

McCOLL DRAIN WEST
Municipality of West Elgin



**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

London, Ontario
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McCOLL DRAIN WEST
Municipality of West Elgin

To the Mayor and Council of
the Municipality of West Elgin

Mayor and Council:

We are pleased to present our report on the reconstruction and extension of the McColl Municipal Drain West serving parts of Lots A to C, Concession 9, in the Municipality of West Elgin. The total watershed area contains approximately 28.5 hectares.

AUTHORIZATION

This report was prepared pursuant to Section 78 of the Drainage Act. Instructions were received from your Municipality with respect to a motion of Council. The work was initiated by a request signed by an affected landowner.

HISTORY

The McColl Drain was incorporated pursuant to a report submitted by H.H. Todgham, P. Eng. dated June 24, 1964 and consisted of the incorporation of an existing award drain referred to as the McColl Award Drain and the construction of 365 lineal meters of 200mm diameter tile. The total length of the incorporation and construction was 990 lineal meters.

EXISTING DRAINAGE CONDITIONS

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

- that the requesting landowner, R. Hyslop (Roll No. 30-076) indicated that the existing drain was no longer functioning adequately. He indicated that the drain was almost entirely full of sediment in various locations and lacked sufficient depth to provide an outlet for the lands draining to it

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



EXISTING DRAINAGE CONDITIONS (cont'd)

- that the existing drain is undersized by current standards and that it lacks sufficient depth to provide an adequate outlet to the lands tributary to it
- that the existing drain is in a state of disrepair and, given the age of it, further repairs are no longer practical

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 and at later dates. Based on the proposed design it was decided to proceed with the report.

DESIGN CONSIDERATIONS

The proposed drain was designed, with respect to capacity, using the Drainage Coefficient method contained in the "DRAINAGE GUIDE FOR ONTARIO", Publication 29 by the Ontario Ministry of Agriculture, Food, and Rural Affairs. 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 used for the Main Drain was 38mm.

We would like to point out that there have been no indications of any adverse soil conditions, but no formal soil investigation has been made.

All of the proposed work has been generally designed and shall be constructed in accordance with the DESIGN AND CONSTRUCTION GUIDELINES FOR WORK UNDER THE DRAINAGE ACT.

RECOMMENDATIONS

We are therefore recommending the following:

- that the existing McColl Drain be reconstructed to provide a sufficient outlet for the lands within the watershed area, based on current design standards
- that the McColl Drain now be referred to as McColl Drain West to avoid confusion with another drain of the same name in the Municipality
- that the drain be reconstructed in approximately the same location as the existing drain, commencing at the Morden open drain and travelling east through the lands of A. Dewild (Roll No. 30-073), M. McMillian and D. Stuart (Roll No. 30-075), R. Hyslop (Roll No. 30-076), and to its head just within the lands of C. & R. Knight (Roll No. 30-078) for a total length of 832 lineal meters
- that catchbasins be installed along the course of the drain to alleviate surface flows and ponding and to provide access to the drain
- that the existing McColl Drain, from the Morden Drain to Sta. 0+832, be officially abandoned from municipal status pursuant to Section 19 of the Drainage Act



RECOMMENDATIONS (cont'd)

If areas of poor soil are encountered at the time of construction, it may become necessary to install the tile on crushed stone bedding wrapped with geotextile or substitute plastic filter tile through such areas. The additional costs of such work would be an extra to the project. These areas are typically identified at the time of construction but may only become apparent after construction is completed. In this case, the extra costs for removal and reinstallation on stone bedding would be an extra to the project and if already billed become a supplementary billing.

ENVIRONMENTAL CONSIDERATIONS AND MITIGATION MEASURES

There are no significant wetlands or sensitive areas within the affected watershed area or along the route of the drains. The proposed construction of the McColl Drain West includes quarry stone outlet protection and surface inlets which greatly help reduce the overland surface flows and any subsequent erosion. 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.

