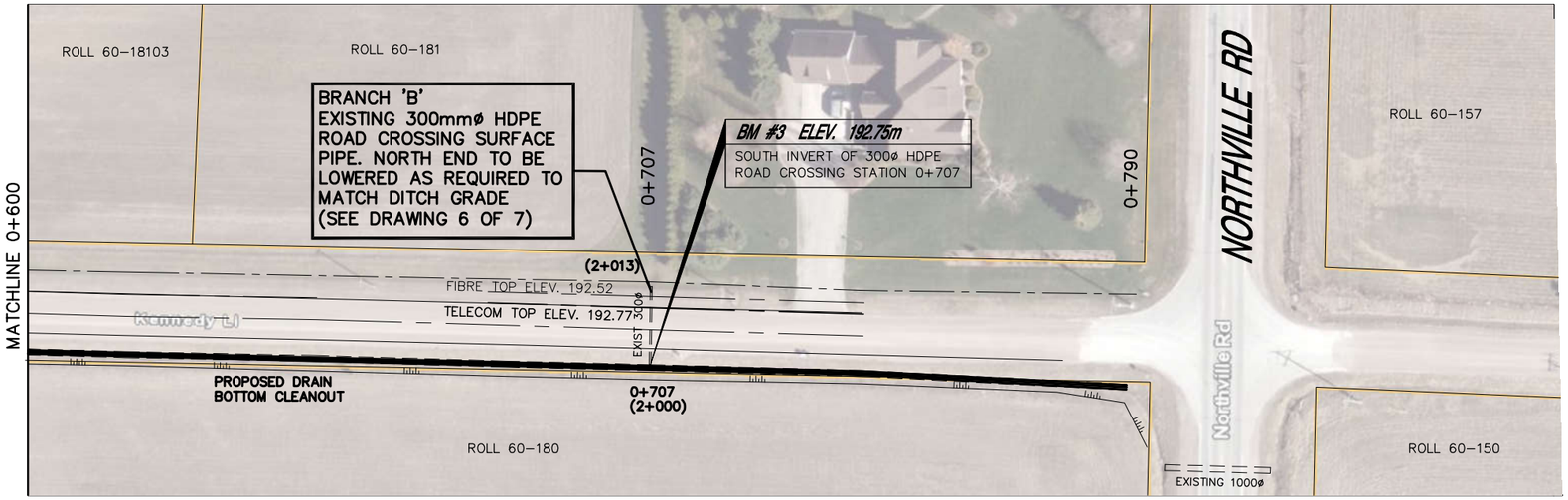
LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 26/25
PROVINCE OF ONTARIO

