

**CORPORATION OF THE TOWNSHIP OF EAST ZORRA-TAVISTOCK COUNCIL
2022 - 2026**

AGENDA

**for the Meeting to be held on Wednesday February 15, 2023 at the
Innerkip Community Centre, 695566 17th Line, Innerkip, Ontario, at 7:00 p.m.**

1. Call to order
2. Approve Agenda
3. Disclosure of Pecuniary Interest and General Nature Thereof
4. General Business:
 - a) Confirm February 1, 2023 Council Meeting Minutes
 - b) 2022 Council and PSB Pay & Expenses
 - c) Margaret Lupton – January 31, 2023 UTRCA Board Meeting Highlights
 - d) Oxford County – AWS and Speed Reduction – OR 59 & OR 33
 - e) Oxford County – Community Safety Zone Implementation
5. Delegations & Appointments:
 - a) 7:15 p.m. – MVA Application A-1-2023 (Bender)
 - b) 7:30 p.m. – Engineer's Report (Tavistock Drain 1985 – Reconstruction 2023)
6. Reports of Municipal Officers and Committees:
 - a) Conferences and Seminars
 - b) County Council – Updates & Questions
 - c) Staff Reports – Updates & Questions
 - d) Staff Report - #CBO2023 – 02 re: Municipal Drain Inspection – 2022 Results
 - e) Staff Report - #HRSC2023-02 re: Recreation Advisory Committee Appointments
7. By-laws:
 - a) By-law #2023-04 – Tavistock 1985-Reconstruction 2023 (Provisional By-law)
8. Other and Unfinished Business:
 - a) Councillor Schaefer – Township signage
 - b) Family Day Public Skating
9. Closed to the Public Session *as authorized under s. 239 of the Municipal Act*:
10. Confirming By-law
11. Adjourn

Placeholder Page for Agenda Item 1 –
Call to order and opening remarks

Use this page to note any opening remarks
you wish to make.

2.

Placeholder Page for Agenda Item 2 – Approval of the Agenda

Use this page to note items you would like added to the agenda.

3.

Placeholder Page for Agenda Item 3 – Disclosure of Pecuniary Interest

Use this page to note any Pecuniary Interests
you wish to declare at the meeting.

The Council of the Township of East Zorra-Tavistock met at the Innerkip Community Centre, Innerkip, Ontario at 9:00 a.m. on Wednesday February 1, 2023.

Members Present: Mayor Phil SCHAEFER, Deputy Mayor Brad SMITH and Councillors Matthew GILLESPIE, Jeremy SMITH, Scott RUDY, Steven VAN WYK and Scott ZEHR.

Members Absent: None.

Staff Present: CAO-Treasurer Karen DePrest, Clerk Will Jaques, Chief Building Official John Scherer, Public Works Manager Tom Lightfoot, Fire Chief Scott Alexander and Human Resources and Safety Coordinator Jennifer Albrecht.

Mayor SCHAEFER welcomed everyone to the meeting. Councillor SMITH noted the recent news posting that Southwestern Public Health is closing down its COVID-19 mass vaccination clinics in the region, and that staff at Southwestern Public Health have done a tremendous job throughout the pandemic. Councillor ZEHR discussed his recent trip to Israel, noting the complex geo-political situation that continues within that area of the World.

Approve
Agenda

1. Moved by: Jeremy SMITH
Seconded by: Steven VAN WYK
Resolved that Council approve the agenda for the February 1, 2023, meeting as printed and circulated.

CARRIED.

PECUNIARY INTERESTS:

- None.

Confirm
Minutes -
Council

2. Moved by: Brad SMITH
Seconded by: Scott ZEHR
Resolved that Council confirm the Minutes of the January 18, 2023, Council Meeting, as printed and circulated.

CARRIED.

Correspondence & Reports – No Resolutions:

- Oxford County – Backflow Prevention Program (Public Consultation Centres)
- January 18, 2023, PSB Minutes
- Staff Report - #CBO2023 – 01 re: Building, Development & Drainage Reporting
- Staff Report - #PW2023 – 01 re: Public Works Reporting
- Staff Report - #FC2023 – 01 re: Fire Department Reporting
- Staff Report - #BCO2023 – 01 re: By-law Compliance Reporting
- Staff Report - #CSM2023 – 02 re: Corporate Services Reporting
- Staff Report - #CSM2023 – 03 re: Overnight On-Street Winter Parking Exemption
- Staff Report - #CAO2023 – 01 re: CAO-Treasury Reporting

Correspondence & Reports – Resolutions Following:

Oxford County–
Backflow
Prevention
Program (Public
Consultation
Centres)

Council reviewed the correspondence from the Oxford County regarding the upcoming Public Consultation Centres for the Backflow Prevention Program.

Conferences
and Seminars

Mayor SCHAEFER and Councillors VAN WYK and SMITH provided a review of the recent ROMA Conference.

County Council–
Updates &
Questions

Mayor SCHAEFER provided an update on Oxford County Council activities.

January 18,
2023
PSB Minutes

Council reviewed the Minutes from the January 18, 2023, Police Services Board meeting.

Staff Report
#CBO2023 – 01
re: Building,
Development &
Drainage
Reporting

CBO John Scherer reviewed the Monthly Building, Development & Drainage Report with Council.

Staff Report
#PW2023 – 01
re: Public Works
Reporting

Public Works Manager Tom Lightfoot reviewed the Monthly Public Works Report with Council.

Staff Report
#FC2023 – 01
re: Fire
Department
Reporting

Fire Chief Scott Alexander reviewed the Monthly Fire Department Report with Council.

Staff Report
#BCO2023 – 01
re: By-law
Compliance
Reporting

Council reviewed the Monthly By-law Compliance Report from By-law Compliance Officer Melanie Shiell.

Staff Report
#CSM2023 – 03
re: Overnight
On-Street
Winter Parking
Exemption

Clerk Will Jaques presented his report to Council regarding the possibility of an exemption to overnight on-street parking during the winter months. After discussion, Council confirmed that it does not wish to provide for overnight on-street parking exemptions during the winter months.

Staff Report
#CSM2023 – 02
re: Corporate
Services
Reporting

Clerk Will Jaques reviewed the Monthly Corporate Services Report with Council.

Staff Report
#CAO2023 – 01
re: CAO-
Treasury
Reporting

CAO-Treasurer Karen DePrest reviewed the Monthly CAO-Treasury Report with Council.

Staff Report
#CAO2023 – 02
re: Parks &
Recreation
Staffing

CAO-Treasurer Karen DePrest presented her report to Council regarding staffing within the Parks and Recreation area.

3. Moved by: Scott RUDY
Seconded by: Steven VAN WYK
Resolved that Council endorse the recruitment of an additional Facility Operator and a Support Staff Position, as per Staff Report #CAO2023-02.

CARRIED.

Other and
Unfinished
Business

Mayor SCHAEFER brought forward discussion regarding having an alternate member of Township Council attend County Council meetings, in the **Mayor's absence. As per the Township's** Procedural By-law, in the **Mayor's absence, this** vacancy would be filled by the Deputy Mayor.

4. Moved by: Jeremy SMITH
Seconded by: Matthew GILLESPIE
Resolved that Council appoint Deputy Mayor Brad Smith to be the alternate member for East Zorra-Tavistock on Oxford County Council, to act in the absence or inability of the Mayor to attend Oxford County Council meetings.

CARRIED.

Other and
Unfinished
Business

Mayor SCHAEFER brought forward discussion **regarding overnight camping in the Township's parks**. After discussion, Council confirmed its position that no overnight camping would be **permitted in the Township's parks**.

Confirming
By-law

5. Moved by: Scott ZEHR
Seconded by: Matthew GILLESPIE
Resolved that By-law #2023-03 being a by-law to confirm the proceedings of Council held Wednesday February 1, 2023, be read a first, second and third time this 1st day of February, 2023;

And further that the Mayor and Clerk are hereby authorized to sign the same and affix the corporate seal thereto.

CARRIED.

Adjourn

6. Moved by: Jeremy SMITH
Seconded by: Scott RUDY
Resolved that Council does now adjourn at 1:05 p.m.

CARRIED.

Will Jaques, Clerk

Phil Schaefer, Mayor

Township of East Zorra-Tavistock

2022 Council & PSB Pay and Expenses

Prepared in accordance with the Municipal Act 2001, Section 284

Council		Honorarium + Per Meeting & Conference Pay	Re-imbursed Expenses	2022 Total
Phil Schaefer	Mayor/Councillor	\$15,396.89	\$0.00	\$15,396.89
Brad Smith	Deputy Mayor	\$2,044.44	\$0.00	\$2,044.44
Don McKay	Mayor	\$19,300.27	\$1,286.41	\$20,586.68
Don Edmiston	Deputy Mayor	\$15,674.01	\$0.00	\$15,674.01
Scott Rudy	Councillor	\$14,700.92	\$0.00	\$14,700.92
Margaret Lupton	Councillor	\$13,004.66	\$0.00	\$13,004.66
Scott Zehr	Councillor	\$1,696.26	\$0.00	\$1,696.26
Steven VanWyk	Councillor	\$1,696.26	\$0.00	\$1,696.26
Matthew Gillespie	Councillor	\$14,700.92	\$0.00	\$14,700.92
Jeremy Smith	Councillor	\$14,700.92	\$0.00	\$14,700.92

Police Services Board

Bob Rudy	Chairperson	\$2,061.34	\$395.50	\$2,456.84
Matthew Gillespie	Board Member	\$1,866.96	\$0.00	\$1,866.96
Liam McCreery	Board Member	\$1,914.10	\$0.00	\$1,914.10

Payments made in accordance with approved wage rates, and applicable Township by-laws and policies

Will Jaques
Corporate Service Manager

January 31, 2023 UTRCA Board meeting

The January meeting was planned as Orientation for the new Board members. Those remaining on the Board and those leaving were also invited to attend. I chose to connect by ZOOM.

Topics included were Governance, Member Responsibilities, Health and Safety, Programs and Services (and the new regulations), Budget overview, and recent amendments to the Conservation Authorities Act....so it was a full morning and very informative.

The next meeting on February 28 is the AGM. The agenda will be divided with the first part being planned for the present Board and the rest being taken over by the new Board.

This will be my final report. I have enjoyed my term and have learned a great deal. Thank you for giving me the opportunity to represent you.

