

April 25, 2025

The Mayor and Council
The Town of Plympton-Wyoming
546 Niagara Street
Wyoming, ON
N0N 1T0

Gentlemen and Mesdames:

Re: Annett Drain (2025)

In accordance with your instructions, R. Dobbin Engineering has undertaken an examination with regards to providing a municipal drain to service the property with Roll Number 10-399 and 10-401 in the Town of Plympton-Wyoming.

This is a Reconsidered Report based on an April 9th, 2025 Meeting to Consider.

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 October 26th, 2023 and January 10th, 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).

The petition was determined to be valid based on Section 4 (1) (b).

Existing Conditions

There is an existing private drain that runs along the west side of Wanstead Road from just south of the property with Roll Number 10-398 to the south side of London Line. It is believed that the drain continues northerly on the west side of Wanstead Road to the Kertch Drain in Lot 24, Concession 5. The Town of Plympton-Wyoming has recently done repairs on the private drain south of London Line and determined that it has exceeded its lifespan. There is also a private drain that crosses Wanstead Road to service the property with Roll Number 10-401. The location of this tile is unknown.

On-Site Meeting

A site meeting was held on December 18th, 2023.

The following were present at the meeting:

- Josh Warner (R. Dobbin Engineering)
- Elizabeth Cummings (Drainage Superintendent and Engineering Coordinator, Town of Plympton-Wyoming)
- John VanKlaveren (Council Representative, Town of Plympton Wyoming))
- Lenny Annett (Landowner)
- Larry Annett (Landowner)
- Dave McEwen (Landowner)
- Kim Timmermans (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 the property with Roll Number 10-399 in order to replace the existing tile drain through the Drainage Act process.
- The owner of the property with Roll Number 10-401 stated that their property is tiled to the existing drain across Wanstead Road but is unsure of the exact location.
 - Subsequent to this meeting the Landowner submitted a petition to have the drain cross Wanstead Road.
- R. Dobbin Engineering stated that the tile will be designed to accommodate 38mm/24hrs in accordance with the standards that are grantable through the Ontario Ministry of Agriculture, Food and Agribusiness (OMAFA) Agricultural Drainage Infrastructure Program (ADIP).

No adverse soil conditions were noted at the site meeting.

Draft Report dated January 29, 2025

A draft report for the Annett Drain, dated January 29, 2025, was sent to the affected properties. A meeting was held on February 19, 2025. The following were present:

- Josh Warner (R. Dobbin Engineering)
- Elizabeth Cummings (Drainage and Engineering Coordinator, Town of Plympton-Wyoming)
- John VanKlaveren (Council Representative, Town of Plympton Wyoming))
- Glen Millar (County of Lambton)
- Larry Annett (Landowner)
- Sam Timmermans (Landowner)

The following is a brief summary of the meeting:

- The option of an open channel was discussed. It was determined that the size of the channel would be substantial to accommodate the grades and that the road authority would be against this as an option. It would also cause the relocation of utility poles and a significant number of culverts.
- It was discussed with the owner of the property with Roll Number 10-398 that they would look after moving the trees, with the exception of the tree just north of the driveway. The landowner requested that an effort be made to keep the tree.

Meeting to Consider the Report

A report dated February 21, 2025 was submitted with a Meeting to Consider the Report held on April 9, 2025.

At the Meeting to Consider the Landowners of the properties with Roll Numbers 10-398 and 10-399 stated that they recently determined the existing basins on the properties are not connected. They therefore believed that the water issues could be dealt with privately by tying the southerly basin into the functional basin to the north. It was stated by Josh Warner that the owner of the property with Roll Number 10-399 can withdraw their petition, but a portion of the project may still proceed if the petition from the property with Roll Number 10-401 remains. The Landowner was made aware that if they withdraw their petition, they would be responsible for any expenses incurred by the Town, including Engineering, in accordance with Section 43 of the Drainage Act. Council therefore referred the report back to the Engineer to have a meeting with the Landowners.

April 22, 2025 Meeting

An additional meeting was held on April 22, 2025 to discuss the route forward for the project. The following were present:

- Josh Warner (R. Dobbin Engineering)
- Elizabeth Cummings (Drainage and Engineering Coordinator, Town of Plympton-Wyoming)
- John VanKlaveren (Council Representative, Town of Plympton Wyoming))
- David McEwen (Landowner)
- Larry Annett (Landowner)
- Sam Timmermans (Landowner)
- Jay Weaver (Landowner)

The owner of the property with Roll Number 10-401 stated that they wished to continue with their petition. In order to provide an outlet for this petitioning property the Wanstead Road Crossing and downstream of catch basin #4 would still be proposed.

Multiple options were discussed at the meeting for drainage south of the proposed catch basin #4. The first being the private connection of the two basins discussed at the Meeting to Consider. As the basins are in the roads right of way, drain the road, and go to a drain in an unknown location and condition it was determined that this would not be a preferred option. The option of an open channel was again discussed. This would involve multiple culverts, increased maintenance, and may increase some Landowners assessment with the culvert costs. It was therefore determined that the original direction of a tile drain under the Drainage Act would provide the best solution for the area.

The owner of the property with Roll Number 10-523 stated that there is a basin at the southwest corner of their property that may be utilize the proposed drain. Upon investigation, it was determined that this drain runs above the proposed drain and will continue to after construction.

The owner of the property with Roll Number 10-398 requested that the allowances for the trees on the property be reviewed and stated that they will not be able to relocate the northerly tree on the property.

Approvals

The drain will require approval from the St. Clair Region Conservation Authority. Construction cannot commence without necessary approvals.

Design

The proposed tile drain shall be designed to accommodate a drainage coefficient of 38mm/24 hours. Tile design criteria includes a minimum tile depth of 760mm.

Recommendations

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

1. A tile drain known as the Annett Drain shall be constructed from south of the property with Roll Number 10-398 to the Kertch Drain. The Annett Drain shall include a drain across Wanstead Road just south of London Line in order to service the property with Roll Number 10-401.

Estimate of Cost

It is recommended that the work be carried out in accordance with the accompanying Specification of Work and Profile that forms part of this Report. There has been prepared an Estimate of Cost in the amount of \$178,208.00, including engineering of the report, attending two Meetings to Consider the Report, attending the Court of Revision, and an estimate for tendering, contract administration and inspection. Appearances before appeal bodies have not been included in the cost estimate.