GENERAL NOTES

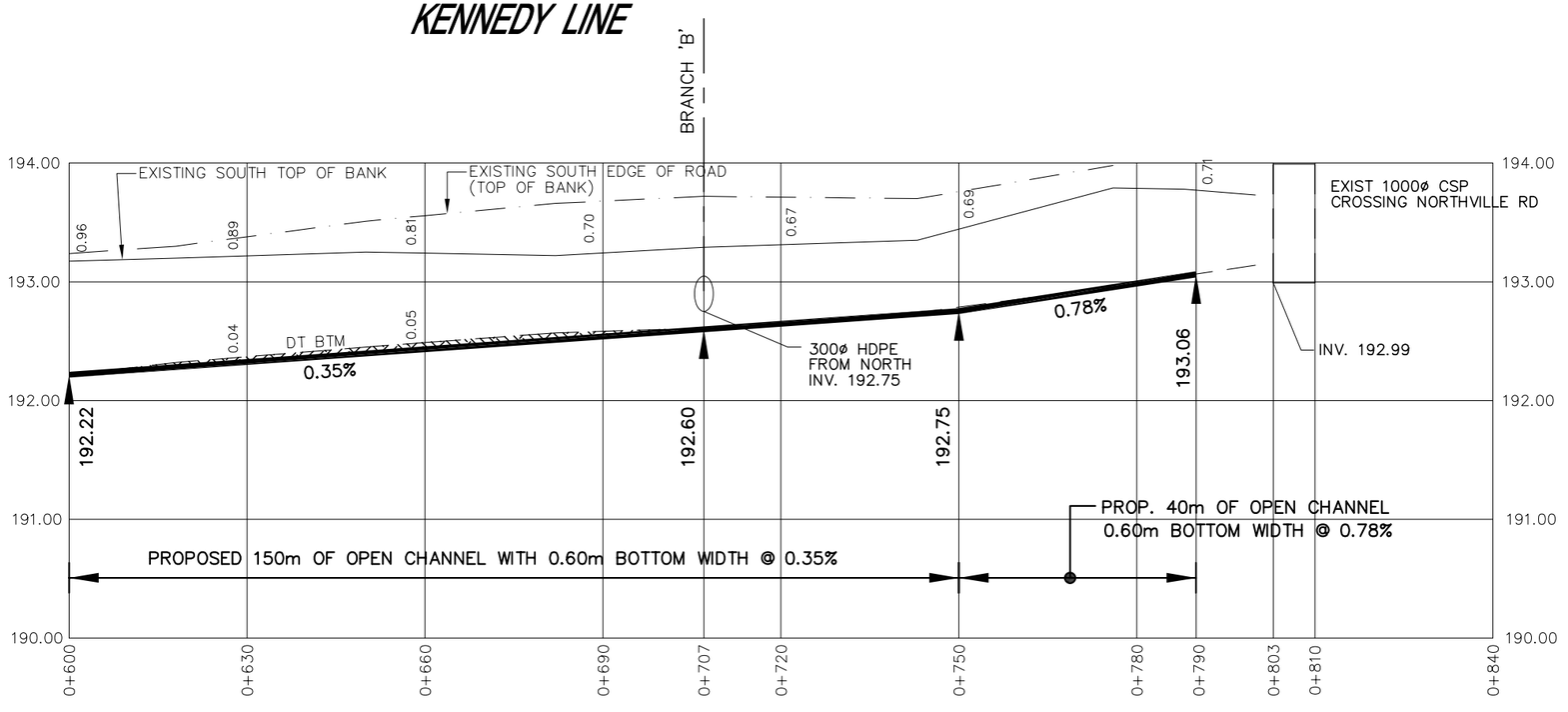
1. UPPER NUMBERS NOT IN BRACKETS ARE DEPTH FROM TOP OF BANK TO BOTTOM OF NEW CHANNEL.

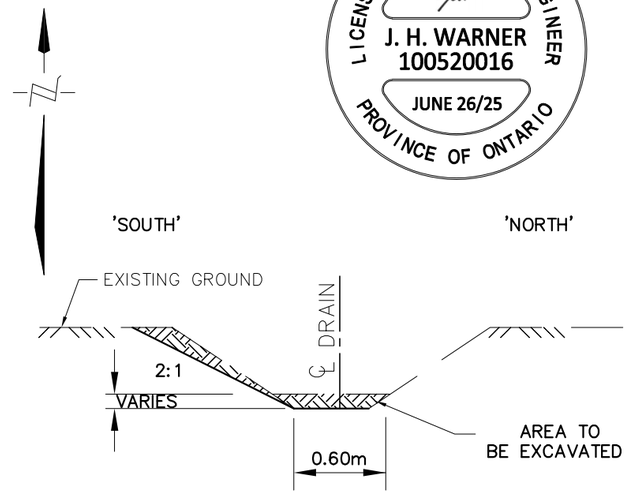
UPPER NUMBERS IN BRACKETS ARE DEPTH FROM TOP OF BANK TO INVERT OF PROPOSED TILE.

LOWER NUMBERS ARE DEPTH FROM TOP OF SEDIMENT TO PROPOSED DRAIN BOTTOM.



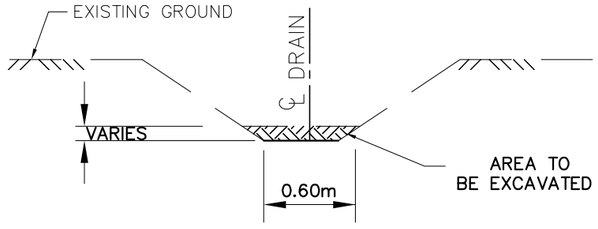
KENNEDY LINE





TYPICAL DRAIN CROSS SECTION
RESLOPE SOUTH BANK
(STA. 0+019 TO 0+570)

