

**LUTON DRAIN 2022**  
**Township of Southwold**



**SPRIET  
ASSOCIATES**  
ENGINEERS & ARCHITECTS

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

Our Job No. 208211

May 31, 2022

London, Ontario  
May 31, 2022

## **LUTON DRAIN 2022**

### **Township of Southwold**

To the Mayor and Council of  
The Township of Southwold

Mayor and Council:

We are pleased to present our report on the incorporation, improvement and reassessment of parts of the Luton Municipal Drain serving parts of Lots 39 to 42, Concession N.T.R.E. in the Township of Southwold.

#### **AUTHORIZATION**

This report was prepared pursuant to Sections 4 and 78 of the Drainage Act in accordance with instructions received from your Municipality with respect to a motion of Council. The incorporation and improvement were requested by affected landowners and by a petition signed by a majority of the owners in the area requiring drainage.

#### **DRAINAGE AREA**

The total watershed area as described above contains approximately 103.7 hectares. The area requiring drainage is described as the south parts of Lots 39 and 40, Concession N.T.R.E

#### **HISTORY**

The Luton Drain was originally constructed pursuant to a report submitted by F.A. Bell, O.L.S., C. E., dated September 26, 1929 and consisted of 30 meters of open ditch and 1,402 meters of 350mm to 125mm tile, located from its outlet in the natural watercourse at the south edge of the bush north of the On Track right-of-way in Lot 41, southerly and westerly through Lot 40 and into Lot 39, around the north and west sides of the former sewage lagoons. The drain also included Branches A, B, C and D, consisting of 125mm to 175mm tile.

This report and drawing also refers to an existing Agreement Drain dated November 13, 1891. This drain outleted into the south edge of the bush area south of the On-Track right-of-way and from there ran south-westerly, crossing the line between the Lyle (Roll No. 7-085-50) and Hoffsuemmer Farms Ltd. (Roll No. 7-084) properties approximately 90 meters to the south of the Luton Drain and thence south-westerly into Lot 39, south of the old lagoons and into what is now the Elgin County Wastewater Treatment facility property (Roll No. 7-085).



## HISTORY (cont'd)

In order to provide outlet for the Elgin Manor property and an emergency overflow for the former lagoons, Elgin County constructed a private 300mm tile in the location of the 1891 Agreement Drain and extended it downstream along the west side of the 1929 Luton Drain from the south side of the Lyle bush to the outlet in the watercourse. The plan and profile were shown on the Site Plan Mechanical Drawing M 9 of 9, stamped by J.G. Haywood, P.Eng., dated March 30, 1963.

The 1963 drawing also shows the replacement of the Luton Drain between the catchbasins at Sta. 0+183 and Sta. 0+371 (see attached plan and profile) with a new 300mm tile. It also appears that the portion of the drains under the On Track St. Thomas concrete railway culvert was constructed through this culvert with a single 500mm diameter CSP (or 450mm tile) rather than the twin 300mm vitrified concrete sewer pipe shown on the 1963 drawing.

## EXISTING DRAINAGE CONDITIONS

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

- that the Elgin Manor property (Roll No. 7-085-05), owned by Elgin County, has been redeveloped and rebuilt with a larger building and parking area
- that the Keystone Village Apartments have been constructed on the property (Roll No. 7-085-030) immediately west of the Elgin Manor property
- that storm drainage for each development is directed into a stormwater management facility (SWMF) on each property and the owners requested that the existing drains now providing outlet for the SWMF be incorporated as a municipal drain to provide legal drainage outlets

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

- that the old sanitary lagoons have been replaced with a new treatment facility on the adjacent Elgin County property (7-085). This facility serves the Elgin Manor, Keystone Village Apartments, and the school on the south side of Final Line
- that the SWMF for the Keystone Village Apartments outlets into a maintenance hole (MH) with orifices and restricted flow. The MH is connected into the 300mm tile constructed in 1963 by Elgin County
- that a new 150mm to 100mm perforated plastic tile branch was constructed from the 1963 tile drain south to the SWMF on the northeast side of the Elgin Manor property. The pond is connected to the 100mm tile with a MH. This 100mm plastic tile is intended to function as flow restriction from the pond
- that overflow from both of the above ponds is intended to flow along the surface runs in the existing drain locations