A plan has been prepared showing the location of the work and the approximate drainage area. A profile is included showing the depths and grades of the proposed work.

Assessment

As per Section 21 of the Drainage Act, the Engineer in their 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.

The cost of any approvals, permits or any extra work, beyond that specified in this Report that is required by any utility, government ministry or organization (federal or provincial), or road authority shall be assessed to that organization requiring the permit, approval, or extra work.

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

1. As per Section 26 of the Drainage Act, the roads and utilities have been assessed the increased cost of the drainage works caused by the existence of the works of the public utility or road. These items shall be tendered separately with the actual cost plus a portion of the engineering (25% of the construction cost) being assessed to the owner of the utility or road. The special benefit assessments shall be calculated as outlined below (Net HST to be calculated on all the below):

Road or Utility	Prior to Construction Costs	Tendered Construction Costs (All to be Multiplied by 1.25 for Engineering)
London Line		Traffic Control + 323mm dia. Steel Casing x 85% + Grouting Existing Culvert + Restoration/Seeding
Wanstead Road		Traffic Control + Remove Existing Pipe + Grout + 250mm and 450mm dia. Pipes x 95% + Granular "B" + Granular "M" + Restoration/Seeding
Hydro Utility		Work Around Overhead Hydro
Watermain Utility	\$2,600 (Daylighting and Surveying)	Total of all Locate and Work Around Watermain Items + 323mm dia. Steel Casing x 10%
Telecom Utility	\$1,300 (Daylighting and Surveying)	Total of all Locate and Work Around Telecom Items

2. The catch basins have been assessed with 50% of the cost applied to the downstream property as a benefit assessment and 50% of the cost applied as a benefit assessment to the upstream property.
3. The tile drain on the property with Roll Number 10-521 has been assessed with 5% of the cost applied as a benefit assessment to the adjacent farm property, 10% applied as a benefit assessment to Wanstead Road and the remainder applied as outlet assessment to the upstream lands and roads based on equivalent hectares.
4. The remainder of the drainage works has been assessed with 30% of the cost applied as a benefit assessment to adjacent farm/residential property, 30% applied as a benefit assessment to Wanstead Road and the remainder applied as outlet assessment to the upstream lands and roads based on equivalent hectares.

All final costs included in the cost estimate of this report, except as identified above, shall be pro-rated based on the Schedule of Assessment. Any additional costs shall be assessed in a manner as determined by the Engineer in accordance with the Drainage Act.

Allowances

Under Section 29 of the Drainage Act, the Engineer in his Report shall estimate and allow in money to the Landowner 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 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 for damage, if any, to ornamental trees, lawns, 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 29 of the Drainage Act for right-of-way and 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 \$50,000.00 per hectare. Allowances for crop loss are based on \$2,000.00 per hectare for the first year, \$1,000.00 for the second year (\$3,000.00 per hectare total). An allowance of \$2,000 has been provided for the tree just north of the driveway on the property with Roll Number 10-398. For the remaining trees an allowance of \$600/tree has been provided to the properties with Roll Number 10-398 and 10-521-05.

Access and Working Area

Access to the work site for construction and future maintenance shall be Wanstead Road and London Line and along the length of the drainage works. Access shall generally be restricted to a width of 6 metres.

The working area for the construction and future maintenance of the proposed tile drain from Station 0+000 to 0+428 shall generally be restricted to a width of 20m, except as noted below, along the length of the drainage works extending westerly from the west limit of the gravel on Wanstead Road. This shall be restricted to a width of 12m within the properties with Roll Numbers 10-398 and 10-521-05. The working area for the construction and future maintenance of the proposed tile drain from Station 1+000 to 1+016 shall be restricted to a width of 20m normally centered on the drainage works. The working area shall extend 10m past the length of the drain.

Restrictions

No trees and shrubs shall be planted within 10 metres of the proposed drain without prior written permission of Council. No permanent structures be erected within 15 metres of the proposed drain without prior written permission of Council.

Attention is also drawn to Sections 80 and 82 of the Drainage Act, which refer to the removal of obstructions in a drain and damage caused to a drain.

Agricultural Grant

If available, 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

Upon completion of the work, the drainage works shall be repaired and maintained as per the applicable Schedule of Assessment, less any Special Benefit Assessment, unless otherwise altered under provisions of the Drainage Act or as outlined below.

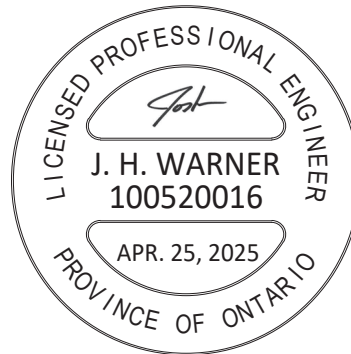
The drainage works shall be maintained as per the specifications and grades as shown on the Profile contained in this Engineers Report.

The additional costs as a result of a road or utility shall be assessed to the owner of the road or utility as per Section 26 of the Drainage Act.

Yours truly,



Josh Warner, P. Eng.
R. Dobbin Engineering Inc.



Annett Drain
Town of Plympton-Wyoming
April 25, 2025

ALLOWANCES

Allowances have been made as per Sections 29 & 30 of the Drainage Act for Right of Way and damages to lands and crops.