NTS



TYPICAL DRAIN CROSS SECTION
BTM CLEANOUT ONLY
(STA. 0+540 TO 0+790)

NTS

LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 26/25
PROVINCE OF ONTARIO

Dobbin Engineering Inc.
4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME: Kennedy Line Drain Plan & Profile 3

PROJECT No. 2024-1624

APPROVED J. WARNER	NO.	REVISIONS	DATE	BY
CHECKED D. MOORES	1	FINAL REPORT	JUNE 26, 2025	DM
DRAWN C. SAUNDERS	SCALE 1: 1000			

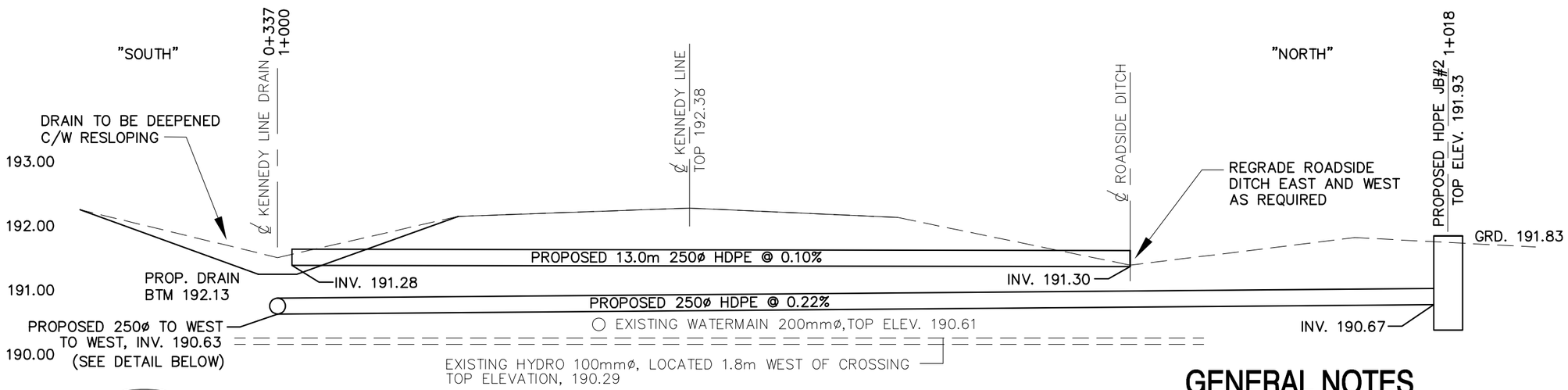
0 10 20 30m

MUNICIPALITY of LAMBTON SHORES

KENNEDY LINE DRAIN
PLAN & PROFILE

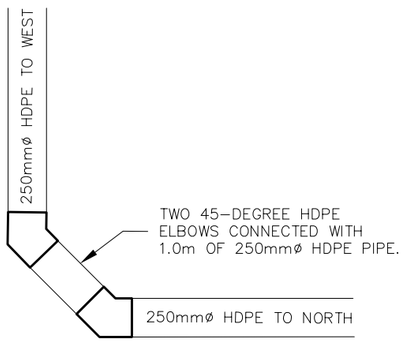
4
OF 7

Last Updated: June 24, 2025



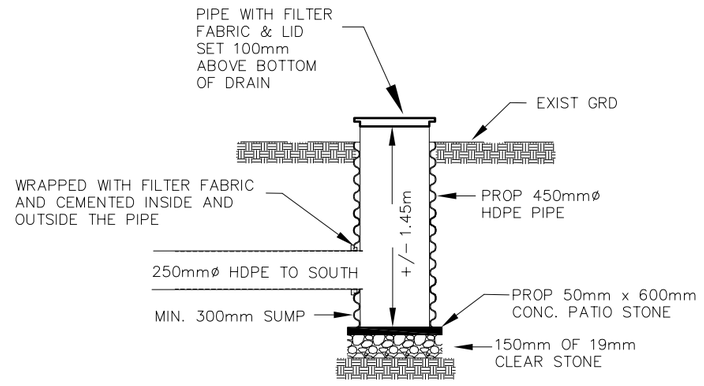
BRANCH 'A' ROAD CROSSING DETAIL

LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 26/25
PROVINCE OF ONTARIO



DETAIL (STA 0+337)

