# BURLEY DRAIN E 2024 Municipality of North Middlesex



155 York Street London, Ontario N6A 1A8 Tel. (519) 672-4100 Fax (519) 433-9351 E-mail MAIL@SPRIET.ON.CA

#### **BURLEY DRAIN E 2024**

#### **Municipality of North Middlesex**

To the Mayor and Council of The Municipality of North Middlesex

Mayor and Council:

We are pleased to present our report on the reconstruction of parts of the Burley Municipal Drain serving parts of Lots 25 to 29, Concession 5 WCR, and parts of Lots 9 and 10, Concession 28 and Ausable Concession (geographic McGillivray) in the Municipality of North Middlesex.

#### **AUTHORIZATION**

This report was prepared pursuant to Section 4 and 78 of the Drainage Act. Instructions were received from your Municipality with respect to a motion of Council. The work was initiated by a petition signed by the owners whose lands contain over 60 percent of the area requiring drainage.

#### DRAINAGE AREA

The total watershed area contains approximately 175.6 hectares. The area requiring drainage is described as parts of Lots 9 and 10, Ausable Concession and parts of Lot 9, Concession 28.

#### **HISTORY**

The Burley Drain was last reconstructed pursuant to a report submitted by M. P. DeVos, P. Eng. dated May 11, 2018. Drains A, B, E, F, and G were cleaned out and brushed at that time.

Also, maintenance schedules were prepared for Drain C, Drain H and Drain G - closed portion.

The upper open portion of Drain E in Lot 10, Concession 28 was abandoned from municipal status under the Municipality of North Middlesex By-Law #36 of 2022 as per Section 84 of the Drainage Act.

#### **EXISTING DRAINAGE CONDITIONS**

At a site meeting held with respect to the project and through later discussions the owners reported the following:

- that the affected watershed area in Lots 9 and 10, Concession 28 was privately tiled north directly into the Ptsebe and Ausable Rivers Drain
- that the private tiling from Lots 9 to 12, Ausable Concession is directly connected into the Ptsebe and Ausable Rivers Drain via a pump and no longer outlets into Drain E



### **EXISTING DRAINAGE CONDITIONS** (cont'd)

- that the affected owners redirected the portion of Drain E located on the road allowance between Concession 28 and Ausable Concession northerly to the Ptsebe and Ausable Rivers Drain with the construction of a 900mm pipe culvert through the existing dike
- that the portion of the Drain upstream of the above mentioned new culvert be investigated along with Branch F to ensure an adequate depth is provided for upstream private tiles

A field investigation and survey were completed. Upon reviewing our findings we note the following:

- that the existing pipe conducting drainage from Drain E across the road allowance into Drain A has been removed
- that it was requested that the new pipe be incorporated as part of Drain E for future maintenance purposes and that the portion of Drain E from the old Drain A junction to the new culvert be abandoned
- that we conducted a survey of Drain E upstream of the new culvert location and Drain F and found that the ditch has accumulated sediment in it and the Municipality then cleaned out this portion of the ditch as maintenance

Preliminary design, cost estimates, and assessments were prepared and an informal public meeting was held to review the findings and preliminary proposals. Further input and requests were provided by the affected owners at that time.

## **DESIGN CRITERIA AND CONSIDERATIONS**

The proposed design and report have been generally completed using the "GUIDE FOR ENGINEERS WORKING UNDER THE DRAINAGE ACT IN ONTARIO" OMAFRA Publication 852.

#### RECOMMENDATIONS

We are therefore recommending the following:

- that the new 900mm pipe culvert under the dike on Concession 28, Ausable Concession road allowance be incorporated as part of Drain E for future maintenance purposes
- that the existing Drain F be added to Drain E for future maintenance purposes
- that the portion of Drain E from the new culvert to the former Drain A junction be officially abandoned from municipal status pursuant to Section 19 of the Drainage Act
- that the portions of the Burley Drain watershed area that now drains into Drain E and directly into the Ptsebe and Ausable Rivers Drain be removed from the remainder of the Burley Drain watershed area under the Drainage Act Section 65(4) Subsequent Disconnection from Drainage Works
- that a profile be provided for future maintenance of the upper portion of the Branch E and former Branch F



## **ENVIRONMENTAL CONSIDERATIONS AND MITIGATION MEASURES**

Based on the information available, there are no significant wetlands, sensitive areas, or endangered species along the route of the drains. A temporary flow check of silt fencing is to be installed in the ditch downstream of the tile outlet for the duration of the construction.