Conc.	Lot or part	Roll No.	Owner	Section 29 (\$)	Section 30 (\$)	Total (\$)
4	Pt. Lot 24	10-399	L. Annett	400	360	760
	Pt. Lot 24	10-398	S. Timmermans	470	3,020	3,490
	W 1/3 Lot 25	10-401	D. McEwen	50	50	100
5	Lot 24	10-521	Verbeek Farms Limited	1,400	630	2,030
	Pt. Lot 24	10-521-05	J. Klassen	250	830	1,080
TOTAL ALLOWANCES				\$2,570	\$4,890	\$7,460

Estimate of Cost

<u>Item Description (Supply and Install New)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost (\$)</u>	<u>Total (\$)</u>
Pre-Construction Meeting	1	LS	200	200
Work Around Overhead Hydro	1	LS	500	500
Locate and Work Around Telecom	1	LS	500	500
Locate Existing Drain	1	LS	1,500	1,500
Brushing and Tree Removal	1	LS	1,000	1,000
Strip Topsoil (Station 0+007 to 0+120)	113	m	6	678
Remove and Reinstall Signs/Mailboxes	1	LS	200	200
Remove Existing Catch Basins (Station 0+376 and 0+428)	2	each	300	600
Remove Existing Culverts (Station 0+135, 0+149 and 0+172)	3	each	500	1,500
Connect to Existing Kertch Drain	1	LS	150	150
300mmø HDPE Pipe	193	m	120	23,160
300mmø HDPE Elbows	2	each	250	500
250mmø HDPE Pipe	182	m	90	16,380
Fitting for 300mmø HDPE Pipe to Steel Casing at Station 0+200	1	LS	300	300
Catch Basin #1 (300mmø HDPE Pipe c/w Cast Iron Grate)	1	LS	800	800
Catch Basin #2 (300mmø HDPE Pipe c/w Cast Iron Grate)	1	LS	800	800
Catch Basin #3 (600x600mm)	1	LS	2,500	2,500
Catch Basin #4 (600x600mm)	1	LS	2,500	2,500
Catch Basin #5 (600x600mm) c/w Connection of Existing Tile	1	LS	2,500	2,500
Catch Basin #6 (600x600mm)	1	LS	2,500	2,500
Catch Basin #7 (600x600mm)	1	LS	2,500	2,500

<u>Item Description (Supply and Install New)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost (\$)</u>	<u>Total (\$)</u>
Locate and Connect Existing Tile	10	each	150	1,500
Granular "B" Type II for Driveways	50	tonne	35	1,750
Granular "M" (Dolomite) for Driveway Restoration	20	tonne	40	800
Restoration/Seeding	1	LS	2,000	2,000

London Line

Traffic Control	1	LS	1,000	1,000
Locate and Work Around Watermain	1	LS	4,500	4,500
Locate and Work Around Telecom	1	LS	1,500	1,500
323mmø Steel Casing Installed by Boring and Jacking	46	m	650	29,900
Grout Existing Road Culvert	1	LS	2,000	2,000
Restoration/Seeding and Ditch Grading	1	LS	1,000	1,000

Wanstead Road

Traffic Control	1	LS	2,000	2,000
Remove Existing Culvert and Unsuitable Backfill	1	LS	1,000	1,000
Locate and Connect Existing Tile to CB#7 and Grout Existing Tile under Road	1	LS	1,000	1,000
Locate and Work Around Telecom	1	LS	500	500
250mmø HDPE Smooth Wall Pipe (Open Cut) c/w Bedding	16	m	250	4,000
450mmø HDPE Smooth Wall Pipe (Open Cut)	14	m	350	4,900
Granular "B" Type II	100	tonne	35	3,500
Granular "M" (Dolomite)	30	tonne	35	1,050
Restoration, Seeding and Ditch Grading	1	LS	1,000	1,000

6,400

Sub Total	132,568
Allowances	7,460
Engineering	21,270
Locate, Daylight and Survey Utilities	3,900
Estimate for Tendering, Inspection and Contract Administration	9,500
SCRCA Fee	570
Total Estimate excluding HST	175,268
Non-Recoverable HST (1.76%)	2,940
Total Estimate	\$ 178,208

SCHEDULE OF ASSESSMENT

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Special Benefit (\$)	Benefit (\$)	Outlet (\$)	Total (\$)
Public Lands								
	Wanstead Road	0.89		Town of Plympton-Wyoming	23,001	25,742	11,892	60,635
	London Line	0.56		County of Lambton	38,841	3,961	6,044	48,846
					61,842	29,703	17,936	109,481
Utilities								
	Watermain			LAWSS	11,500	-	-	11,500
	Hydro Utility			Hydro One	650	-	-	650
	Telecom Utility			Bell Telecom	4,540	-	-	4,540
					16,690	-	-	16,690
Agricultural Lands								
4	Pt. Lot 24	3.37	10-399	L. Annett		7,740	11,996	19,736
	W 1/3 Lot 25	4.76	10-401	D. McEwen		1,615	10,844	12,459
5	Lot 24	0.00	10-521	Verbeek Farms Limited		1,464	-	1,464
					-	10,819	22,840	33,659
Non Agricultural Lands								
4	Pt. Lot 24	0.81	10-398	S. Timmermans		4,751	6,224	10,975
5	Pt. Lot 24	0.10	10-521-05	J. Klassen		6,899	504	7,403
	Pt. Lot 25	0.00	10-523	D. Wildschut		-	-	-
		10.49			-	11,650	6,728	18,378
Total - Agricultural Lands					33,659			
Total - Non Agricultural Lands					18,378			
Total - Public Lands					109,481			
Total - Utilities					16,690			
Total Assessment					\$178,208			

Estimated Net Assessment

Net assessment subject to OMAFRA ADIP Policy and actual construction costs.

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Total Assessment (\$)	Estimated Grant (\$)	Allowances (\$)	Estimated Net Assessment (\$)
Public Lands								
	Wanstead Road	0.89		Town of Plympton-Wyoming	60,635			60,635
	London Line	0.56		County of Lambton	48,846			48,846
Utilities								
	Watermain			LAWSS	11,500			11,500
	Hydro Utility			Hydro One	650			650
	Telecom Utility			Bell Telecom	4,540			4,540
Agricultural Lands								
4	Pt. Lot 24	3.37	10-399	L. Annett	19,736	6,579	760	12,397
	W 1/3 Lot 25	4.76	10-401	D. McEwen	12,459	4,153	100	8,206
	Lot 24	0.00	10-521	Verbeek Farms Limited	1,464	488	2,030	(1,054)
Non Agricultural Lands								
4	Pt. Lot 24	0.81	10-398	S. Timmermans	10,975		3,490	7,485
5	Pt. Lot 24	0.10	10-521-05	J. Klassen	7,403		1,080	6,323
	Pt. Lot 25	0.00	10-523	D. Wildschut	-			-
					178,208	11,220	7,460	159,528

Annett Drain
Town of Plympton-Wyoming
April 25, 2025

SPECIFICATION OF WORK

1. Location

The proposed Annett Drain is located in Lot 24 and 25, Concession 4 and 5 in the Town of Plympton-Wyoming.