Margaret Lupton

Will Jaques

Subject: Oxford County Council: PW 2023-06 - All-way Stop and Speed Reduction, OR 33 and OR 59

From: Laura Hamulecki <lhamulecki@oxfordcounty.ca>

Sent: February 9, 2023 11:09 AM

To: Will Jaques <wjaques@ezt.ca>

Subject: Oxford County Council: PW 2023-06 - All-way Stop and Speed Reduction, OR 33 and OR 59

Good Morning,

Please be advised that Oxford County Council, at its meeting held on February 8, 2023, adopted the following recommendations contained in Council Report No. PW 2023-06, entitled *"All-way Stop and Speed Reduction – Oxford Road 33 and Oxford Road 59 Intersection"*:

1. That County Council endorse the implementation of an all-way stop condition and speed reduction from 80km/hr to 60km/hr at the intersection of Oxford Road 59 and Oxford Road 33 in the Township of East Zorra-Tavistock, as outlined in Report No. PW 2023-06;
2. And further, that a by-law be presented to County Council at the February 22, 2023 Council meeting to amend By-law No. 3741-98 to designate an all-way stop condition at the intersection of Oxford Road 59 and Oxford Road 33;
3. And further, that a by-law be presented to County Council at the February 22, 2023 Council meeting to amend By-law No. 6019-2018 to designate 60km/hr zones on all four approaches to the intersection of Oxford Road 59 and Oxford Road 33.

Attached is a copy of the report for reference. Please distribute to members of Council for their information, as well as any appropriate staff.

A copy of the amended by-laws will be sent following their adoption by County Council on February 22, 2023.

Please do not hesitate to contact us should you have any questions or concerns.

LAURA HAMULECKI (She/Her/Hers) | Administrative Assistant, Public Works

OXFORD COUNTY | 21 Reeve St., PO Box 1614, Woodstock, ON, N4S 7Y3

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To: Warden and Members of County Council

From: Director of Public Works

All-way Stop and Speed Reduction - Oxford Road 33 and Oxford Road 59 Intersection

RECOMMENDATIONS

- 1. That County Council endorse the implementation of an all-way stop condition and speed reduction from 80km/hr to 60km/hr at the intersection of Oxford Road 59 and Oxford Road 33 in the Township of East Zorra-Tavistock, as outlined in Report No. PW 2023-06;**
- 2. And further, that a by-law be presented to County Council at the February 22, 2023 Council meeting to amend By-law No. 3741-98 to designate an all-way stop condition at the intersection of Oxford Road 59 and Oxford Road 33;**
- 3. And further, that a by-law be presented to County Council at the February 22, 2023 Council meeting to amend By-law No. 6019-2018 to designate 60km/hr zones on all four approaches to the intersection of Oxford Road 59 and Oxford Road 33.**

REPORT HIGHLIGHTS

- The purpose of this report is to seek County Council endorsement to amend By-law No. 3741-98 and By-law No. 6019-2018, being a by-law to designate through highways and speed limits on County roads, respectively, in order to implement an all-way stop condition and reduce speeds at the intersection of Oxford Road 59 (OR 59) and Oxford Road 33 (OR 33), in the Township of East Zorra-Tavistock.
- An intersection study at OR 59 and OR 33 has determined that warrants have been met for an all-way stop (AWS) and further recommends a speed reduction from 80km/hr to 60km/hr within 500m from the intersection on all four approaches. These measures are intended to improve intersection safety.
- Additional improvements will also be installed that include an overhead flashing light on a span wire, oversized stop signs with mounted red flashing beacons, rumble strips, and electronic speed feedback signs (SFS) on all four approaches.

Implementation Points

Intersection improvements will be implemented in Q2 2023. Installation of sign posts and an overhead flashing light will be completed in advance of activating new intersection control measures. Signage installation, pavement markings and activation of an overhead flashing light will be coordinated on the day of implementation with temporary traffic control measures in place.

On January 11, 2023, red flashing beacons were installed on the existing oversized stop signs for the east and west intersection approaches on OR 33.

Financial Impact







Implementation of the intersection improvements is estimated to cost \$75,000, with approved funding available in the 2023 Business Plan and Budget.

Communications

Report No. PW 2023-06 will be circulated to the Township of East Zorra-Tavistock, the Ontario Provincial Police and local residents for their information. The change in intersection control will also be communicated through signage that will be erected onsite in advance of implementation with advisory messaging to drivers of upcoming changes.

As a major intersection change, updates will be provided through social media, the Oxford County website, and an advisory to local media. Social media content will also be shared with Area Municipalities for their use. A general update was provided on the County website in January regarding the new flashing lights at the intersection.

Strategic Plan (2020-2022)

					
WORKS WELL TOGETHER	WELL CONNECTED	SHAPES THE FUTURE	INFORMS & ENGAGES	PERFORMS & DE5.II LIVERS	POSITIVE IMPACT
		3.iii.		5.ii	

DISCUSSION

Background

The current configuration of the OR 33 and OR 59 intersection includes stop control for east and west approaches on OR 33 with free flow conditions on OR 59. The posted speed on all four intersection approaches is 80km/hr.

An Intersection Control Feasibility (ICF) review was undertaken at this intersection in 2021. This review was originally identified as a road network strategy implementation project as part of the 2019 Oxford County Transportation Master Plan (TMP). This intersection was evaluated and assessed for enhanced intersection control and roundabout feasibility; however, the Ontario Traffic Manual (OTM) warrants (traffic volume or annual average collisions) were not met for an all-way stop or signalization/roundabout.

The County then also carried out an all-way stop warrant analysis in December 2022 based on collision occurrences, which met the OTM collision warrants for an all-way stop (AWS) at the intersection of Oxford Roads 59 and 33.

Traffic control enhancements at the intersection of OR 59 and OR 33 are as follows and are based on the findings and recommendations of the 2021 ICF Study, and subsequent all-way stop (AWS) warrant analysis completed in December 2022:

- Overhead flashing red light on a span wire, with electrical service connection;
- Implementation of an AWS with oversized stop signs;
- 60km/hr speed reduction with electronic SFS on all four approaches;
- Stop signs with mounted red amber solar flashing beacons at all four corners; and
- Transverse rumble strips at all four approaches.

Comments

County Council endorsement for AWS implementation and change in posted speed at the intersection of OR 59 and OR 33, as shown in Attachment 1, is required for staff to bring forward the necessary By-law amendments.

Implementation of an AWS by introducing stop control for north and south approaches on OR 59 is intended to mitigate problematic angle and turning movement collision occurrences. Operational analysis that was completed as part of the 2021 ICF study forecasted that the intersection would continue to operate under acceptable conditions within a 20-year horizon. During weekday peak hours, delays are not expected to exceed 15 – 25 seconds per vehicle without any queuing concerns and with adequate reserve capacity. Traffic patterns and movements will continue to be monitored over time to ensure the effectiveness of the proposed intersection enhancements and/or identify any other alternative recommended improvements (i.e. roundabout).

Implementation of an AWS is further supported by the Township of East Zorra–Tavistock (EZT) based on correspondence received by County Council on November 23, 2022 and January 11, 2023, from Township of EZT Police Services Board and Township of EZT Council, respectively.

The proposed speed reduction from 80km/hr to 60km/hr within 500m from the intersection at all four approaches is recommended based on the study data that showed excessive operating speeds on OR 59. High vehicle operating speeds are promoted by the down gradient on the south approach and the speed reduction, combined with electronic SFSs, is intended to reduce approach speeds and further mitigate collision occurrences. Lower operating speeds will also reduce required sightline distances from the intersection and private entrances and reduce noise levels generated from transverse rumble strips.

Conclusions

The intersection of OR 59 and OR 33 will continue to operate within acceptable levels of service with the implementation of an AWS. Speed reduction at intersection approaches combined with other visual enhancements are expected to improve overall traffic control at this location.

SIGNATURES

Report Author:

Original Signed by

Frank Gross, C. Tech
Manager of Transportation and Waste Management Services

Departmental Approval:

Original Signed by

David Simpson, P.Eng., PMP
Director of Public Works

Approved for submission:

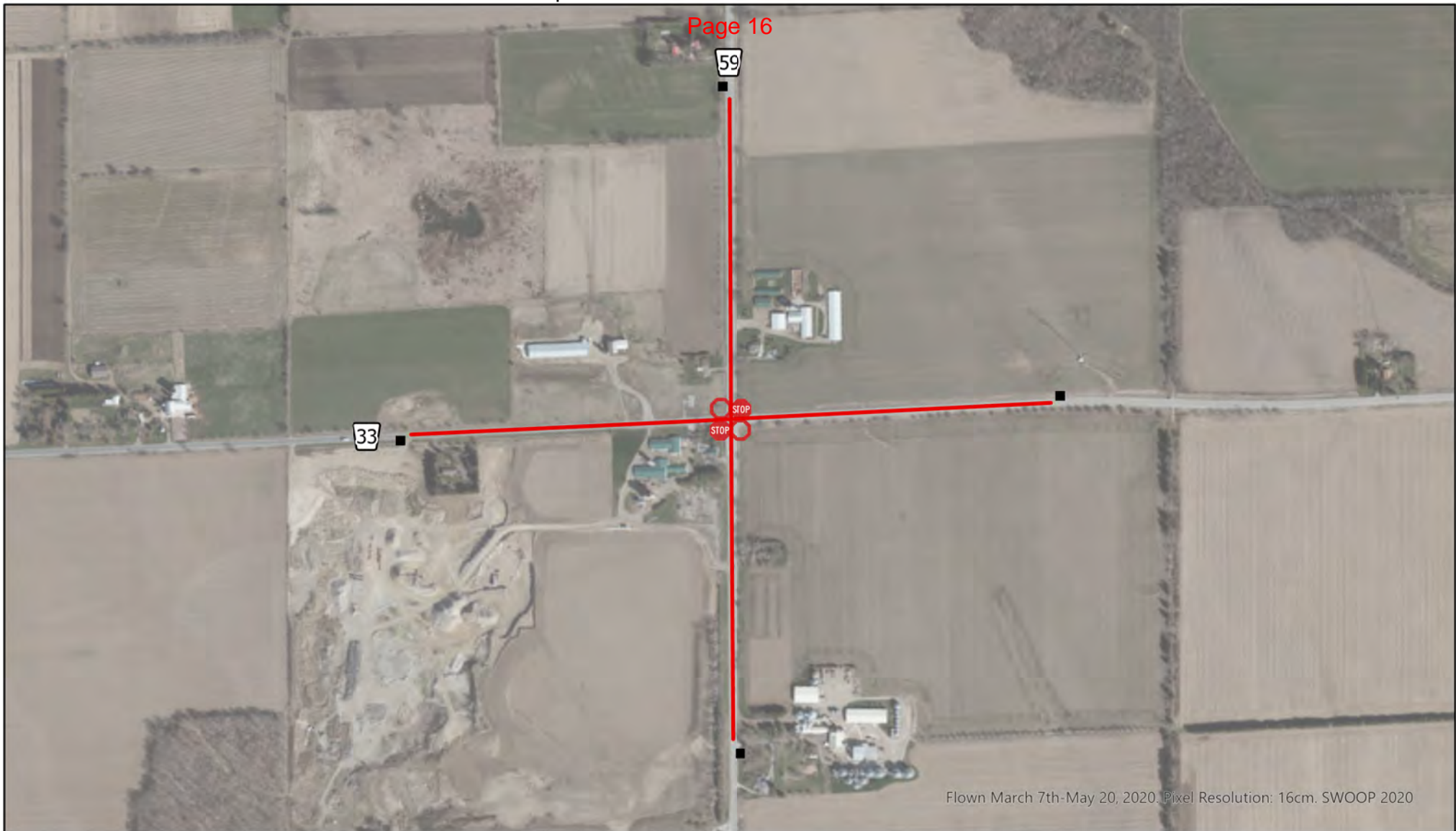
Original Signed by

Benjamin R. Addley
Interim Chief Administrative Officer

ATTACHMENT

Attachment No. 1: Proposed Speed Reduction Map – OR 59/33

Page 16

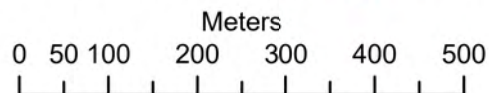


Flown March 7th-May 20, 2020. Pixel Resolution: 16cm. SWOOP 2020

Intersection at Oxford Rd 59 & Oxford Rd 33 Proposed All-way Stop and Speed Reduction



- Proposed 60km/hr
- Electronic Speed Feedback Sign
- STOP Existing Stop Control
- Proposed Stop Control



Will Jaques

Subject: Oxford County Council: PW 2023-05 - Community Safety Zone Implementation

From: Laura Hamulecki <lhamulecki@oxfordcounty.ca>

Sent: February 9, 2023 11:28 AM

To: ahumphries@cityofwoodstock.ca; Julie Middleton <clerk@swox.org>; Kyle Kruger <kkruger@norwich.ca>; danielle.richard@ingersoll.ca; Rodger Mordue <rmordue@blandfordblenheim.ca>; Will Jaques <wjaques@ezt.ca>; Karen Martin <kmartin@zorra.ca>; msmibert@tillsonburg.ca

Subject: Oxford County Council: PW 2023-05 - Community Safety Zone Implementation

Good Morning,

Please be advised that Oxford County Council, at its meeting held on February 8, 2023, adopted the following recommendations **(as amended - see resolution attached)** contained in Council Report No. PW 2023-05, entitled "*Community Safety Zone Implementation*":

1. That County Council authorize the implementation of Community Safety Zones as described in Report No. PW 2023-05, titled 'Community Safety Zone Implementation';
2. And further, that a by-law be presented to County Council at the February 22, 2023 Council meeting to repeal By-law No. 4015-2000 and designate Community Safety Zones on parts of the County road network as outlined in Report No. PW 2023-05.

Attached is a copy of the report for reference. Attachments 1 and 2 are linked [here](#) as they were too large to send via email. Please distribute to members of Council for their information, as well as any appropriate staff.

A copy of the amended by-law will be sent following its adoption by County Council on February 22, 2023.

Please do not hesitate to contact us should you have any questions or concerns.

LAURA HAMULECKI (She/Her/Hers) | Administrative Assistant, Public Works

OXFORD COUNTY | 21 Reeve St., PO Box 1614, Woodstock, ON, N4S 7Y3

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Municipal Council of the County of Oxford
Council Meeting - Oxford County

Date: Wednesday, February 8, 2023

Moved By: Phil Schaefer
Seconded By: Jerry Acchione

Resolved that the recommendations contained in Report No. PW 2023-05, titled "Community Safety Zone Implementation", be adopted;
And further, that implementation of the Community Safety Zone on Tillson Avenue in Tillsonburg be paused until the Town of Tillsonburg has had the opportunity to complete a Transportation Master Plan.

DISPOSITION: Motion Carried

Chloe Senior

To: Warden and Members of County Council

From: Director of Public Works

**Amended as per
Resolution**

Community Safety Zone Implementation

RECOMMENDATIONS

1. That County Council authorize the implementation of Community Safety Zones as described in Report No. PW 2023-05, titled 'Community Safety Zone Implementation';
2. And further, that a by-law be presented to County Council at the February 22, 2023 Council meeting to repeal By-law No. 4015-2000 and designate Community Safety Zones on parts of the County road network as outlined in Report No. PW 2023-05.

REPORT HIGHLIGHTS

- The purpose of this report is to seek County Council authorization for the implementation of Community Safety Zones (CSZs) in designated areas on the County road network through enactment of an applicable by-law.
- A total of 21 locations throughout the County are proposed for CSZ implementation following a comprehensive evaluation that was completed in 2022 in accordance with the County's CSZ criteria and warrant process adopted by County Council in 2021 (Report No. [PW 2021-31](#)). Designated CSZs will also be eligible for Automated Speed Enforcement (ASE) applications should a potential future County-wide ASE program be adopted.
- If approved, CSZ implementation will be initiated in 2023 with installation of regulatory signage in accordance with the Highway Traffic Act (HTA) and Ontario Traffic Manual (OTM).

Implementation Points

If approved, CSZs will be identified with the installation of appropriate regulatory signage in accordance with the HTA and OTM. Minimum signage requirements include delineation of the zone limits with Begins/Ends sign tabs. Additional signage within a CSZ is required for zone lengths greater than 1,000m and following main intersections.

Financial Impact

Implementation of the CSZs is estimated to cost \$25,000 - \$30,000 with approved funding available in the 2023 Business Plan and Budget.







Communications

The results of the 2022 CSZ evaluation were shared with Area Municipality staff and Police (OPP and Woodstock Police Services) on January 17, 2023 for comment. This was intended to be an initial County-wide assessment for potential CSZ implementation. Other areas identified now or in the future by Area Municipality staff and/or Police will be assessed using the County's CSZ criteria and warrant process.

Report No. PW 2023- 05 will also be forwarded to Area Municipalities and Police pending adoption by County Council.

Implementation of CSZs represent a change for communities. A detailed communications plan will be developed to help inform residents about these changes, encompassing social media, media materials, advertisements, Speak Up Oxford!, and information posted to the County website. All materials will be shared with affected Area Municipalities in advance.

Strategic Plan (2020-2022)

					
WORKS WELL TOGETHER	WELL CONNECTED	SHAPES THE FUTURE	INFORMS & ENGAGES	PERFORMS & DELIVERS	POSITIVE IMPACT
	2.i.	3.iii.			

DISCUSSION

Background

In 2022, a County-wide CSZ evaluation was undertaken by staff utilizing the CSZ criteria and warrant process adopted by County Council on September 8, 2021 (Report No. [PW 2021-31](#)).

The CSZ criteria and warrant process was developed to provide an evidence based approach for the assessment and potential CSZ implementation at designated areas along the County road network. As part of County-wide speed management, traffic calming and road safety initiatives, CSZ implementation across the County road network combined with the use of Automated Speed Enforcement (ASE) has been identified as potential traffic calming and road safety measures for future implementation.

The Ontario Highway Traffic Act (HTA) permits the use of ASE in school zones and CSZs and gives authority to municipal Councils to designate a part of a highway as a CSZ where public safety is of a special concern. The HTA also allows for increased monetary penalties for speeding infractions within CSZs in order to promote deterrence of speeding behaviour.

CSZ Criteria and Warrant Process

The CSZ criteria and warrant process adopted by County Council (Report No. PW 2021-31) involves a two-stage process where designated areas of special consideration are identified (Warrant 1) and then further evaluated to determine if they meet Warrant 2. As per the previously Council approved identification process, only areas within the County road network that meet both warrants will be considered for CSZ designation.

Designated areas of special consideration as part of Warrant 1 include areas along the County road network where posted speeds are 70km/hr or less and that meet the following criteria:

- Elementary or Secondary Schools (including those with identified official school zones);
- Community centres, recreation areas, playgrounds, hospitals;
- High pedestrian traffic locations (100 pedestrians in any 8 hour period);
- Senior centres/residences; and
- Areas identified by Police.

Locations that meet Warrant 1 require further assessment using the road safety and collision safety components as part of the Warrant 2 analysis. Designated areas with a safety risk scoring of 13 or greater or a collision ratio of less than 1:900 are considered to meet Warrant 2 criteria.

2022 County-wide CSZ Evaluation

The above noted CSZ criteria and warrant process was applied by staff on a County-wide basis in 2022. This evaluation initially involved identification of areas of special consideration along the County road network in accordance with CSZ Warrant 1 criteria. Study area limits were then established for each location that would coincide with potential CSZ limits with consideration given to a minimum zone length of 500m, nearest main intersections, approaches to areas of special consideration, and speed zone limits. Each study area was further assessed using the road safety scoring matrix and the collision ratio as part of the Warrant 2 analysis.

Comments

CSZ Evaluation Findings and Results

The results of the 2022 CSZ evaluation are provided in Attachment 1. Study areas that are highlighted in green meet Warrant 2 criteria and are being proposed for CSZ implementation. Locations highlighted in yellow could potentially meet Warrant 2 criteria; however, they require additional data collection for specific road safety parameters where data was not available at the time of the evaluation.

Each area of special consideration (Warrant 1) was identified with specific details such as location (road, municipality), facility type/name (school, park, etc.), posted speed, and zone limits/length, as well as the road safety score and collision ratio as part of Warrant 2. Where traffic data was not available for some of the specific road safety parameters, the lowest score was applied.

Detailed mapping is provided in Attachment 2 and includes an overall County-wide map and individual maps for each study area identifying proposed CSZs.

The key findings of the CSZ evaluation are summarized below:

- 28 locations were identified as meeting Warrant 1 (areas of special consideration);
- 21 locations met Warrant 2 road safety component (score of 13 or greater);
- Collision component threshold was not met for any of the 28 locations (collision ratio < 1:900); and,
- 7 locations did not meet Warrant 2 road safety component (score of 13 or greater) and require additional data collection for specific scoring matrix criteria where lowest score was applied due to unavailable information.