NTS



JB DETAIL

NTS

BM #3 ELEV. 192.75m

SOUTH INVERT OF 300mm HDPE ROAD CROSSING AT STATION 0+707

GENERAL NOTES

1. BRANCH 'A':

   18m X 250mm DIA. HDPE PIPE CONNECTED TO A ROUND HDPE JUNCTION BOX ON NORTH AND 2 X 45 DEG. HDPE ELBOWS

   13m X 300mm DIA. HDPE PIPE INSTALLED FROM NORTH ROAD DITCH TO KENNEDY LINE DRAIN, C/W RIP RAP ENDWALLS

   JB SHALL BE 450mm DIA. HDPE PIPE INSTALLED VERTICAL 100mm ABOVE GRD. OR DRAIN BTM. BEDDED AND SET ON A PATIO STONE

2. MATERIALS:

   HDPE SHALL BE 320 KPA, CSA APPROVED, BELL & SPIGOT

   JB LIDS SHALL BE 450mm FLAT STEEL OR IRON SECURED IN PLACE

   RIP RAP QUARRY STONE SHALL BE 150mm X 300mm 450mm THICK

2. BACKFILL:

   BEDDING – DRAINAGE PEASTONE OR 19mm CLEARSTONE 100mm BELOW PIPE UP TO 300mm ABOVE PIPE

   GRANULAR A INSTALLED TO FINISH GRADE IN ROAD AND 1m OUTSIDE ROAD

   NATIVE MATERIAL INSTALLED OUTSIDE THE 1m C/W TOPSOIL AND HYDROSEED

   REUSE EXISTING MATERIALS

NOTE:
ALL GRANULARS COMPACTED
TO 98% MODIFIED PROCTOR DENSITY

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DRAWING NAME: Kennedy Line Drain Branch 'A' Details
PROJECT No. 2024-1624

APPROVED J. WARNER
CHECKED J. WARNER
DRAWN D. MOORES

NO.	REVISIONS	DATE	BY
1	FINAL REPORT	JUNE 26, 2025	DM

SCALE 1:75
0 2m

MUNICIPALITY of LAMBTON SHORES

KENNEDY LINE DRAIN
BRANCH 'A' DETAILS

Last Updated: June 24, 2025

GENERAL NOTES

1. BRANCH 'A':

   13m X 300mm DIA. HDPE PIPE INSTALLED FROM NORTH ROAD DITCH TO KENNEDY LINE DRAIN, C/W RIP RAP ENDWALLS

   NORTH SECTIONS TO BE LOWERED AS REQUIRED TO ACHIEVE POSITIVE GRADE AND MATCH NORTH ROAD DITCH INVERT

2. MATERIALS:

   HDPE SHALL BE 320 KPA, CSA APPROVED, BELL & SPIGOT

   RIP RAP QUARRY STONE SHALL BE 150mm X 300mm 450mm THICK

   REUSE EXISTING MATERIALS

3. BACKFILL:

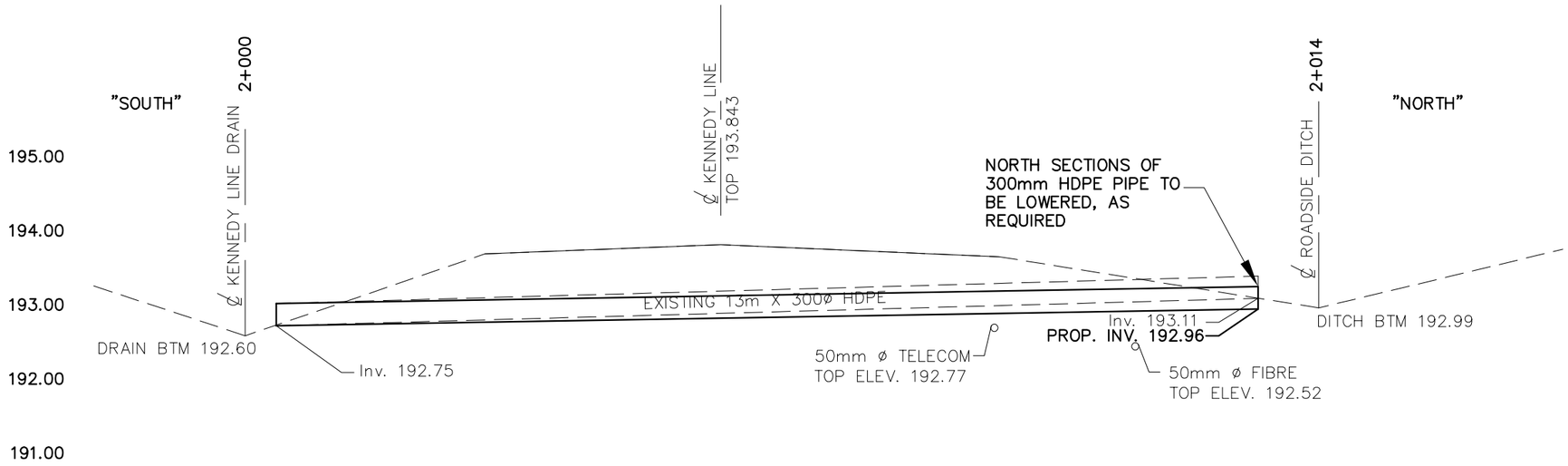
   BEDDING – DRAINAGE PEASTONE OR 19mm CLEARSTONE 100mm BELOW PIPE UP TO 300mm ABOVE PIPE