2. Scope of Work

The work included in this specification includes, but is not limited to, the following:

- Tile Replacement across Wanstead Road.
- Jack and Bore across London Line.
- Supply and installation of HDPE Tile Drain.
- Supply and installation of catch basins structures.

3. 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 their 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 Engineer and 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.

Measurement for Payment Clauses have not been included in these specifications and will be part of the Construction document. If the Construction document has not identified Measurement for Payment Clauses, the Contractor must notify the Town of Plympton-Wyoming and request clarification 2 days prior to pricing the project.

4. Plans and Specifications

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.

5. 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.

When applicable the Contractor shall be responsible for traffic control as per the Ontario Traffic Manual Book 7 – Temporary Conditions (latest revision).

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 non-compliance 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.

6. Pre-Construction Meeting

There is a requirement for a pre-construction meeting to be held prior to any construction taking place. The meeting shall be scheduled by the Contractor. The Landowners, Engineer, County of Lambton, and the Town of Plympton-Wyoming shall be notified of the pre-construction meeting at least 48 hours prior.

7. Benchmarks

The benchmarks are based on geodetic elevations. Elevations are available at the locations shown on the Plan and Profile drawings. Where these elevations are on existing structures to be replaced, they shall be transferred by the Contractor prior to the removal.

The Contractor is required to complete a benchmark loop prior to construction to verify the benchmarks. If discrepancies exist the Contractor must notify the Drainage Superintendent and Engineer prior to completing any work.

8. Traffic Control

Access and driveways to private properties shall not be obstructed longer than the minimum time necessary for the work and shall be reinstated as soon as possible all to the satisfaction of the Engineer. The contractor shall schedule any obstruction of existing driveways with the owners at least two full working days in advance. The Contractor shall supply a Traffic Control Plan to be approved by the road authority. All obstructions

and diversions of traffic must be approved by the Engineer or Drainage Superintendent and Roads Superintendent at least two (2) full working days in advance.

- a) The Contractor shall supply, erect and maintain all detour signs and special signs necessary for detours to divert traffic from the area under construction as directed by the Road Superintendent or Engineer. All this work shall be at the Contractor's expense.
- b) The Contractor shall be responsible for supplying, erecting and maintaining all signs, supports, barricades, flashers, cones, etc. in the construction area and at the boundaries of the work as part of the above detours, all to the satisfaction of the Engineer or Drainage Superintendent. All this work shall be done by the Contractor at their own expense.
- c) The Contractor shall not be allowed to proceed with construction activities unless proper signage and flagmen are present. Flagging procedures, signage and detours shall conform to the recommendations of Book 7, Temporary Conditions, Ontario Traffic Manual, issued by the Ministry of Transportation. Conformance shall be enforced by the Ministry of Labour Inspector.

9. Access and Working Area

Access to the work site for construction and future maintenance shall be Wanstead Road and London Line and along the length of the drainage works. Access shall generally be restricted to a width of 6 metres.

The working area for the construction and future maintenance of the proposed tile drain from Station 0+000 to 0+428 shall generally be restricted to a width of 20m, except as noted below, along the length of the drainage works extending westerly from the west limit of the gravel on Wanstead Road. This shall be restricted to a width of 12m within the properties with Roll Numbers 10-398 and 10-521-05. The working area for the construction and future maintenance of the proposed tile drain from Station 1+000 to 1+016 shall be restricted to a width of 20m normally centered on the drainage works. The working area shall extend 10m past the length of the drain.

10. Utilities

The Contractor is responsible for organizing locates and exposing all the utilities along the length of the drainage works. If any utilities interfere with the proposed drainage works in a manner not shown on the accompanying Estimate of Cost or profile the Contractor shall notify the Drainage Superintendent and Engineer.

The Contractor is responsible for coordinating the replacement of additional utilities with the utility company if they interfere with the proposed drain. All costs for the utility to

replace their services will be outside of this report and shall be borne by the utility as per Section 26 of the Drainage Act.

All additional costs to work around and organize replacement of the utilities not included in the accompanying Estimate of Cost shall be tracked separately and the cost plus a portion of the engineering (25% of the cost) shall be borne by that utility.

Should a utility pole require support, this shall be organized by the Contractor. Co-ordination cost plus a portion of the engineering (25% of the cost) and any cost to hold the pole will be an extra to the project and shall be assessed to the utility as per Section 26 of the Drainage Act.

11. Removals

The catch basins, excess and unsuitable backfill material, leads, etc. where specified, shall be removed in their entirety. They shall be disposed offsite at the expense of the Contractor. Suitable backfill shall be stockpiled adjacent to the site for reuse during installation of the proposed tile.

The Contractor shall work around the existing fences and signs if they are able to. If the existing fences and signs are required to be removed, they shall be removed and re-installed in the same location with the existing materials. The Contractor shall take photos before the removal of any fence and after its reinstallation. All work in connection with fences and signs shall be carried out in a careful manner so they are replaced in as good a condition as the existing materials permit.

12. Brushing and Tree Removal

All brush, trees, woody vegetation, stumps etc. shall be removed as required to facilitate construction or as determined by the Drainage Superintendent or Engineer. They shall be removed in their entirety including stumps.

A mechanical grinder attached to an excavator shall be used for the removal of brush and trees. Any brush and trees too large to grind shall be close cut. The Contractor shall stockpile the trees and brush in a single pile on the property in which they were removed or dispose of the trees and brush offsite. The Contractor is responsible for the burning of the trees and brush. The Contractor is responsible for obtaining all necessary permits for any disposal sites. Burning of the trees and brush is subject to local bylaws and guidelines of the Ministry of the Environment Conservation and Parks.

Certain trees may be left in place at the direction of the Drainage Superintendent or Engineer.

13. Expose Existing Drain

The existing tile drain shall be exposed at the discretion of the Drainage Superintendent or Engineer and Contractor in order to adequately determine the proposed alignment. The proposed tile drain shall generally run in the same location or as shown on the drawings. This can be changed by the Engineer or Drainage Superintendent at the time of construction.

The Contractor shall locate the existing tile at CB#6 and #7 prior to installation of the proposed drain to confirm the proposed grades.