From the above, 21 locations met the CSZ criteria and warrant process thresholds required to be designated as a CSZ and carried forward for implementation.

CSZ By-law Enactment

CSZs must be designated by a municipal by-law in order to be enforceable and must identify the specific zone limits and time periods (times/days/months) when increased penalties are in effect. If approved by County Council, a by-law will be prepared to designate CSZs at the 21 locations that meet both Warrant 1 and 2 of the County's CSZ warrant process. Proposed CSZs are recommended to be in effect 24 hours/7 days a week to avoid any confusion for traditional and automated enforcement activities.

Staff recommends repealing the County's existing CSZ By-law No. 4015-2000 and replacing it with an updated by-law as per the recommendations contained in this report. By-law No. 4015-2000 was enacted in May 2000 to designate CSZs on Oxford Road 119 through Kintore and on Oxford Road 12 through Sweaburg for a one year trial period. There are no records of any data collection during the one-year trial period and/or subsequent reports; however, the CSZ regulatory signage has remained in place. No further CSZ designations have been implemented on County roads since that time.

Conclusions

Implementation of CSZs at designated areas where safety is of a greater concern, validated through the County's CSZ criteria and warrant process, will increase safety and assist in deterring speed related infractions through traditional and automated enforcement, if implemented in the future.

SIGNATURES

Report Author:

Original Signed by

Frank Gross, C. Tech
Manager of Transportation and Waste Management Services

Departmental Approval:

Original Signed by

David Simpson, P.Eng., PMP
Director of Public Works

Approved for submission:

Original Signed by

Benjamin R. Addley
Interim Chief Administrative Officer

ATTACHMENTS

Attachment 1: 2022 CSZ Evaluation Results
Attachment 2: Proposed CSZ Location Maps

2022 Oxford County CSZ Evalutation

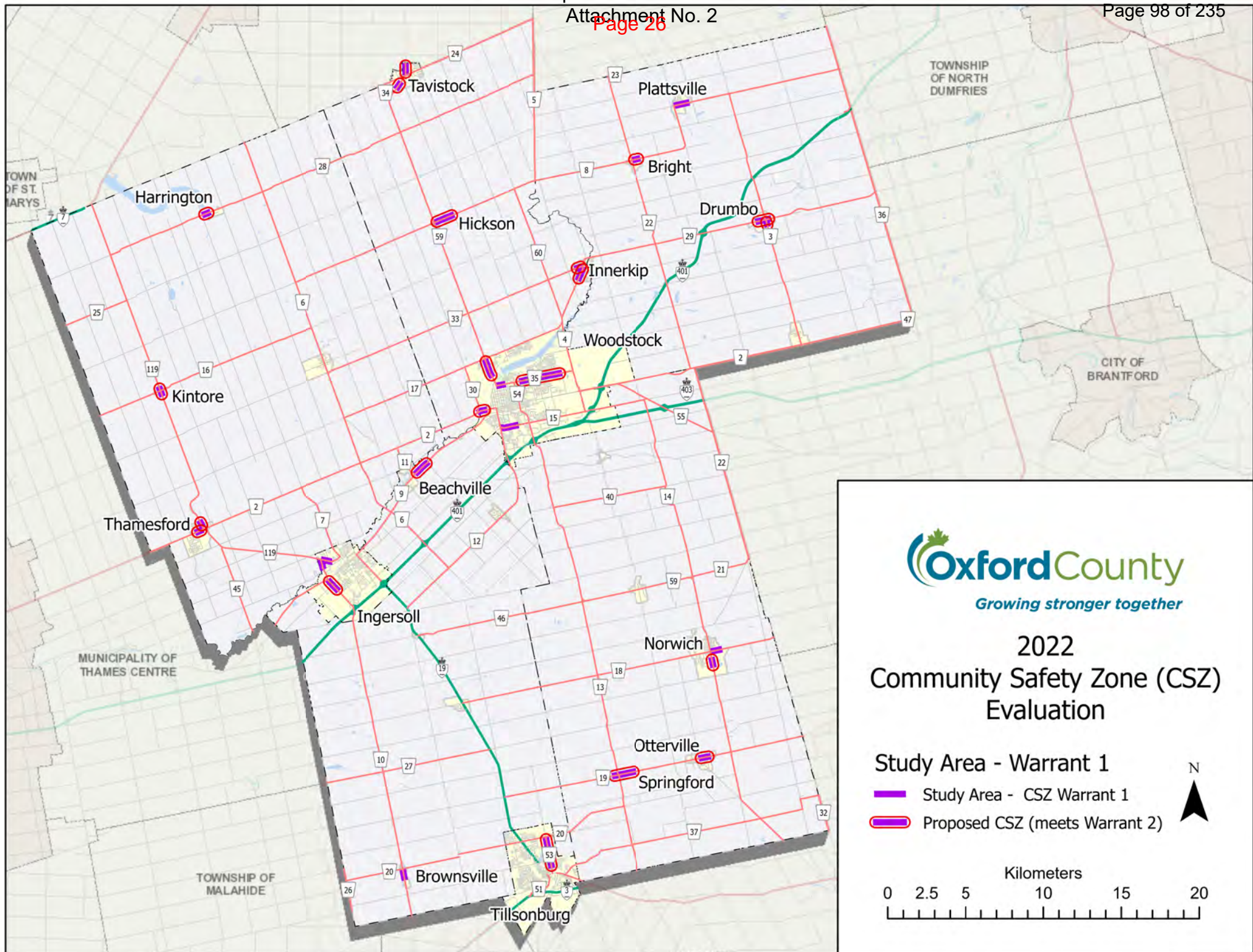
Area of Special Consideration (CSZ Warrant 1)							Road Safety Component (Warrant 2)													Collision Safety Component (Warrant 2)
Oxford Road Number	Posted Speed Limit	Area Municipality	Type of Facility	Facility Name	Zone Limit	Zone Length (m)	Operating Speed (85th Percentile) (km/hr)		Average Annual Daily Traffic		Length of Sidewalk		Truck Volume (%)		Pedestrian crossing in any 8 hrs		Intersections and Entrances per KM		Road Safety Score	Collision Ratio
OR 8/John St E	60km/h 50km/h	Blandford Blenheim (Bright)	Park	Recreation Area	Baird St to Hewitt St	597	78	3	1145	1	26%	2	11%	3	49	1	20	3	13	1:3440
OR 3/Wilmot St S	40km/h	Blandford Blenheim (Drumbo)	School	Blenheim & District P.S.	Maitland to Oxford St	500	66	2	1889	1	100%	1	9%	3	246	3	65	3	13	No Reported Collisions
OR 29/Oxford St	50km/h	Blandford Blenheim (Drumbo)	High Ped Volume	PXO	East limit of 50 kph and West limit of 50 kph	1046	72	3	3157	2	100%	1	8%	3	465	3	56	3	15	1:2360
OR 8/Albert St.	50km/h	Blandford Blenheim (Plattsville)	School	Plattsville Christian School	Douro St to east leg of Fennel St	1026	64	2	3193	2	80%	1	8%	3	49	1	52	3	12	1:9590
OR 8/Loveys St	50km/h	East Zorra Tavistock (Hickson)	School	Hickson Central Public School	13th Line to OR59	1378	66	2	2279	1	82%	1	10%	3	121	3	39	3	13	1:6840
OR 33	50km/h	East Zorra-Tavistock (Innerkip)	School	Innerkip Central Public School	OR 4 to 50kph limit	580	58	2	1286	1	15%	3	8%	3	91	2	10	2	13	1:3860
OR 4/Blandford St	50km/h	East Zorra-Tavistock (Innerkip)	Park	Innerkip Park	George St to OR 33	970	60	2	3666	2	76%	1	4%	2	101	3	86	3	13	1:11010
OR 59/Woodstock St S	50km/h	East Zorra-Tavistock (Tavistock)	Park	Optimist Park	Wilton St to south 50kph limit	610	72	3	3683	2	4%	3	13%	3	49	1	33	3	15	1:1380
OR 59/Woodstock St N	50km/h	East Zorra-Tavistock (Tavistock)	High Ped Volume	PXO	Dietrich Rd to Hope St.	780	64	2	4333	2	100%	1	9%	3	119	3	76	3	14	1:1860
OR 10/Ingersoll St S	50km/h	Ingersoll	Senior Centre/ Park	Ingersoll Services for Seniors/ Cami Soccer Park	King St to 1km south of King St	1043	70	3	5733	2	25%	2	3%	2	49	1	14	3	13	1:5730
OR 10/Ingersoll St N	50 km/h	Ingersoll	Park	Woodhatch Park/ Unifor Baseball Diamond	Bell St to Victoria St	707	69	2	5633	2	66%	2	2%	1	49	1	16	3	11	1:4230
OR 119/Bell St	50km/h	Ingersoll	High Ped Volume	PXO	OR 10 to Cashel St.	736	69	2	5503	2	100%	1	2%	1	101	3	30	3	12	1:3300
OR 18/Main St	50km/h	Norwich	Retirement Home/ School	Crillium Christian Retirement Home/ Rehoboth Christian School	Stover St to east 50kph limit	782	62	2	2014	1	68%	2	8%	3	49	1	54	3	12	1:6050
OR 59/Stover St S	50km/h	Norwich	School/ Community Centre/ Park	Emily Stowe Public School/ Norwich Community Centre/ Dillon Park	Carman St to south 50kph	686	59	2	7030	2	73%	2	8%	3	22	1	36	3	13	1:7030
OR 19/Main St E	50 km/h	Norwich (Otterville)	High Ped Volume	PXO	Church St. to Buchan St.	804	71	3	2870	2	100%	1	7%	3	226	3	52	3	15	1:8620
OR 19/Main St E	50km/h	Norwich (Springford)	Park	Springford Community Park	All of 50kph zone	1597	70	3	2668	2	87%	1	11%	3	49	1	43	3	13	1:1140
OR 9/Beachville Rd	50km/h	Southwest Oxford (Beachville)	Park	Beachville Parks and Recreation	OR 11 to east 50kph limit	1178	79	3	4518	2	36%	2	4%	2	12	1	38	3	13	1:6780
OR 10/Cullogen Line	50km/h	Southwest Oxford (Brownsville)	Community Centre	Brownsville Community Centre	OR 20 to entrance to Lynwood Estates	747	67	2	2232	1	93%	1	17%	3	49	1	47	3	11	1:1120