   GRANULAR A INSTALLED TO FINISH GRADE IN ROAD AND 1m OUTSIDE ROAD

   NATIVE MATERIAL INSTALLED OUTSIDE THE 1m C/W TOPSOIL AND HYDROSEED

BM #3 ELEV. 192.75m
SOUTH INVERT OF 300mm HDPE ROAD CROSSING AT STATION 0+707

LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 26/25
PROVINCE OF ONTARIO



BRANCH 'B' ROAD CROSSING DETAIL

NOTE:
ALL GRANULARS COMPACTED TO 98% MODIFIED PROCTOR DENSITY

Dobbin Engineering Inc.
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DRAWING NAME: Kennedy Line Drain Branch 'B' Details
PROJECT No. 2024–1624

APPROVED J. WARNER
CHECKED J. WARNER
DRAWN D. MOORES

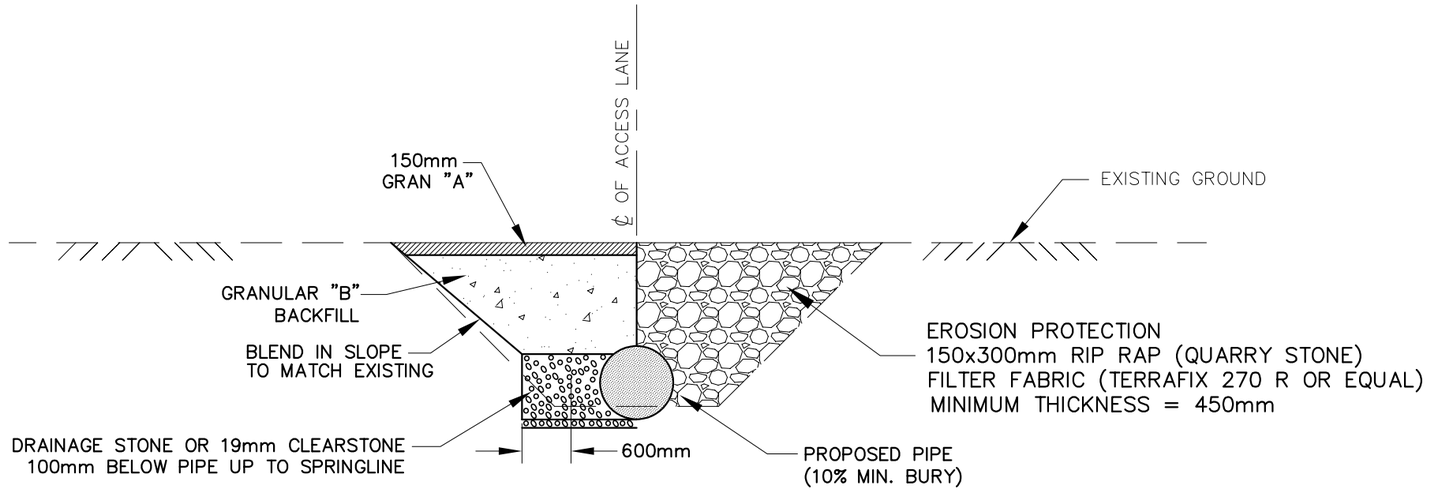
NO.	REVISIONS	DATE	BY
1	FINAL REPORT	JUNE 26, 2025	DM