14. Strip and Place Topsoil

The Contractor shall strip the topsoil for a width of 6m normally centered on the proposed drain within the farm property (Station 0+007 to 0+120). The topsoil shall be stockpiled at the edge of the working allowance for the duration of the tile installation. Once the tile is installed, the Contractor shall level the topsoil over the drain to their pre-construction condition.

15. Installation of Tile

The Contractor shall supply, install, and backfill the specified sizes of tile and pipe to the depths and grades as shown on the drawings.

HDPE shall be CSA Approved smooth wall gasketed pipe with bell and spigot joints (320 kPa). Under driveways the pipe shall be bedded with clear stone bedding from 100mm below the pipe to the spring line. Above this the pipe shall be backfilled with Granular "B" Type II. The top 150mm shall be restored with OPS Granular "M" (100% crushed Dolomite). Under roadways the road crossing specification shall be used.

The trenching and laying of the pipe shall be done by wheel machine or excavator. An excavator must be used in areas of soil instability, unless approved by the Engineer. The pipe shall be laid in straight lines or on smooth gradual curves with a minimum radius of 25m. Turns of greater than 11 degrees shall require the use of manufactured bends (HDPE smooth wall).

Laser control shall be used to ensure proper grades. The grades calculated on the Profile are to the invert of the tile and pipe with allowances to be made by the Contractor for the wall thickness of the tile and pipe. The depths shown and figured are from ground level to the invert of the pipe along the line of the proposed drain. Should an error appear in the figured depth at any station or stations, the grade shall be made to correspond with that shown on the Profile without extra charge.

The two elbows shall be 22.5 degrees.

Wheel Machine

A wheel machine may be used to excavate the trench to allow for a round bottom. Prior to backfilling, the tile shall be covered manually to a depth of approx. 100mm over the pipe to ensure that the tile and pipe are not displaced by large clumps of earth. The trench shall be backfilled with excavated material free of stones, broken tile or other deleterious material. All stones larger than 100mm in diameter evident immediately after construction shall be picked up by the Contractor and disposed offsite. The Landowners are responsible for stones after that. The material shall be left windrowed over the trench to allow for settlement.

Excavator

When pipe is installed with an excavator, the tile must be installed as per the manufacturer's recommendations **complete with bedding to the spring line**. Prior to backfilling, the tile shall be covered manually to a depth of approx. 100mm over the pipe to ensure that the tile and pipe are not displaced by large clumps of earth. The trench shall be backfilled with excavated material free of stones, broken tile or other deleterious material. All stones larger than 100mm in diameter evident immediately after construction shall be picked up by the Contractor and disposed offsite. The Landowners are responsible for stones after that. The material shall be left windrowed over the trench to allow for settlement.

If the land level must be lowered in order to carry out trenching operations, then it is up to the Contractor to determine if it is necessary and include any extra cost involved. They shall first strip the topsoil to its full depth and stockpile it along one side of the working width and then grade the area to allow the trenching to be carried out. All excavated material shall be windrowed on the side opposite the trench that the topsoil is stockpiled. After trenching and backfilling operations are complete, the topsoil shall be spread to its original depth.

All areas disturbed by construction shall be left in a condition suitable for cultivation.

The Contractor shall not operate any trenching or backfill equipment, delivery trucks or equipment, pickup trucks or other vehicles along or over the trench during or after construction. The Contractor shall be responsible for any damage caused by any equipment or vehicles operated over the trench. If the Contractor must cross the trench, he will do so in one area.

The Landowners are also warned not to operate farm equipment over the trench or along the length of the trench for 1 year after construction in order to protect the tile.

Future replacements shall conform to these specifications.

It is the Contractors responsibility to repair any damage to the road due to the proximity of the tile.

16. Catch Basins

Structure	Station	Type (mm)	Grate Elev. (m)	Outlet Pipe Elev. (m)	Inlet Pipe Elev. (m)
CB #1	0+143	300mm dia.	225.10	223.43 (N) 300	223.44 (S) 300
CB #2	0+162	300mm dia.	225.20	223.54 (N) 300	223.55 (S) 300
CB #3	0+180	600x600	225.51	223.65 (N) 300	223.66 (S) 300
CB #4	0+246	600x600	224.82	224.02 (N) 300	224.14 (S) / 224.14 (E) 250 / 250
CB #5	0+376	600x600	226.20	224.86 (N) 250	224.87 (S) / 224.90 (W) 250 / 200
CB #6	0+428	600x600	225.93	225.14 (N) 250	
CB #7	1+016	600x600	224.92	224.18 (W) 250	224.20 (N & E) 250 k/o for Both

The 600x600mm catch basins shall be square precast concrete structures as noted above and shall have a flat grate as per OPSD 400.02. The catch basins shall be made with the top sections separate from the base sections in order to allow riser sections to be installed or removed as necessary (i.e. the base section shall not extend for more than 150mm above the top of the highest opening in the base section). The wall thickness of all structures shall be 115mm and each shall have a 300mm sump.

The 300mm dia. HDPE basins shall be constructed using a manufactured tee, a length of 300mm dia. HDPE pipe extending vertically and a cast iron frame and grate.

The catch basins shall be set at the final elevations as directed by the Drainage Superintendent. The catch basins shall be set on a layer of clear stone. The clear stone shall be extended up to the spring line of the inlet and outlet pipe connections.

The area in the vicinity of the catch basins shall be graded to ensure surface water is collected to the basins. This shall include filling in the roadside ditch at CB #1 and #2 with excess material.

The tile at the connection to the concrete catch basins shall be concreted on both the inside and outside prior to backfilling. Any pipe or tile shall not protrude more than 50mm inside the wall.

17. Subsurface Drainage

All existing subsurface drains encountered during construction of the tile drain shall be connected to the proposed tile drain unless otherwise noted on the drawings or as directed by the Drainage Superintendent. The downstream end shall be plugged to the satisfaction of the Drainage Superintendent.

The existing drain crossing Wanstead Road shall be located and connected to CB#7. The existing crossing on Wanstead shall be capped and grouted.