## EXISTING DRAINAGE CONDITIONS (cont'd)

- that the treated water discharge from the wastewater treatment plant is connected into the Main Drain tile
- that the existing Luton Drain on the Hoffsuemmer Farms Ltd. property (7-084) mainly serves the systematic tiling on that property, with minor surface flow (approximately 0.25 ha.) from Lyle Road and a residential property (7-084-01)
- that the existing Luton Drain on the Lyle (7-085-50), On Track St. Thomas (Roll No. 7-080-01), and Herman (Roll No. 7-089) properties is in good condition and works in conjunction with the 1963 private drain
- that the 1963 private drain is in good working condition
- that Branch B, which acts as a cross connection with the 1963 private tile, Branch C, and Branch D are in good working condition. There are no tiles from the upstream Hoffsuemmer Farms Ltd. property connected into Branch C, as this tiling is to the north, however surface water still flows to Branch C

Preliminary 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 and at later dates.

## DESIGN CRITERIA AND CONSIDERATIONS

The Drainage Coefficient method contained in the "DRAINAGE GUIDE FOR ONTARIO", Publication 29 by the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) is typically used to design municipal drains. The Drainage Coefficient defines a depth of water that can be removed in a 24-hour period and is expressed in millimetres per 24 hours. The coefficient of the existing Main Drain, with respect to capacity, was 19mm per 24 hours and 5mm per 24 hours for Branch A.

## RECOMMENDATIONS

We are therefore recommending the following:

- that the existing 300mm private tile drain (1963) from the MH at the Keystone Village Apartment complex SWMF to the outlet, including related appurtenances, which has been cross-connected to the Luton Main Drain with Branch B, be incorporated as an improvement to the Luton Main Drain,
- that the existing Luton Drain 1929 from the outlet at Sta. -0+030 to the Hoffsuemmer/Lyle property line including the 30-meter open portion, Branch B, which is working in conjunction with the 1963 tile, and related appurtenances, be included as part of the Main Drain for future maintenance purposes



## RECOMMENDATIONS (cont'd)

- that Branches C and D (1929), be included as part of this report for future maintenance purposes
- that the existing private 100mm and 150mm plastic tile now serving the Elgin Manor SWMF be incorporated as Branch A for future maintenance purposes
- that the remaining portion of the 1929 Luton Drain, including the old Branch A on the Hoffsuemmer Farms Ltd. property (7-084) be officially abandoned from municipal status pursuant to Section 19 of the Drainage Act. However, the affected owners may maintain it as a private drain if they so wish
- in accordance with Section 14(2) of the Drainage Act the existing surface waterway along the route of the tile drain shall be part of the drainage works for future maintenance. The width available for the waterway shall be equal to the maintenance working width shown on the drawings

## SUMMARY OF PROPOSED DRAIN

The Luton Drain 2022 will consist of approximately 30 lineal meters of open ditch and approximately 910 lineal meters of 150mm to 350mm existing tile, including related appurtenances, and the incorporation of 1,818 lineal meters of 100mm to 300mm existing tile, including related appurtenances.

## SCHEDULES

Four schedules are attached hereto and form part of this report, being Schedule 'A' - Allowances, Schedule 'B' - Cost Estimate, Schedule 'C' - Assessment for Construction, and Schedule 'D' - Assessment for Maintenance.

Schedule 'A' - Allowances. In accordance with Section 29 of the Drainage Act, allowances are provided for right-of-way along the route of the existing drains as defined below.

Schedule 'B' - Cost Estimate. This schedule provides for a detailed cost estimate of the work which is in the amount of \$ 31,100.00. This estimate includes engineering and administrative costs associated with this project.

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

Schedule 'D' - Assessment for Maintenance. In accordance with Section 38 of the Drainage Act, this schedule outlines the distribution of future repair and/or maintenance costs for portions of, or the entire drainage works.

Drawing No. 1, Job No. 208211 forms 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

**RIGHT-OF-WAY:** Section 29 of the Drainage Act provides for an allowance to the owners whose land must be used for the construction, repair, or future maintenance of a drainage works.

For tile drains where the owners will be able to continue to use the land, the allowance provides for the right to enter upon such lands, and at various times for the purpose of inspecting such drain, removing obstructions, and making repairs. Also, the allowance provides for the restrictions imposed on those lands to protect the right-of-way from obstruction or derogation. The amounts granted for right-of-way on tile drains is based on a percentage of the value of the land designated for future maintenance. Therefore, the amounts granted are based on \$6,750.00/ha. through cropped lands and \$2,625.00/ha. through bush. These values are multiplied by the hectares derived from the width granted for future maintenance and the applicable lengths. No right-of-way was previously provided for any of the existing drains being included/incorporated.