2022 Oxford County CSZ Evalutation

Area of Special Consideration (CSZ Warrant 1)							Road Safety Component (Warrant 2)													Collision Safety Component (Warrant 2)
Oxford Road Number	Posted Speed Limit	Area Municipality	Type of Facility	Facility Name	Zone Limit	Zone Length (m)	Operating Speed (85th Percentile) (km/hr)		Average Annual Daily Traffic		Length of Sidewalk		Truck Volume (%)		Pedestrian crossing in any 8 hrs		Intersections and Entrances per KM		Road Safety Score	Collision Ratio
OR 53/Tillson Ave	50km/h	Tillsonburg	School	Annadale P.S. PXO Trail Crossing	North St to Brock St	2052	69	2	15467	3	65%	2	2%	1	120	3	30	3	14	1:7730
OR 2/Dundas St.	60 km/hr 50km/hr	Woodstock	Park/Trailheads	Charlie Tatham Park Millenium Trail Standard Tube Trail	Oxford Rd 30 to Bexley St	688	71	3	9500	3	30%	2	2%	1	49	1	18	3	13	1:4070
OR 15/Parkinson Rd	40/50km/h	Woodstock	Schools/Park	Southside Public School/ St. Patrick's/ Kintrea Park / Southside Park	Mill St to South St	1188	69	2	6433	2	90%	1	2%	1	120	3	26	3	12	1:2140
OR 35/Devonshire Ave.	50km/h	Woodstock	Retirement Centre	Chartwell Oxford Gardens Retirement Residence	Vansittart Ave to Wellington St	610	62	2	10792	3	87%	1	4%	2	49	1	40	3	12	1:1700
OR 35/Devonshire Ave.	40km/h 50km/h 60km/h	Woodstock	Park/ School	Les Cook Park/ St. Michael's Catholic Elementary School/ Notre Dame Catholic Secondary School/ Cowan Fields	East limit of 50kph to Leinster St.	2808	69	2	9537	3	100%	1	2%	1	301	3	30	3	13	1:1590
OR 59/Vansitart Ave.	60km/h	Woodstock	Park/ Community Centre	Cowan Sportsplex Trail Crossing	Tecumseh St to OR 17	1284	82	3	9986	3	55%	2	8%	3	20	1	7	2	14	1:3000
OR 28	60km/h	Zorra (Harrington)	Park / Community Centre	Harrington Community Park / Harrington School House (Community Center)	31st Line to Albert St	587	85	3	1558	1	0%	3	21%	3	49	1	22	3	14	1:4680
OR 119	50km/h	Zorra (Kintore)	School	AJ Baker Public School	North 60kph to south 60kph	705	82	3	2460	1	30%	2	30%	3	49	1	38	3	13	1:1480
OR 2/Dundas St.	50km/h	Zorra (Thamesford)	High Ped Volume	PXO	Allen St. to Church St.	584	66	2	9717	3	100%	1	7%	3	101	3	64	3	15	1:1680
OR 119/Allen St.	50km/h	Zorra (Thamesford)	School	Thamesford Public School	Delatre St to north 50kph limit	528	72	3	2614	2	50%	2	22%	3	65	2	24	3	15	No Reported Collisions

Note: Areas of Special Concern with score of 13 or greater OR with Collision Ratio < 1:900 meet warrants for CSZ

	Meets Warrant 2 for CSZ
	Does not meet Warrant 2 For CSZ
	Value/score was assumed for Road Safety Component criteria
	Additional data collection is required



Proposed Community Safety Zone (CSZ) Implementation

OXFORD COUNTY COUNCIL
FEBRUARY 8, 2023

- Background
- CSZ Criteria & Warrant Process
- 2022 CSZ Evaluation
- Next Steps

BACKGROUND

Page 29

Highway Traffic Act (HTA)

- *Municipal authorization to designate part of highway as a CSZ, including hours/day/month, where public safety is of special concern*
- *Speeding fines doubled in CSZ*
- *CSZ eligible for Automated Speed Enforcement (ASE)*

County CSZ By-law No. 4015-2000

- *One-year trial CSZ implementation in Sweaburg & Kintore*
- *No subsequent follow up/signage still in place*

CSZ CRITERIA & WARRANT PROCESS

- Adapted from Comparator Municipalities
 - > Region of Durham, Region of York
- Adopted by County Council (Report No. PW 2021-31)
- Warrant 1: Area of Special Consideration
- Warrant 2: Road Safety Component
- OR
- Warrant 2: Collision Component
- ***Both Warrant 1 and Warrant 2 must be met for CSZ implementation***

CSZ CRITERIA & WARRANT PROCESS

Warrant 1: Area of Special Consideration

(posted speed 70km/hr or less)

- Elementary or Secondary Schools;
- Community centres, recreation areas, playgrounds, hospitals;
- High pedestrian traffic locations (100 pedestrians in any 8 hour period);
- Senior centres/residences; and
- Areas identified by Police.

CSZ CRITERIA & WARRANT PROCESS

Warrant 2: Road Safety Scoring Matrix

- Score of 13 or greater

OR

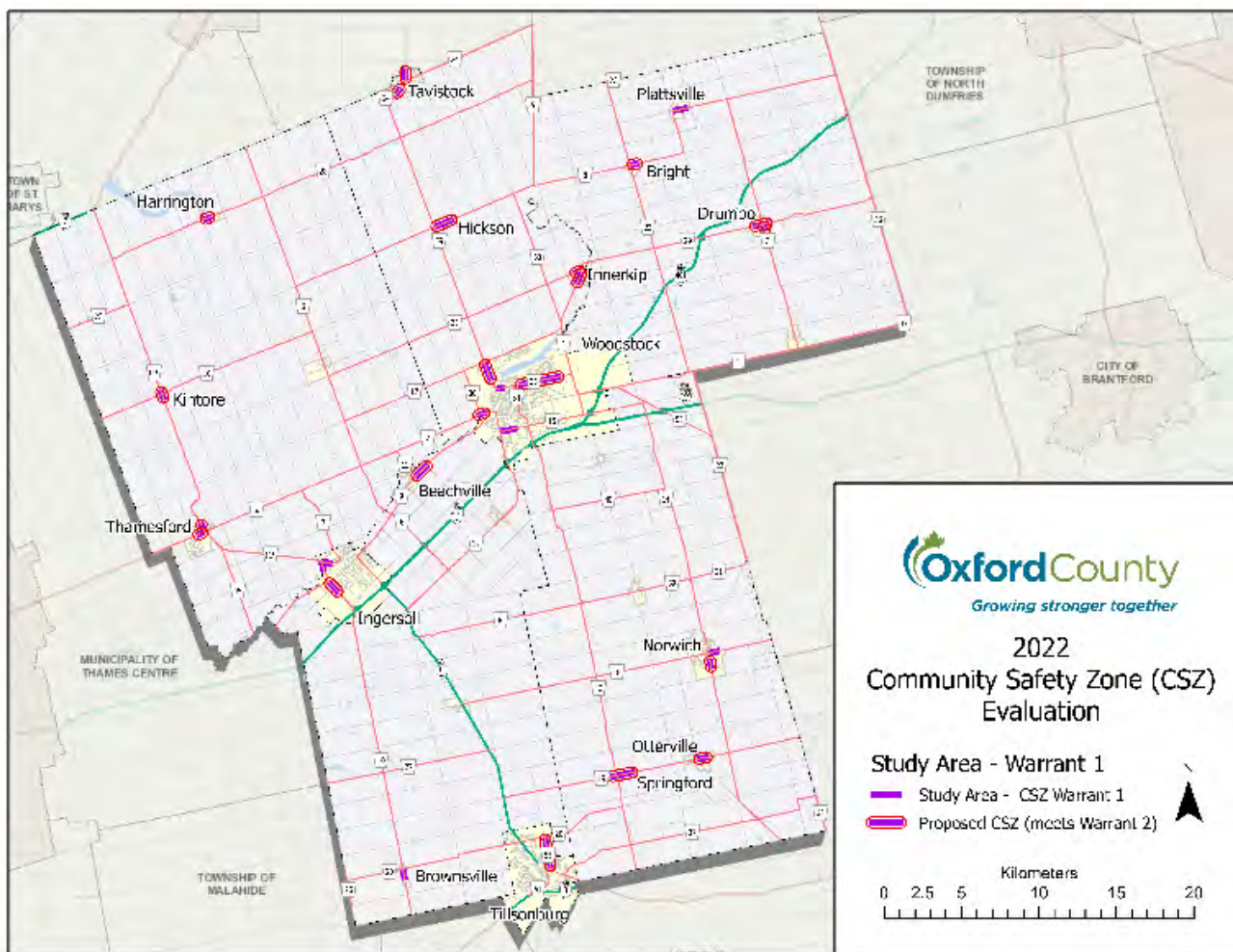
Warrant 2: Collision Component

- Collision Ratio < 1:900
- Avg collisions/year/900 average daily traffic

2022 CSZ EVALUATION OUTCOMES

- 28 CSZ locations identified (Warrant 1)
- 21/28 met road safety component (Warrant 2)
- 0/28 met collision component (Warrant 2)
- **21 locations met Warrant 1 and Warrant 2 thresholds for CSZ implementation**
- **7 locations require further analysis/data collection**

2022 CSZ EVALUATION



NEXT STEPS

Page 35

- New CSZ By-law
- CSZ signage implementation
- Public communication
- Data collection for 7 locations
- Ongoing CSZ evaluation



DISCUSSION

Community Planning

P. O. Box 1614, 21 Reeve Street

Woodstock Ontario N4S 7Y3

Phone: 519-539-9800 • Fax: 519-421-4712

Web site: www.oxfordcounty.ca

Our File: **A01-23**

APPLICATION FOR MINOR VARIANCE

TO: Township of East Zorra-Tavistock Committee of Adjustment

MEETING: February 15, 2023

REPORT NUMBER: CP 2023-45

OWNER: Luke & Joanna Bender
616595 13th Line, RR 6, Woodstock ON N4S 7W1

VARIANCE REQUESTED:

1. Relief from **Section 5.1, Table 5.1.1.3 – Regulations for Accessory Uses**, to increase the maximum height of a building accessory to a residential use from 5.5 m (18 ft) to 6.6 m (21.8 ft).

LOCATION:

The subject lands are legally described as Part Lot 26, Concession 12 (East Zorra) in the Township of East Zorra-Tavistock. The subject lands are located on the west side of 13th Line, between Cassel Sideroad and Maplewood Sideroad, and are municipally addressed as 616595 13th Line.