For 100mm and 150mm subsurface drains, the upstream end of the subsurface drain shall be connected to the tile drain at a 45-degree angle. A suitable length of equivalent sized PE agricultural tubing shall be used to connect the drains. Manufactured fittings shall connect the PE tile to the existing drain and to the proposed drain. The connections shall be carefully backfilled to ensure there is adequate support under the pipe and large clumps of clay do not displace the tile. Clear stone shall be used under the connections at the tile drain.

18. Wanstead Road Crossing

Where High Density Polyethylene Pipe is specified, the Contractor shall supply, install, and backfill the HPDE smooth wall gasketed pipe with bell and spigot joints (320 KPa) or approved equivalent under road crossings.

The bottom of the excavation for the tile shall be excavated to the required depth with any over excavation backfilled with $\frac{3}{4}$ " clear stone material. When the tile has been installed to the proper grade and depth, the excavation shall be backfilled with $\frac{3}{4}$ " clear stone from 100mm below the tile to 300mm above, this shall be considered the bedding. Care shall be taken to ensure that the backfill on either side of the culvert does not differ by more than 300mm so that the pipe is not displaced. Within the roadway, and for a distance of 2m either side, the pipe shall be backfilled from 300mm above the tile with Granular "B" Type II. The top 200mm shall be backfilled with OPS Granular "M" (100% crushed Dolomite). Outside of this, excavated material may be used. If asphalt is specified, the asphalt shall be HL4 and HL3 at depths to match the existing thickness.

It is the Contractors responsibility to locate and expose any utilities prior to the installation of any tile. If there is a conflict with the tile elevation the Contractor is

required to notify the Engineer. Any permits that are required by the Road Authority are the responsibility of the Contractor.

The ditch shall be graded to ensure the surface water is collected to the catch basins or maintains the pre-construction flow condition.

The Contractor shall be responsible for maintenance of the crossings for a period of one year after their installation. This will include repairing any settlement areas on the travel surface with granular “M” or asphalt.

19. London Line Road Culvert

The Contractor shall supply and install a steel pipe casing by boring and jacking to the depths and grades as shown on the Profile. The steel casing shall have a minimum thickness of 7.9mm. All work shall be completed in accordance with OPSS 416. Cathodic protection is not required.

The steel casing specified shall be minimum 323mm in diameter (nominal pipe size).

The ditch shall be graded to ensure the surface water is collected to the catch basins or maintains the pre-construction flow condition

20. Grout Existing Culverts

This item is to include capping and filling the existing tile under Wanstead Road and London Line with grout.

The grout shall contain 25kg of type 10 Portland Cement per cubic metre. Portland cement shall conform to the requirements of CSA CAN3-A5M. The gradation shall conform to Table 1 of CSA Standard. The slump of unshrinkable fill shall be between 150mm and 200mm. The maximum 28 days compression strength shall not exceed 0.40 MPa, as measured in accordance with CAN-A23.2-9C. At no time will water be added to the concrete on site. Concrete which is unworkable or that is too stiff to produce a satisfactory product is to be discarded.

21. Seeding/Restoration

All areas disturbed by construction shall be returned to their pre-construction state. The road right of way and all previously grassed areas where disturbed by construction, shall be topped with 100mm of screened topsoil and hydroseeded immediately following construction in accordance with the seed mixture, fertilizer and application rate as shown below.

Seed mixture, fertilizer and application rates are as follows:

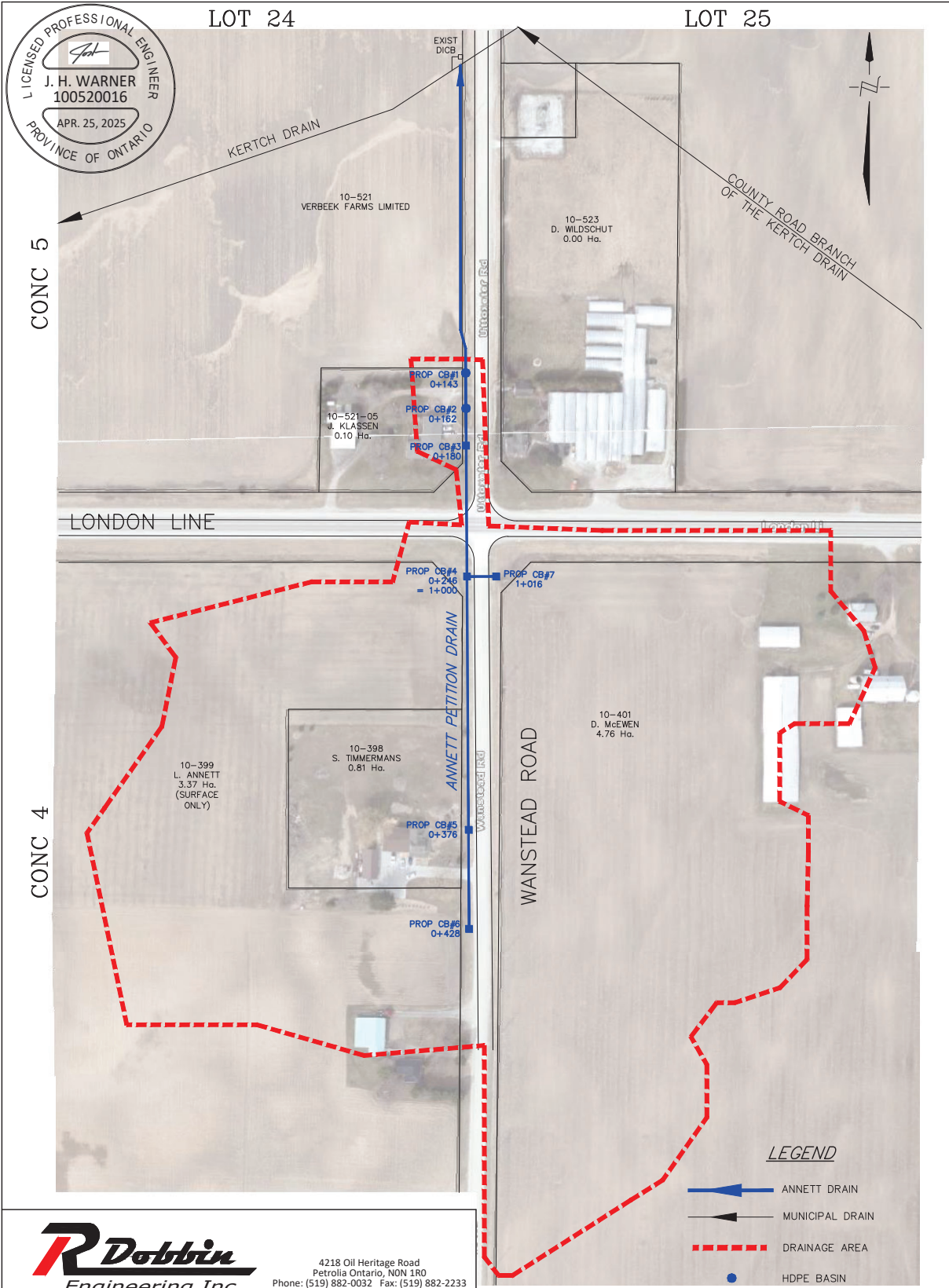
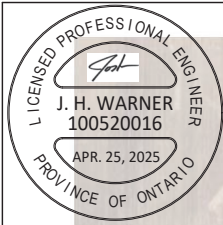
- Canada Wild Rye (*Elymus Canadensis*), Virginia Wild Rye (*Elymus virginicus*), or Indian grass (*Sorghastrum nutans*)
- Fertilizer (300 kg/ha.) consisting of 8-32-16.
- Hydraulic mulch (2,999 kg/ha.) type “B” and water (52,700 litres/ha.) in accordance with OPSS 572 (hydroseed).