SCALE 1:75
0 2m

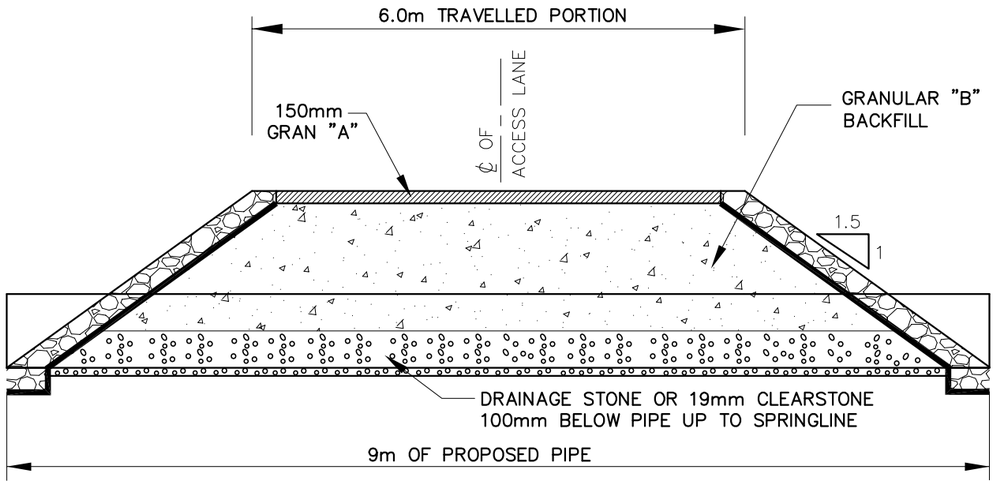
MUNICIPALITY of LAMBTON SHORES

KENNEDY LINE DRAIN
BRANCH 'B' DETAILS

Last Updated: June 24, 2025



PROPOSED PIPE END SECTION



PROPOSED CROSS–SECTION

GENERAL NOTES

1. BENCHMARK No.1 ELEV. 191.12m
   EAST INVERT OF EXISTING 700mm CSP AT STATION 0+146

   BENCHMARK No.2 ELEV. 192.14m
   TOP OF EXISTING 250mm HDPE AT STATION 0+540

   BENCHMARK No.3 ELEV. 192.75m
   SOUTH INVERT OF 300mm HDPE ROAD CROSSING AT STATION 0+707

2. EXISTING CULVERT INFORMATION:
   CULVERT #1 IS 6m x 400mm CSP.
   CULVERT #2 IS 8m x 700mm CSP.
   CULVERT #3 IS 5m x 400mm CSP.

3. PROPOSED CULVERT INFORMATION:
   CULVERT #1 & #2 REPLACEMENTS TO BE 9m x 750mm HDPE SMOOTH WALL PIPE.
   CULVERT #3 FUTURE REPLACEMENT TO BE 9m x 600mm HDPE SMOOTH WALL PIPE.
   ENDWALLS TO BE RIP RAP QUARRY STONE 150mm X 300mm 450mm THICK
   BACKFILL:
   DRAINAGE PEASTONE OR CLEAR STONE BEDDING
   GRANULAR B BACKFILL
   GRANULAR A DRIVEWAY 150mm THICK

LICENSED PROFESSIONAL ENGINEER
J.H. WARNER
100520016
JUNE 26/25
PROVINCE OF ONTARIO

NOTE:
ALL GRANULARS COMPACTED TO 98% MODIFIED PROCTOR DENSITY

Dobbin Engineering Inc.
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DRAWING NAME:
Kennedy Line Drain Typical Culvert Details

PROJECT No.
2024–1624

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	JUNE 26, 2025	DM
J. WARNER				
DRAWN				
D. MOORES				

SCALE 1:75
0 2m

MUNICIPALITY of LAMBTON SHORES

KENNEDY LINE DRAIN
TYPICAL CULVERT DETAILS

Last Updated: June 24, 2025