BACKGROUND INFORMATION:

COUNTY OF OXFORD OFFICIAL PLAN:

Schedule 'E-1'	Township of East Zorra-Tavistock Land Use Plan	Agricultural Reserve
----------------	---	----------------------

TOWNSHIP OF EAST ZORRA-TAVISTOCK ZONING BY-LAW:

Rural Residential Zone (RR)

COMMENTS:

(a) Purpose of the Application:

The applicants are requesting relief from the above noted provision of the Township's Zoning By-law to facilitate the construction of a residential accessory building to the north of the existing single detached dwelling on the subject lands. The proposed accessory building would be approximately 223 m² (2,400 ft²) in size while proposing to increase the maximum height from 5.5 m (18 ft) to 6.6 m (21.8 ft). The purpose of the accessory building is for personal storage.

The subject lands comprise approximately 0.8 ha (2 ac) and are currently occupied by an existing single detached dwelling comprising approximately 369.6 m² (3,978.3 ft²). Surrounding uses are primarily agricultural operations with a non-farm rural residential lot to the south of the subject lands.

Plate 1, Existing Zoning & Location Map, shows the location of the subject lands and the current zoning in the immediate vicinity.

Plate 2, Aerial Photography (2020), shows the location of the subject lands and surrounding properties.

Plate 3, Applicant's Sketch (Site Plan), illustrates the location of the existing single detached dwelling and the location of the proposed detached garage.

Plate 4, Applicant's Sketch (Elevations), illustrates the exterior of the proposed detached garage.

(b) Agency Comments

The Township Fire Chief, the Township Chief Building Official, Township Public Works Manager, and the Upper Thames River Conservation Authority (UTRCA) have indicated no concerns regarding the proposal.

(c) Public Consultation

Public Notice was provided to surrounding property owners in accordance with the requirements of the Planning Act. At the time of writing this report, no comments or concerns had been received from the public.

(d) Intent and Purpose of the Official Plan:

The subject lands are located within the 'Agricultural Reserve' designation, according to the Township of East Zorra-Tavistock Land Use Plan, as contained in the Official Plan. The Official Plan permits residential development in locations within the Agricultural Reserve designation which will not conflict with the general goals for agricultural development. The subject lands are zoned 'RR', which permits non-farm rural residential development. As such, the use of the lands for a structure accessory to existing residential development is in-keeping with the intent of the Official Plan.

(e) Intent and Purpose of the Zoning By-law:

The subject lands are zoned 'Rural Residential Zone (RR)' according to the Township Zoning By-law, which permits a single detached dwelling and accessory buildings and structures thereto.

In accordance with the accessory use provisions of the Zoning By-law, accessory structures are permitted on an 'RR' zoned lot to a maximum lot coverage of 280 m² (3,014 ft²) of gross floor area or 10% of the lot area, whichever is less, and a maximum height of 5.5 m (18 ft). In this instance, the applicants are proposing the construction of a residential accessory building approximately 223 m² (2,400 ft²), with a height of 6.6 m (21.8 ft).

These provisions are intended to ensure such structures/buildings remain clearly secondary and ancillary to the main use of the property, while having minimal impacts on neighbouring properties. In addition, these size limitations assist to ensure sufficient space is maintained on the property to accommodate private services, grading/drainage, amenity space and parking.

The subject property contains an existing single detached dwelling approximately 369.6 m² (3,978.3 ft²) in size and Planning staff are satisfied that the construction of a residential accessory building as proposed by the applicants will remain clearly secondary and ancillary to the main use of the subject lands for residential purposes. Based on this, staff are satisfied that the proposed increase to height is in keeping with the intent of the Zoning By-law.

(f) Desirable Development/Use:

It is the opinion of this Office that the applicants' request can be considered minor and desirable for the development of the subject property.

Staff are satisfied that the proposed accessory building will maintain the character of the subject lands and given that the subject lands are of sufficient area to accommodate the proposed accessory structure, the requested variance can be considered minor. Further, staff are of the opinion that the proposed accessory building will remain clearly secondary to the main use of the property for residential purposes. As such, staff are satisfied that the proposed development can be considered desirable, as it will facilitate a form of development that is in-keeping with the intent of the policies of the Official Plan.

In light of the foregoing, it is the opinion of this Office that the requested relief is appropriate, minor, and in-keeping with the general intent and purpose of the Official Plan and Township Zoning By-law and should be given favourable consideration.

RECOMMENDATION:

That the Township of East Zorra-Tavistock Committee of Adjustment **approve** Application A01-23, submitted by Luke and Joanna Bender for lands described as Part Lot 26, Concession 12 (East Zorra), as it relates to:

2. Relief from **Section 5.1, Table 5.1.1.3 – Regulations for Accessory Uses**, to increase the maximum height of a building accessory to a residential use from 5.5 m (18 ft) to 6.6 m (21.8 ft).
 - i. That the proposed relief shall only apply to a detached garage of the approximate size and location as depicted on Plate 3 of Report CP 2023-45.
 - ii. That the proposed relief shall only apply once the subject lands are in the ownership of the applicants.

As the variance requested is considered to be:

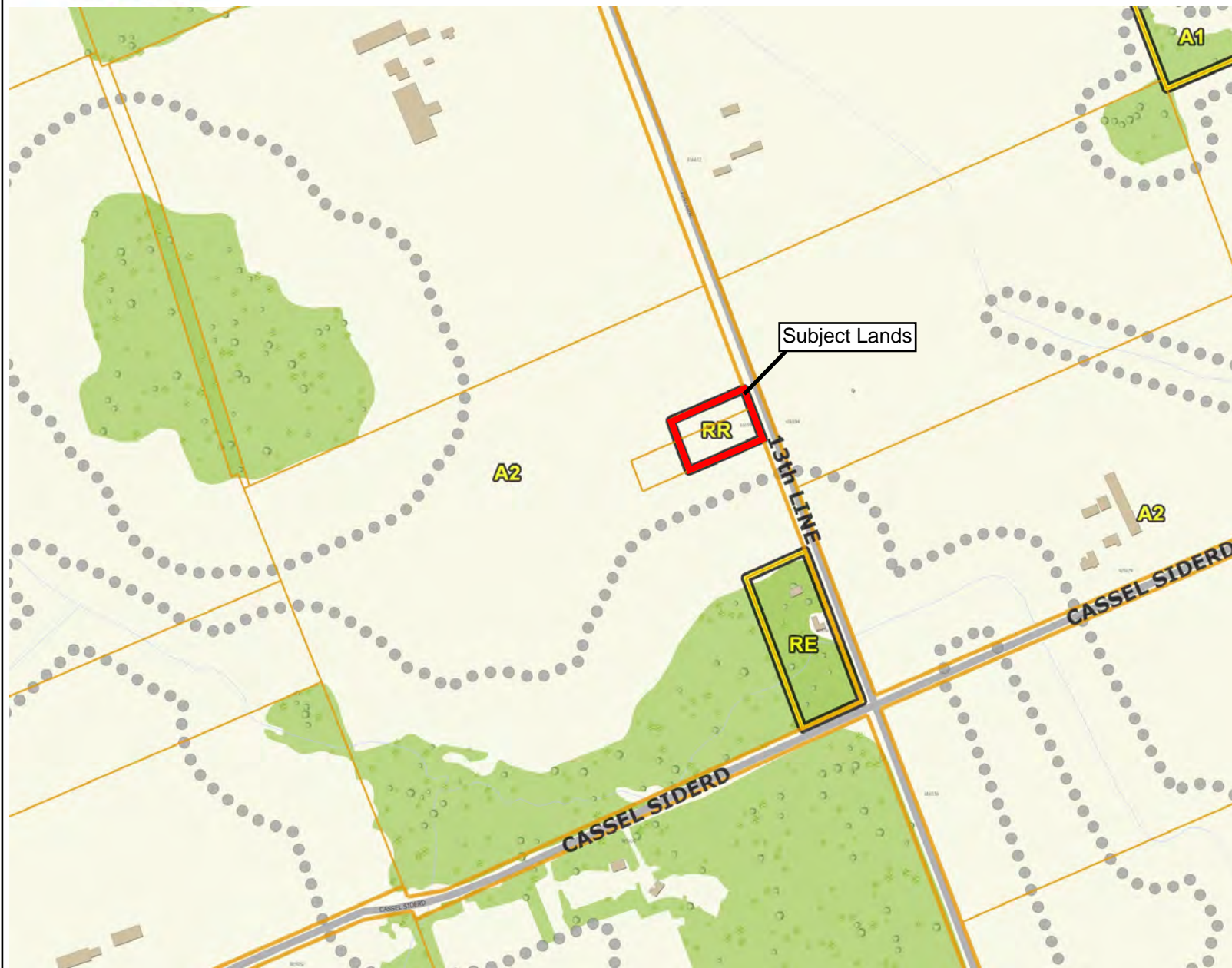
- i) in keeping with the general intent and purpose of the Official Plan;
- ii) a minor variance from the provisions of the Township of East Zorra-Tavistock Zoning By-Law No. 2003-18;
- iii) desirable for the appropriate development or use of the land, building or structure; and,
- iv) in keeping with the general intent and purpose of the Township of East Zorra-Tavistock Zoning By-Law No. 2003-18

Authored by: *Original Signed by*

Dustin Robson, MCIP, RPP
Development Planner

Approved for submission by: *Original Signed by*

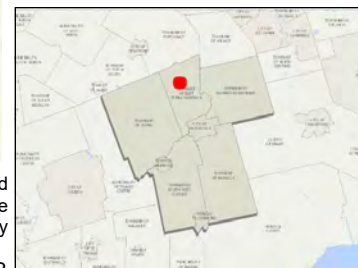
Gordon K. Hough, RPP
Director



Legend

- Parcel Lines**
 - Property Boundary
 - Assessment Boundary
 - Unit
 - Road
 - Municipal Boundary
- Zoning Floodlines**
- Regulation Limit**
 - 100 Year Flood Line
 - 30 Metre Setback
 - Conservation Authority Regulation Limit
 - Regulatory Flood And Fill Lines
- Land Use Zoning (Displays 1:16000 to 1:500)**

Notes



0 205 409 Meters

NAD_1983_UTM_Zone_17N



This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. This is not a plan of survey

January 30, 2023



Legend

Parcel Lines

- Property Boundary
- Assessment Boundary
- Unit
- Road
- Municipal Boundary

Zoning Floodlines

Regulation Limit

- 100 Year Flood Line
- ▲ 30 Metre Setback
- Conservation Authority Regulation Limit
- Regulatory Flood And Fill Lines