#### **SCHEDULES**

Two schedules are attached hereto and form part of this report, being Schedule 'A' - Cost Estimate and Schedule 'B' - Assessment for Construction.

Schedule 'A' - Cost Estimate. This schedule provides for a detailed cost estimate of the proposed work which is in the amount of \$37,900.00. This estimate includes engineering and administrative costs associated with this project.

Schedule 'B' - Assessment for Construction. This schedule outlines the distribution of the total estimated cost of construction over the roads and lands which are involved.

Drawing No. 1, Job No. 221192 and specifications form part of this report. They show and describe in detail the location and extent of the work to be done and the lands which are affected.

#### **ALLOWANCES**

**EXISTING DRAIN:** Section 31 of the Drainage Act provides for compensation to landowners for existing private work that is incorporated through this report as part of the drainage works.

#### **ASSESSMENT DEFINITIONS**

In accordance with the Drainage Act, lands that make use of a drainage works are liable for assessment for part of the cost of constructing and maintaining the system. These assessments are known as benefit, outlet liability and special benefit as set out under Sections 22 and 23 of the Act.

#### **SECTION 22**

**Benefit** as defined in the Drainage Act means the advantages to any lands, roads, buildings or other structures from the construction, improvement, repair, or maintenance of a drainage works such as will result in a higher market value or increased crop production or improved appearance or better control of surface water, or any other advantages relating to the betterment of lands, roads, buildings, or other structures.

**Special Benefit** is assessed to lands for which some additional work or feature has been included in the construction repair or improvement of a drainage works. The costs of such work are separated and assessed independently from the regular work.

#### **SECTION 23**

**Outlet** liability is assessed to lands or roads that may make use of a drainage works as an outlet either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek, or watercourse.



#### **ASSESSMENT**

A modified "Todgham Method" is typically used to calculate the assessments shown on Schedule 'B'- Assessment for Construction. This entails breaking down the costs of the drain into sections along its route where warranted and then extracting Special Assessments and Special Benefit Assessments from each section.

The remainder is then separated into Benefit and Outlet Assessments. The Benefit is distributed to those properties receiving benefit as defined under "Assessment Definitions", with such properties usually being located along or close to the route of the drain. The Outlet is distributed to all properties within the watershed area of that section on an adjusted basis. The areas are adjusted for location along that section and relative run-off rates. Due to their different relative run-off rates forested lands are assessed for outlet at lower rates than cleared lands. Also, roads and residential properties are assessed for outlet at higher rates than cleared farmlands.

The actual cost of the work involving this report, is to be assessed on a pro-rata basis against the lands and roads liable for assessment for special benefit, benefit, and outlet as shown in detail on Schedule 'B' - Assessment for Construction.

#### SPECIAL BENEFIT ASSESSMENTS

Special Benefit Assessments have been made against individual properties for their portion of the cost of various special works provided to them. This work consists of as 900mm dia. pipe culvert under the dike to redirect Drain E into the Ptsebe & Ausable Rivers Drain.

#### **GRANTS**

In accordance with the provisions of Section 85 of the Drainage Act, a grant **may** be available for assessments against privately owned parcels of land which are used for agricultural purposes and eligible for the Farm Property Class Tax rate. Section 88 of the Drainage Act directs the Municipality to make application for this grant upon certification of completion of this drain. The Municipality will then deduct the grant from the assessments prior to collecting the final assessments.

#### MAINTENANCE

After completion, the Burley Drain be maintained by the Municipality of North Middlesex at the expense of all upstream lands and roads assessed in Schedule 'B' - Assessment for Construction and in the same relative proportions, with the exception that the special benefits are removed, until such time as the assessment is changed under the Drainage Act.

Repairs or improvements to the culvert on the unopened road allowance at Sta. 0+000 shall be the responsibility of the applicable Road Authority, entirely at their cost. Future maintenance costs on the culvert at 0+890 shall be levied 85% to the adjacent property (Roll No. 060-135) and the remainder prorated over the upstream outlet assessments.

Respectfully submitted,

SPRIET ASSOCIATES LONDON, COMPTED

M.P. DeVos, P. Eng.