SUMMARY OF PROPOSED WORK

The proposed work consists of approximately 832 lineal meters of 350mm (14") to 450mm (18") concrete field 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 Sections 29 and 30 of the Drainage Act, allowances are provided for right-of-way and damages to lands and crops along the route of the drain as defined below.

Schedule 'B' - Cost Estimate. This schedule provides for a detailed cost estimate of the proposed work which is in the amount of \$ 79,000.00. 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 of construction 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. 219092, 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

DAMAGES: Section 30 of the Drainage Act provides for the compensation to landowners along the drain for damages to lands and crops caused by the construction of the drain. The amount granted is based on \$3,613.00/ha. for closed drain installed with wheel machine. This base rate is multiplied by the hectares derived from the working widths shown on the plans and the applicable lengths.

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 \$6,670.00/ha. through cropped lands. This value is multiplied by the hectares derived from the width granted for future maintenance and the applicable lengths.

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 liabilities are known as benefit and outlet liability as set out under Sections 22, 23, 24 and 26 of the Act.

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 or sub-surface water, or any other advantages relating to the betterment of lands, roads, buildings or other structures.

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.

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" was used to calculate the assessments shown on Schedule 'C'- Assessment for Construction. This entailed breaking down the costs of the drain into sections along its route.



ASSESSMENT (cont'd)

The remainder is then separated into Benefit and Outlet costs. The Benefit cost 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 Costs are 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 have been assessed for outlet at lower rates than cleared lands.

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 benefit and outlet as shown in detail below and on Schedule 'C' - Assessment for Construction.

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.

After completion, the McColl Drain West including the existing upstream portion shall be maintained by the Municipality of West Elgin 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.

The above existing portions of the drain, upstream of these works, shall be maintained in accordance with the grades and dimensions set out in the plans and specifications contained in the report by H.H. Todgham, P.Eng., dated June 24, 1964.

Respectfully submitted,

SPRIET ASSOCIATES LONDON LIMITED

JMS:bv



J.M. Spriet, P.Eng.



SCHEDULE 'A' - ALLOWANCES

McCOLL DRAIN WEST

Municipality of West Elgin

In accordance with Sections 29 and 30 of the Drainage Act, we determine the allowances payable to owners entitled thereto as follows:

CONCESSION	LOT	ROLL NUMBER (Owner)	Section 29 Right-of-Way	Section 30 Damages	TOTALS
MAIN DRAIN					
9	Pt. A	30-073 (A. Dewild)	\$ 1,150.00	\$ 940.00	\$ 2,090.00
9	NW¼ B	30-075 (M. McMillian)	2,030.00	1,650.00	3,680.00
9	NE¼ B	30-076 (R. Hyslop)	2,330.00	1,890.00	4,220.00
9	NW¼ C	30-078 (C. & R. Knight)	40.00	30.00	70.00
			=====		
Total Allowances			\$ 5,550.00	\$ 4,510.00	\$ 10,060.00
			=====		
TOTAL ALLOWANCES ON THE MAIN DRAIN					\$ <u>10,060.00</u>
TOTAL ALLOWANCES ON THE McCOLL DRAIN WEST					\$ <u>10,060.00</u>

McCOLL DRAIN WEST**Municipality of West Elgin**

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

MAIN DRAIN

6 meters of 450mm dia., H.D.P.E. plastic sewer pipe including rodent gate,
quarry stone rip-rap protection around pipe and end of ditch
(Approximately 6m³ quarry stone req'd)

Supply	\$ 600.00
Installation	\$ 1,200.00

Installation of the following concrete field tile, including supply and installation
of geotextile around tile joints (approx. 1250m req'd)

182 meters of 350mm dia. concrete tile	\$ 3,700.00
173 meters of 400mm dia. concrete tile	\$ 3,700.00
471 meters of 450mm dia. concrete tile	\$ 10,500.00