For open ditches, the allowance provides for the loss of land due to the construction provided for in the report. The amounts granted are based on the value of the land, and the rate used was \$45,000.00/ha. When any buffer strip is incorporated and/or created, the allowance granted is for any land beyond a 1.8-meter width deemed to have always been part of the drain. For existing open ditches, the right-of-way to provide for the right to enter and restrictions imposed on those lands is deemed to have already been granted.

## 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 DEFINITIONS (cont'd)

In addition, a Public Utility or Road Authority shall be assessed for and pay all the increased cost to a drainage works due to the construction and operation of the Public Utility or Road Authority. This may be shown as either benefit or special assessment.

## ASSESSMENT

A modified "Todgham Method" is typically used to calculate the assessments shown on Schedule 'C'- Assessment for Construction. This entails breaking down the costs of the drain into sections along its route. Special Benefit Assessments are then extracted 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, residential, and institutional 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 'C' - Assessment for Construction.

## 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

Upon completion of construction, all owners are hereby made aware of Sections 80 and 82 of the Drainage Act which forbid the obstruction of or damage or injury to a municipal drain. This includes tree roots penetrating tiles from trees planted by owners or naturally occurring. For tiles through bush areas, we recommend the owner maintain the cleared space by either mowing (hay) or growing a crop over it. If no maintenance is completed over several years, we recommend the Municipality complete the mowing/clearing as part of maintenance at the discretion of the Drainage Superintendent.



**MAINTENANCE** (cont'd)

After completion, the Main Drains, Branch A, and Branch B shall be maintained by the Township of Southwold at the expense of all upstream lands and roads assessed in Schedule 'C' - Assessment for Construction and in the same relative proportions, with the exception that all special benefit assessments are to be removed, until such time as the assessment is changed under the Drainage Act.

After completion, Branch C and Branch D (1929) shall be maintained by the Township of Southwold at the expense of all upstream lands and roads assessed in Schedule 'D' - Assessment for Maintenance and in the same relative proportions until such time as the assessment is changed under the Drainage Act.

Special Benefit Assessments shall not be pro-rated for future maintenance purposes.

The existing portions of the 1929 Luton Drain included in this report shall be maintained in accordance with the grades and dimensions set out in the plans and specifications contained in the report dated September 26, 1929.

Repairs or improvements to any culvert or sub-surface crossing shall be the responsibility of the owners, entirely at their cost.

Respectfully submitted,

SPRIET ASSOCIATES LONDON LIMITED

M.P. DeVos, P. Eng.



MPD:bv



SCHEDULE 'A' - ALLOWANCES

LUTON DRAIN 2022

Township of Southwold

In accordance with Section 29 of the Drainage Act, we determine the allowances payable to owners entitled thereto as follows:

CON.	LOT	ROLL NUMBER (Owner)	SECTION 29 RIGHT-OF-WAY	TOTAL
<b>MAIN DRAIN-LOWER PORTION &amp; Br. B</b>				
NTRE	Pt.40&41	7-085-50 (J. Lyle)	\$ 4,450.00	\$ 4,450.00
NTRE	Pt.39-41	7-089 (M. & S. Herman)	1,730.00	1,730.00
Total Allowances			\$ 6,180.00	\$ 6,180.00
<b>TOTAL ALLOWANCES ON THE MAIN DRAIN-LOWER PORTION &amp; Br. B</b>			<b>\$ <u>6,180.00</u></b>	
<b>MAIN DRAIN-UPPER PORTION</b>				
NTRE	Pt.39&40	7-084 (Hoffsuemmer Farms Ltd.)	\$ 3,310.00	\$ 3310.00
NTRE	Pt.39	7-085 (Elgin County)	450.00	450.00
Total Allowances			\$ 3,760.00	\$ 3760.00
<b>TOTAL ALLOWANCES ON THE MAIN DRAIN-UPPER PORTION</b>			<b>\$ <u>3,760.00</u></b>	
<b>BRANCH " A "</b>				
NTRE	Pt.39&40	7-084 (Hoffsuemmer Farms Ltd.)	\$ 2,830.00	\$ 2830.00
NTRE	Pt.39&40	7-085-05 (County of Elgin)	80.00	80.00
Total Allowances			\$ 2,910.00	\$ 2910.00
<b>TOTAL ALLOWANCES ON THE BRANCH " A "</b>			<b>\$ <u>2,910.00</u></b>	
<b>TOTAL ALLOWANCES ON THE LUTON DRAIN 2022</b>			<b>\$ <u>12,850.00</u></b>	