- Land Use Zoning (Displays 1:16000 to 1:500)

Notes



0 51 102 Meters

NAD_1983_UTM_Zone_17N



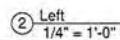
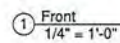
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January 30, 2023



Permit Number: Date: Description:	
City: State: Zip:	Project Name: Address: City: State: Zip:
Issued For: Issued By: Date:	
Project Name: Address: City: State: Zip:	
Project Description: Project Location: Project Status:	
Project Start Date: Project End Date: Project Budget:	
Project Manager: Project Sponsor: Project Stakeholders:	
Project Risks: Project Opportunities: Project Challenges:	
Project Deliverables: Project Milestones: Project Dependencies:	
Project Communication: Project Reporting: Project Documentation:	
Project Approval: Project Sign-off: Project Closure:	

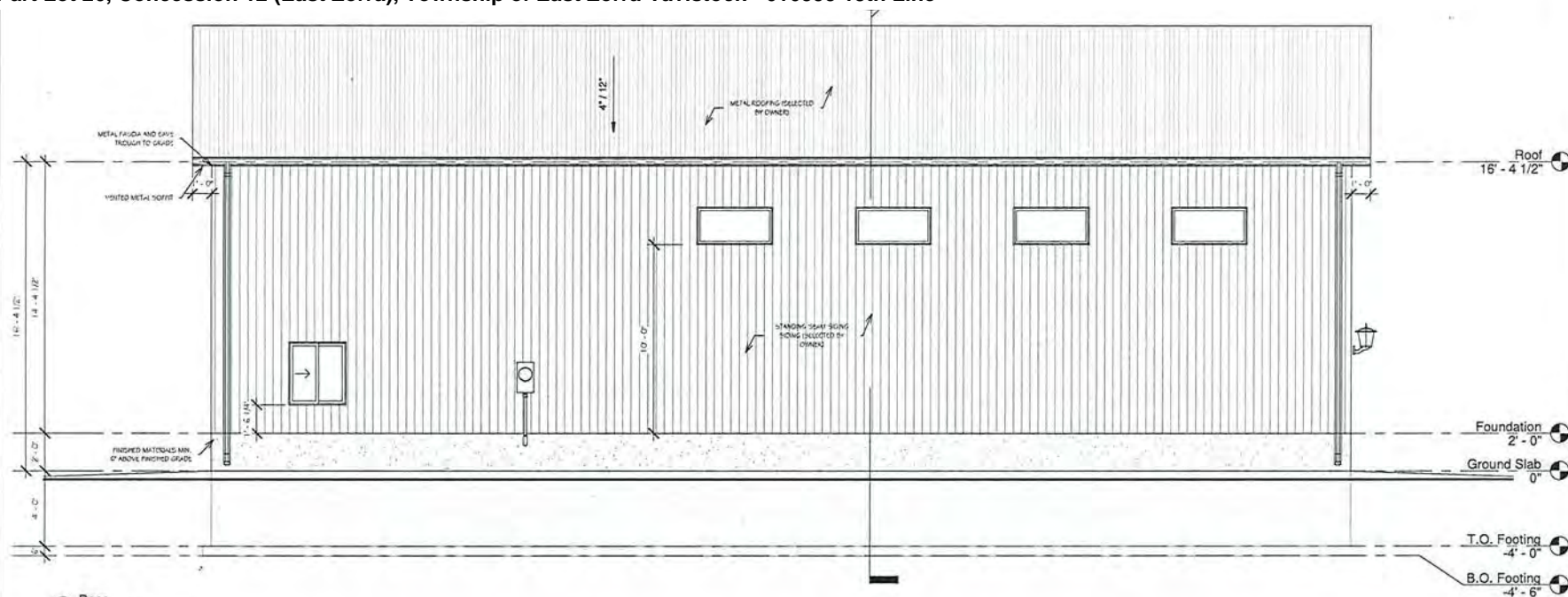
Part Lot 26, Concession 12 (East Zorra), Township of East Zorra-Tavistock - 616595 13th Line



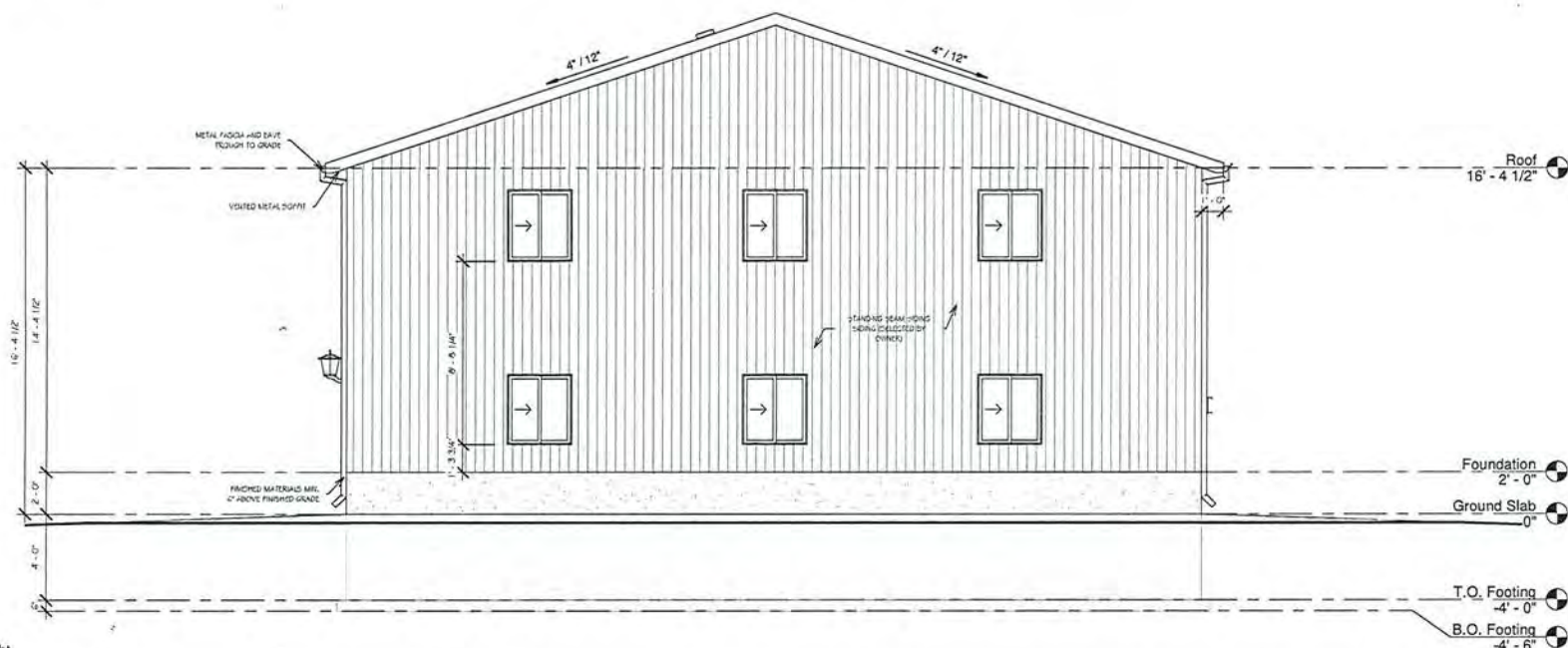
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 Pn: 11/18/2022 10:43:38 AM
 Date: OCT 31 22

File No.: A01-23 - Bender

Part Lot 26, Concession 12 (East Zorra), Township of East Zorra-Tavistock - 616595 13th Line



① Rear
1/4" = 1'-0"



② Right
1/4" = 1'-0"

[illegible]

ISSUED FOR PERMIT

13

1. TRADING/BUYER. From moment until
the end of day 1st the design remains with

04/11/2022 10:45:39 AM

Page 10 of 10

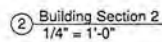
616395 13TH LINE
WOODSTOCK, ON

Rear & Right Elevation

Model	14° • 140°
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A6

Part Lot 26, Concession 12 (East Zorra), Township of East Zorra-Tavistock - 616595 13th Line



ENGINEERING REPORT

For

**TAVISTOCK DRAIN 1985
RECONSTRUCTION 2023**

TOWNSHIP OF EAST ZORRA-TAVISTOCK

County of Oxford

January 18, 2023

File No. 21-135



K. SMART ASSOCIATES LIMITED
CONSULTING ENGINEERS & PLANNERS

85 McIntyre Drive
Kitchener, ON N2R 1H6

Tel: 519-748-1199
Fax: 519-748-6100

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Definitions/Abbreviations:

“Act” or “Drainage Act” means The Drainage Act RSO 1990 as amended
 “CSP” means Corrugated Steel Pipe
 “DFO” means Fisheries and Oceans Canada
 “Drain” means Tavistock Drain 1985 Reconstruction 2023
 “Grant” means grant paid under Agricultural Drainage Infrastructure Program
 “HDPE” means high density polyethylene
 “KSAL” means K. Smart Associates Limited
 “Manhole” means maintenance hole
 “MECP” means Ministry of Environment, Conservation and Parks
 “Municipality” or “Township” means Township of East Zorra-Tavistock
 “OMAFRA” means the Ontario Ministry of Agriculture, Food and Rural Affairs
 “Report” means this 2023 report
 “T.B.D.” means To Be Determined
 “Tribunal” or “Drainage Tribunal” means Agriculture, Food and Rural Affairs Appeal Tribunal
 “TVDSB” means Thames Valley District School Board
 “Twp” means Township
 “UTRCA” means Upper Thames River Conservation Authority
 “dia.” means diameter

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January 18, 2023

File No. 21-135

TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023

TOWNSHIP OF EAST ZORRA-TAVISTOCK

1 SUMMARY

This is a drainage report prepared pursuant to Sections 4 and 8 of the Drainage Act, RSO 1990. The Report was prepared in accordance with instructions from the Township of East Zorra-Tavistock pursuant to Council resolutions dated September 1st and October 6th, 2021 appointing the Engineer to prepare a report on two separate petitions signed by Canada Farm Distributors Ltd. The petitions were dated August 11th and August 18th, 2021, respectively, and each identified the required work to be the relocation of the existing Tavistock Drain 1985 in Pt. Lots 126 to 128, Registered Plan 307, Part 2 Plan 41R-1977 in the community of Tavistock.