The above seed mixture shall apply unless otherwise approved by the Drainage Superintendent or Engineer.

22. 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.
- Material shall not be in areas regulated by the Conservation Authority or Ministry of Natural Resources.
- All granular and erosion control materials shall be stockpiled a minimum of 3.0m 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.



R Dobbin
Engineering Inc.

4218 Oil Heritage Road
Petryllia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:
Annett Drain Plan

PROJECT No.
2023-1574

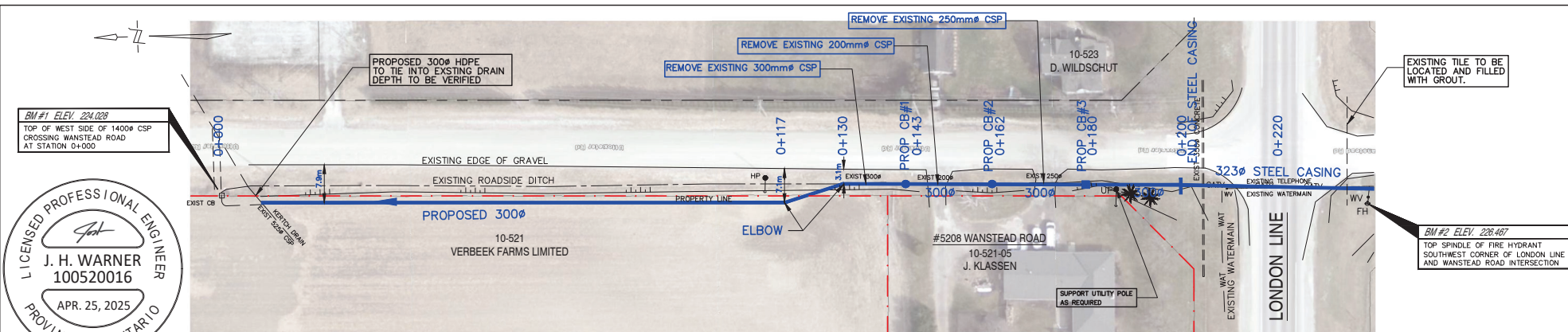
APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	APR. 25, 2025	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

SCALE 1:2000
0 10 20 30 40m

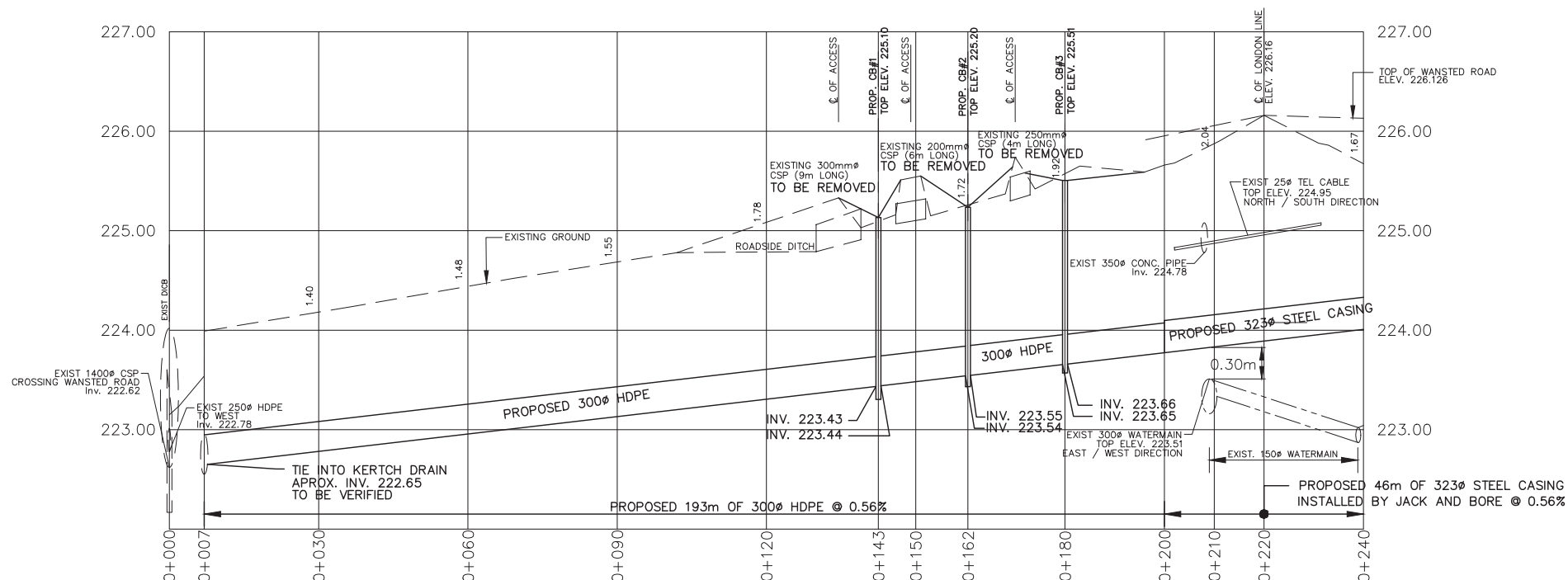
TOWN of PLYMPTON - WYOMING

ANNETT DRAIN PLAN

1
OF 3



WANSTEAD ROAD



R Dobbin
Engineering Inc.