MPD:ms



M. P. DeVOS

\$ 37,900.00

## SCHEDULE 'A' - COST ESTIMATE

## **BURLEY DRAIN E 2024**

## **Municipality of North Middlesex**

We have made an estimate of the cost of the proposed work which is outlined in detail as follows:

## DRAIN "E"

Existing Drain Allowance under Section 31 of the Drainage Act  Construct the following pipe as new farm culvert  Sta. 0+853 to Sta. 0+890  Supply & delivery of 37 m - 900mm dia, dual wall HDPE pipe culvert Installation of pipe including supply and installation of bedding and backfill including disposal of any unacceptable material  Allowance Breakdow  060-135(H., E., G. & J. Dietrich)  \$8,550.00	)	11,550.00 5,550.00
ADMINISTRATION		
Conservation Authority Review Fee	\$	650.00
Interest and Net Harmonized Sales Tax	\$	1,383.00
Survey, Plan and Final Report	\$	14,712.00
Expenses	\$	1,155.00
Supervision and Final Inspection	\$_	2,900.00

**TOTAL ESTIMATED COST** 

## SCHEDULE 'B'- ASSESSMENT FOR CONSTRUCTION

## **BURLEY DRAIN E 2024**

## **Municipality of North Middlesex**

Job No. 218062 March 8, 2024								
* = Non-agricultural								
2011		HECTARES	DOLL No. (OWNED)	SPECIAL BENEFIT	BENEFIT	OUTLET	TOTAL	
CON.	LOT	AFFECTED	ROLL No. (OWNER)	DENEFII	DLINEITI	OUTLLT	TOTAL	
DRAIN "E"								
Geographic N	1cGillivray							
5 WCR&28	Pt.25&10	23.2	060-042(Henry J. Peters Farms Ltc \$		\$ 100.00		•	
* 5 WCR	Pt.W1/225	1.01	060-042-02 (J. Zwinkels)			23.00	23.00	
5 WCR&AS	26 &Spt.9	49.8	060-043(G. & S. Struyf)		690.00	1,192.00	1,882.00	
5 WCR&AS	27&Pt.10		060-044(W. & M. Heaman)		260.00	1,907.00	2,167.00	
5 WCR	28		060-044-01(M. & H. Jamieson)			1,058.00	1,058.00	
5 WCR	29		060-045(E. Vanengelen)			322.00	322.00	
28	Pt.9		060-123(H., E., G. & J. Dietrich)		120.00	19.00	139.00	
28	Pt.N½10		060-128(H., E., G. & J. Dietrich)		90.00	47.00	137.00	
AS	NPt.9		060-135(H., E., G. & J. Dietrich)	15,070.00	440.00		15,510.00	
AS	NPt.10		060-136(H., E., G. & J. Dietrich)	15,070.00			15,070.00	
		TOTAL A	ASSESSMENT ON LANDS \$	30,140.00	\$ 1,700.00 ======	\$ 5,094.00	\$ 36,934.00	

TOTAL ASSESSMENT ON THE BURLEY DRAIN E 2024

TOTAL ASSESSMENT ON ROADS

Municipality of North Middlese> \$

Sideroad 25-26, 10, 9

3.0

\$ 37,900.00

966.00

966.00

66.00 \$

66.00 \$

\$ 900.00 \$

\$ 900.00 \$

## SCHEDULE OF NET ASSESSMENT

## BURLEY DRAIN E 2024

## **Municipality of North Middlesex**

Job No. 218062

March 8, 2024

* = Non-agricultural ROLL NUMBER (OWNER)	AL GRANTABLE SSESSMENT	<u>:</u>	GRANT	SECT. 31 CULVERT ALLOWANCE	*	APPROX. NET
060-042(Henry J. Peters Farms Ltd.)  * 060-042-02 (J. Zwinkels) 060-043(G. & S. Struyf) 060-044(W. & M. Heaman) 060-044-01(M. & H. Jamieson) 060-045(E. Vanengelen) 060-123(H., E., G. & J. Dietrich) 060-128(H., E., G. & J. Dietrich) 060-135(H., E., G. & J. Dietrich) 060-136(H., E., G. & J. Dietrich)	\$ 626.00 S 23.00 1,882.00 2,167.00 1,058.00 322.00 139.00 137.00 15,510.00 15,070.00	\$	209.00 627.00 722.00 353.00 107.00 46.00 46.00 5,170.00 5,023.00	\$ 8,550.00 8,550.00	\$	417.00 23.00 1,255.00 1,445.00 705.00 215.00 93.00 91.00 1,790.00 1,497.00
Sideroad 25-26, 10, 9	\$ 966.00	\$		\$ 	\$	966.00
	\$ 37,900.00	\$	12,303.00	\$ 17,100.00	\$	8,497.00