Supply of the above listed tile	\$ 21,400.00
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Strip, stockpile and releve topsoil from tile trench and adjacent working area
(4m wide) specified on drawings (approx. 832m)

\$ 4,100.00

Supply and install three 600mm x 600mm ditch inlet catchbasin, including grates,
berms, ditching, removal and disposal of existing catchbasins

\$ 5,700.00

Exposing and locating existing tile drains and utilities

\$ 1,000.00

Tile connections and contingencies

\$ 2,300.00

Allowances under Sections 29 & 30 of the Drainage Act

\$ 10,060.00

ADMINISTRATION

Interest and Net Harmonized Sales Tax

\$ 1,680.00

Survey, Plan and Final Report

\$ 9,700.00

Expenses

\$ 870.00

Supervision and Final Inspection

\$ 2,490.00

TOTAL ESTIMATED COST

\$ 79,000.00

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION

McCOLL DRAIN WEST

Municipality of West Elgin

Job No. 219092

November 11, 2019

* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
MAIN DRAIN						
9	Pt. A	2.0	30-073 (A. Dewild)	\$ 8,620.00	\$ 379.00	\$ 8,999.00
9	NW¼ B	6.1	30-075 (M. McMillian)	14,650.00	4,293.00	18,943.00
9	NE¼ B	7.3	30-076 (R. Hyslop)	18,390.00	10,317.00	28,707.00
9	S½ B	2.0	30-077 (R. Hyslop)		1,551.00	1,551.00
9	NW¼ C	10.1	30-078 (C. & R. Knight)	1,320.00	17,676.00	18,996.00
9	SW¼ C	2.0	30-080 (S. Stankov)		1,804.00	1,804.00
TOTAL ASSESSMENT ON LANDS				\$ 42,980.00	\$ 36,020.00	\$ 79,000.00

TOTAL ASSESSMENT ON THE MAIN DRAIN

\$ 79,000.00

TOTAL ASSESSMENT ON THE McCOLL DRAIN WEST

\$ 79,000.00

SCHEDULE 'D' - ASSESSMENT FOR MAINTENANCE

McCOLL DRAIN WEST**Municipality of West Elgin**

Job No. 219092

November 11, 2019

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	PERCENTAGE OF MAINTENANCE COST
MAIN DRAIN				
9	Pt. A	2.0	30-073 (A. Dewild)	8.2 %
9	NW¼ B	6.1	30-075 (M. McMillian)	20.2
9	NE¼ B	7.3	30-076 (R. Hyslop)	33.8
9	S½ B	2.0	30-077 (R. Hyslop)	2.7
9	NW¼ C	10.1	30-078 (C. & R. Knight)	31.9
9	SW¼ C	2.0	30-080 (S. Stankov)	3.2
				=====
TOTAL ASSESSMENT ON LANDS				100.0 %
				=====
TOTAL ASSESSMENT FOR MAINTENANCE OF THE MAIN DRAIN				<u>100.0 %</u>

SCHEDULE OF NET ASSESSMENT

McCOLL DRAIN WEST

Municipality of West Elgin

(FOR INFORMATION PURPOSES ONLY)

Job No. 219092

November 11, 2019

* = Non-agricultural

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
30-073 (A. Dewild)	\$ 8,999.00	\$ 3,000.00	\$ 2,090.00	\$ 3,909.00
30-075 (M. McMillian)	18,943.00	6,314.00	3,680.00	8,949.00
30-076 (R. Hyslop)	28,707.00	9,569.00	4,220.00	14,918.00
30-077 (R. Hyslop)	1,551.00	517.00		1,034.00
30-078 (C. & R. Knight)	18,996.00	6,332.00	70.00	12,594.00
30-080 (S. Stankov)	1,804.00	601.00		1,203.00
TOTALS	\$ 79,000.00	\$ 26,333.00	\$ 10,060.00	\$ 42,607.00