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

DRAWING NAME:
Annett Drain Plan & Profile 1

PROJECT No.
2023-1574

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	APR. 25, 2025	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

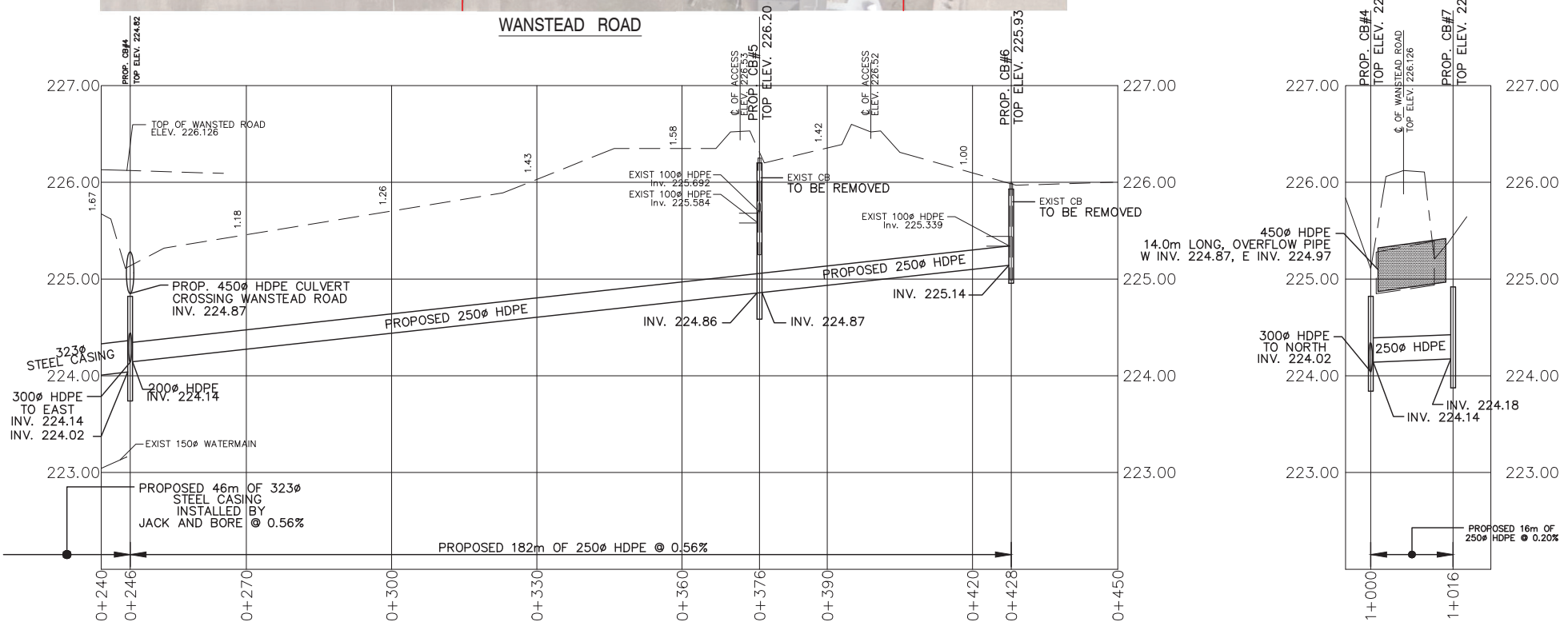
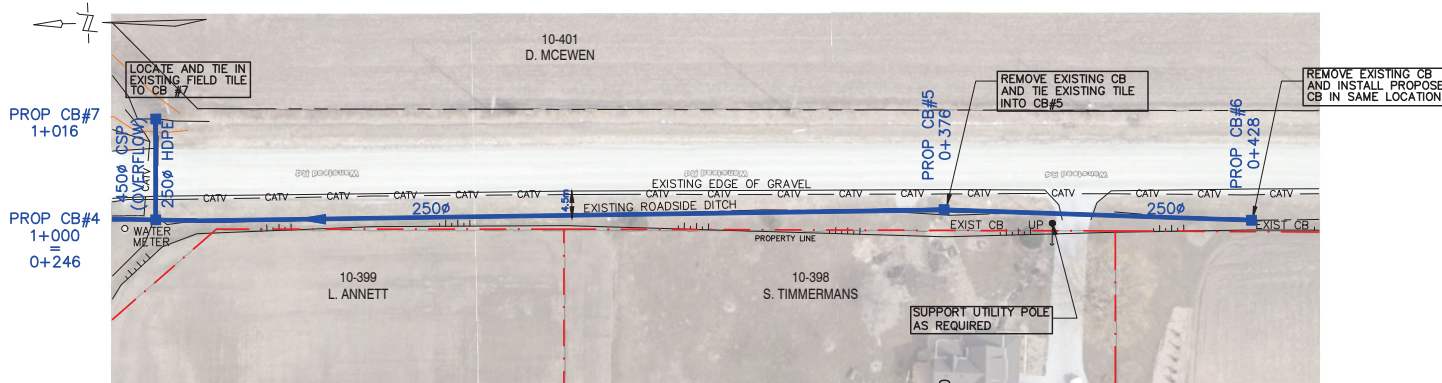
SCALE 1: 850

0 10 20 30m

TOWN of PLYMPTON - WYOMING ANNETT DRAIN PLAN & PROFILE

2
OF 3

Last Updated: January 29, 2025

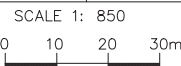


4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:
Annett Drain Plan & Profile 2

PROJECT No.
2023-1574

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	APR. 25, 2025	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				



TOWN of PLYMPTON - WYOMING

ANNETT DRAIN
PLAN & PROFILE

3
OF 3

Last Updated: May 13, 2024