SCHEDULE 'B' - COST ESTIMATE

LUTON DRAIN 2022

Township of Southwold

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

**MAIN DRAIN-LOWER PORTION & Br. B**

Allowances under Section 29 of the Drainage Act \$ 6,180.00

**MAIN DRAIN-UPPER PORTION**

Allowances under Section 29 of the Drainage Act \$ 3,760.00

**BRANCH " A "**

Allowances under Section 29 of the Drainage Act \$ 2,910.00

**ADMINISTRATION**

Conservation Authority Review Fee \$ 300.00

Interest and Net Harmonized Sales Tax \$ 602.00

Survey, Plan and Final Report \$ 15,776.00

Expenses \$ 1,072.00

Finalize \$ 500.00

**TOTAL ESTIMATED COST \$ 31,100.00**

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION

LUTON DRAIN 2022

Township of Southwold

Job No. 208211

May 31, 2022

\* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
<b>MAIN DRAIN-LOWER PORTION &amp; Br. B</b>						
	NTRE Pt.39&40	26.0	7-084 (Hoffsuemmer Farms Ltd.)	\$	\$ 1,562.00	\$ 1,562.00
*	NTRE Pt.39	0.05	7-084-01 (Parkona Properties Ltd.)		3.00	3.00
*	NTRE Pt.39	1.23	7-085 (Elgin County)		287.00	287.00
*	NTRE Pt.39&40	4.85	7-085-05 (County of Elgin)	2,040.00	630.00	2,670.00
*	NTRE Pt.39	2.53	7-085-30 (Diamond Residential)	2,040.00	329.00	2,369.00
*	NTRE Pt.39	0.15	7-085-35 (County of Elgin)		19.00	19.00
	NTRE Pt.40&41	38.4	7-085-50 (J. Lyle)	3,810.00	1,224.00	5,034.00
*	NTRE Pt.40&41	2.64	7-086 (C. & P. Vanderwyst)		103.00	103.00
	NTRE Pt.41&42	0.6	7-087 (D. Lyle & H. Heard)		23.00	23.00
	NTRE Pt.41&42	23.4	7-090-10 (J. Lyle)		805.00	805.00
	NTRE Pt.39-41	2.6	7-089 (M. & S. Herman)	1,150.00	34.00	1,184.00
*	Right-of-Way	1.4	7-080-01 (On Track St. Thomas)	170.00	23.00	193.00
TOTAL ASSESSMENT ON LANDS				\$ 4,080.00	\$ 5,130.00	\$ 5,042.00
Fingal Line (Cty 16)				\$	\$ 49.00	\$ 49.00
Lyle Road					39.00	39.00
TOTAL ASSESSMENT ON ROADS				\$	\$ 88.00	\$ 88.00
<b>TOTAL ASSESSMENT ON THE MAIN DRAIN-LOWER PORTION &amp; Br. B</b>						<b>\$ 14,340.00</b>

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION (Cont'd)

**LUTON DRAIN 2022**

**Township of Southwold**

\* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
<b>MAIN DRAIN-UPPER PORTION</b>						
NTRE	Pt.39&40	10.1	7-084 (Hoffsuemmer Farms Ltd.)	\$ 2,720.00	\$ 973.00	\$ 3,693.00
* NTRE	Pt.39	0.05	7-084-01 (Parkona Properties Ltd.)		4.00	4.00
* NTRE	Pt.39	1.23	7-085 (Elgin County)	390.00	852.00	1,242.00
* NTRE	Pt.39&40	4.85	7-085-05 (County of Elgin)	430.00	374.00	804.00
* NTRE	Pt.39	2.53	7-085-30 (Diamond Residential)	2,440.00	200.00	3,615.00
* NTRE	Pt.39	0.15	7-085-35 (County of Elgin)		58.00	58.00
TOTAL ASSESSMENT ON LANDS				\$ 2,870.00	\$ 3,310.00	\$ 9,416.00
Fingal Line (Cty 16)	0.2	County of Elgin		\$	\$ 28.00	\$ 28.00
Lyle Road	0.2	Township of Southwold			46.00	46.00
TOTAL ASSESSMENT ON ROADS				\$	\$ 74.00	\$ 74.00
<b>TOTAL ASSESSMENT ON THE MAIN DRAIN-UPPER PORTION</b>						<b>\$ <u>9,490.00</u></b>
<b>BRANCH " A "</b>						
NTRE	Pt.39&40	5.7	7-084 (Hoffsuemmer Farms Ltd.)	\$ 1,470.00	\$ 544.00	\$ 2,014.00
* NTRE	Pt.39&40	4.85	7-085-05 (County of Elgin)	2,190.00	1,070.00	5,112.00
TOTAL ASSESSMENT ON LANDS				\$ 2,190.00	\$ 2,540.00	\$ 7,126.00
Fingal Line (Cty 16)	0.2	County of Elgin		\$	\$ 144.00	\$ 144.00
TOTAL ASSESSMENT ON ROADS				\$	\$ 144.00	\$ 144.00
<b>TOTAL ASSESSMENT ON BRANCH " A "</b>						<b>\$ <u>7,270.00</u></b>
<b>TOTAL ASSESSMENT ON THE LUTON DRAIN 2022</b>						<b>\$ <u>31,100.00</u></b>

SCHEDULE 'D' - ASSESSMENT FOR MAINTENANCE

LUTON DRAIN 2022

Township of Southwold

Job No. 208211

May 31, 2022

\* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
<b>LUTON DRAIN 1929 - BRANCH C</b>						
NTRE	Pt.39&40	1.5	7-084 (Hoffsuemmer Farms Ltd.)	12.5 %	12.5 %	25.0 %
NTRE	Pt.40&41	1.5	7-085-50 (J. Lyle)	62.5	12.5	75.0
				=====	=====	=====
				75.0 %	25.0 %	100.0 %
				=====	=====	=====
<b>TOTAL ASSESSMENT ON THE LUTON DRAIN 1929 - BRANCH C</b>						<b>\$ 100.0 %</b>

LUTON DRAIN 1929 - BRANCH D

NTRE	Pt.40&41	-	7-085-50 (J. Lyle)	40.0 %	%	40.0 %
NTRE	Pt.41&42	0.6	7-087 (D. Lyle & H. Heard)		0.9	0.9
NTRE	Pt.41&42	13.4	7-090-10 (J. Lyle)	10.0	49.1	59.1
				=====	=====	=====
<b>TOTAL ASSESSMENT ON LANDS</b>				50.0 %	50.0 %	100.0 %
				=====	=====	=====
<b>TOTAL ASSESSMENT ON THE LUTON DRAIN 1929 - BRANCH D</b>						<b>\$ 100.0 %</b>

SCHEDULE OF NET ASSESSMENT

LUTON DRAIN 2022

Township of Southwold

(FOR INFORMATION PURPOSES ONLY)

Job No. 208211

May 31, 2022

\* = Non-agricultural

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
7-084 (Hoffsuemmer Farms Ltd.)	\$ 7,269.00	\$ 2,423.00	\$ 6,140.00	\$ -1,294.00
* 7-084-01 (Parkona Properties Ltd.)	7.00			7.00
* 7-085 (Elgin County)	1,529.00		450.00	1,079.00
* 7-085-05 (County of Elgin)	8,586.00		80.00	8,506.00
* 7-085-30 (Diamond Residential)	5,984.00			5,984.00
* 7-085-35 (County of Elgin)	77.00			77.00
7-085-50 (J. Lyle)	5,034.00	1,678.00	4,450.00	-1,094.00
* 7-086 (C. & P. Vanderwyst)	103.00			103.00
7-087 (D. Lyle & H. Heard)	23.00	8.00		15.00
7-090-10 (J. Lyle)	805.00	268.00		537.00
7-089 (M. & S. Herman)	1,184.00	395.00	1,730.00	-941.00
* 7-080-01 (On Track St. Thomas)	193.00			193.00
* Fingal Line (Cty 16)	\$ 221.00	\$	\$	\$ 221.00
* Lyle Road	85.00			85.00
<b>TOTALS</b>	<b>\$ 31,100.00</b>	<b>\$ 4,772.00</b>	<b>\$ 12,850.00</b>	<b>\$ 13,478.00</b>