The proposed new drain will be known as the Tavistock Drain 1985 Reconstruction 2023.

The work undertaken with the preparation of this Report has followed the normal procedures of the Drainage Act, which have involved an on-site meeting, review of the site, survey work and design, and the preparation of a report to include plan and profile drawings, cost estimates, specifications, and assessments.

The main purpose of this Report is to provide for the relocation/reconstruction of the lower portion of the Tavistock Drain 1985 to accommodate two proposed developments. One by PeopleCare Centres Inc. and the second by 2825085 Ontario Inc.

The second purpose of this Report will provide for the reapportionment to the Schedules of Assessment for Future Maintenance for the Tavistock Drain 1985 and the downstream affected Hohner Drain, in accordance with Section 65 of the Drainage Act.

Reapportionments are necessitated due to the proposed recently severed (and to be developed) properties from Canada Farms Distributors Ltd., as well as the recently constructed Ponds subdivision by the same owners of 2825085 Ontario Inc., located in the upper Tavistock Drain 1985 watershed.

The proposed drain reconstruction/relocation will replace approx. 335m of the existing Main Drain which flows southwesterly as it crosses through the PeopleCare Centres Inc. and 2825085 Ontario Inc. properties between Hope Street West and Woodstock Street South.

The relocation of this section of the Tavistock Drain 1985 will contain 255m of 1050mm diameter concrete pipe (upsized from the existing 900mm diameter), as well as 160m of 975mm diameter concrete pipe (also upsized from the existing 900mm diameter). This upgrade is a requirement of the Township in order to meet the recommendations of the Tavistock Master Storm Drainage System Plan (R.J. Burnside and Associates Limited) dated July 2007.



This Report contains estimates of the costs pursuant to the Drainage Act to address the Tavistock Drain 1985 reconstruction work. Only items of work directly affecting the Tavistock Drain 1985 is costed here. This Report recognizes that the actual construction work involved may be tendered or done by the developer's contractor, and that all costs will be paid by the developer. The subdivider will also be assessed the allowances, and the engineering in connection with this Report, including any municipal (Township) administration and construction supervision costs incurred. It is also recognized that the proposed reconstruction of the drain can only be undertaken if authorized by an adopted Engineer's Report pursuant to the Drainage Act. This constitutes the required Report.

The total estimated cost associated with this Report related to the Tavistock Drain 1985 Reconstruction 2023 is **\$1,100,000**. This estimate is based on this Engineer's estimate (for the fixed allowances, drain construction, engineering, construction supervision and administration costs), and does not include any engineering incurred by the Subdivider's Engineer, or any municipal (Township) administration and supervision costs.

The following Assessment Schedules and Tables are provided:

- *Schedule A - Schedule of Assessments* shows the assessment of the total estimated cost of the project to the affected owners.
- *Schedule B – Schedule for Actual Cost Bylaw* contains data that summarizes all estimated gross and net assessments. It will be of assistance when preparing the Final/Actual Cost By-Law. It shows the estimated net costs to all parties after the applicable allowances are deducted from the assessments.
- Tables 1-1, 1-2, 2-1, and 2-2 following Schedule B, are the respective reapportionments to the Schedules of Assessment for Future Maintenance for the Tavistock Drain 1985 and Hohner Drain. These reapportionments were prepared in accordance with Section 65 of the Drainage Act.

2 BACKGROUND

Through preliminary discussions held with the Township prior to acquiring severed land from the Canada Farm Distributors Ltd. property, the existence of the Tavistock Drain 1985, as well as the requirement to have said drain relocated by a report under the Drainage Act was described to both proponents. In order to initiate the relocation, a Section 4 petition would be required to be signed and filed with the Township. The Act requires that petitions for Drainage Works be signed by all owners listed on the property or by an officer with signing authority, if the property is owned by a corporation. It is unclear exactly when the severances/changes in ownership was to officially occur, however in order to start the process of the Drainage Act report, the current owner of the property (Canada Farm Distributors Ltd.) signed the petitions with the understanding that all costs would be borne by the two proponents once the change in ownership was finalized.

2.1 PeopleCare Centres Inc.

The first proposed development is a new long term care facility by PeopleCare Centres Inc. located to the west of the existing building on William Street South. The proposed two-storey building would be located on top of a portion of the existing 900mm diameter concrete pipe of the Tavistock Drain 1985 (Main Drain) at its southeastern limits.



2.2 2825085 Ontario Inc. Subdivision

The second proposed development is a subdivision located on Woodstock Street South, east of the Tavistock Optimist Park. The development is near the location of the Tavistock Drain 1985 crossing of Woodstock Street South. At the time of completion of this Report this development is not yet finalized, however is anticipated to be primarily comprised of residential townhouse blocks. The existing Tavistock Drain 1985 is located across the northwest corner of the proposed subdivision.

2.3 Ponds Subdivision

In addition to the drain relocation work required for the two proposed developments mentioned above, this Report will also address a parcel in the upper watershed of the Tavistock Drain 1985 recently subdivided and referred to as the "Ponds Subdivision". The Ponds Subdivision is represented by properties abutting Halliday Drive and the extension of Jacob Street West, located north of Hope Street West and west of Centennial Drive. The subdivision consists of approximately 83 properties and two blocks designated as SWM facilities. The Ponds Subdivision was developed by the same owners as the current 2825085 Ontario Inc. development. A Section 65 report was a condition of the subdivision agreement with the Township.

3 DRAINAGE HISTORY

The Tavistock Drain 1985 was constructed in accordance of a report by K. A. Smart, P. Eng. (K. Smart Associates Ltd.) dated October 31, 1985. The project commenced with the signing of a petition by the County of Oxford for improved drainage to Hope Street West. The report consisted of a "Main Drain" and a "Branch A". The Main Drain commenced on the north side of Hope Street West just short of the main village intersection with Woodstock Street. A 675mm (27") concrete sewer pipe runs westerly past the Mogk and William Street intersection to Centennial Drive. Between William Street and Centennial Drive, the drain increases in size to a 750mm (30") diameter pipe. At Centennial Drive the Main Drain crosses Hope Street West in a southwest direction. From the south side of Hope Street West, the Main Drain continues southerly as a 900mm (36") diameter pipe through two private properties abutting Hope Street West and onto the Canada Farm Distributors Ltd. property. The drain generally continues in a southerly/westerly direction to the point where it reaches Woodstock Street South. The Main Drain crosses Woodstock Street south as two elliptical concrete pipes. The sizes are 865mmx1345mm and 965mmx1525mm to cross the road, then increase to twin – 965mmx1525mm elliptical pipes for a short distance between residential properties on the south side of Woodstock Street South to its outlet in the Hohner Drain. This short stretch of twin elliptical pipes replaced a portion of the 600mm diameter pipe that was the Hohner Drain.

Branch A was constructed to service the west end of Hope Street West, commencing approximately 120m to the west of Centennial Drive as a 450mm (18") diameter concrete pipe on the north side of Hope Street West. Branch A also crossed Hope Street West on a southeasterly direction to its terminus at a maintenance hole on the Main Drain, on the south side of the road.

Prior to the construction of the Tavistock Drain 1985, this watershed area was previously served by Tavistock Drains No. 1 and No. 4.

Tavistock Drain No. 4 was constructed under a report by F. J. Ure dated May 5, 1911. The drain commenced at the northwest corner of the intersection of Hope Street West and



William Street and ran west along the north side of Hope Street West to Centennial Drive. The drain then crossed Hope Street towards the south and continued through private property approximately along the same route as the Tavistock Drain 1985 to its outlet at the Hohner Drain on the north side of Woodstock Street South. In 1967 a second drain was constructed by the former corporation of the Village of Tavistock to parallel Drain No. 4. It was believed by K. A. Smart, P. Eng. in his 1985 report that this 1967 drain was not constructed by a report under the Drainage Act. Downstream of Hope Street across what is now the Canada Farm Distributors Ltd. property, the drain was a 450mm diameter (18") pipe. Tavistock Drain No. 4 was abandoned of status in 1985.

According to the description in the original Tavistock Drain 1985 report, the Tavistock Drain No. 1 commenced at the southwest corner of the intersection of Oxford and Mogk Streets, continuing approximately one lot to the south on Mogk Street, then turning sharply to the southwest through private properties between Mogk and William Streets. The drain crossed William Street, turning southerly on the west side of William Street to its outlet at Tavistock Drain No. 4. It is believed that this route was constructed in 1934. Drawings for the reconstruction of William Street in 1994 show that the drain likely does not cross William Street, but instead turns to the south at William Street with catchbasins located outside of the curb. This reconstruction work in 1994 appears to have constructed a new storm sewer within the road, but did not remove the existing Tavistock Drain No. 1. This 1934 route described above apparently does not match the route described in the Tavistock Drain No. 1 report, dated March 9th, 1910. The 1910 report described the Tavistock Drain No. 1 route to commence at the same location as described above (southwest corner of Mogk and Oxford Streets), however headed west on Oxford Street to William Street, then southerly on William Street to a point near Hope Street where it would cross William Street and outlet into the Tavistock Drain No. 4. In K. A. Smart's, P. Eng. 1985 report, he considers that the 1910 route must therefore have been abandoned. Furthermore, the 1985 report maintained the status of the Tavistock Drain No. 1 as a municipal drain.

4 WATERSHED DESCRIPTION

The perimeter watershed of the Drain has been maintained from the boundary shown in K. A. Smart's 1985 report with only slight modifications for changes in land use occurring since that time.

The watershed boundary has been updated in two (2) locations to match the perimeter of the Ponds Subdivision constructed in multiple phases from 2013 to 2019. The first location is along the back of properties on the west side of Halliday Drive from Hansuld Street southerly to the corner where Halliday Drive turns to the east. The second update again proposes for the watershed to be moved to the back of properties on the north side of Jacob Street West from William Street to vacant land. In total, these updates add approximately 1.3 hectares into the watershed. Past William Street to the east no changes are proposed. In both cases above, backyard swales and small diameter storm sewers in easements direct surface water towards Township streets.

The watershed has also been revised slightly on the 2825085 Ontario Inc. property near Woodstock Street South in order to include the full extents of the subdivision in the watershed. This update adds approximately 0.2 hectares into the watershed.

These changes are later discussed in *Section 13.1 Reapportionments* and captured by Tables 1-1, 1-2, 2-1, and 2-2 for reapportioning the Schedules of Assessment for Future Maintenance.



5 INVESTIGATION**5.1 On-Site Meeting****Attendees:**

Rodney Ramseyer (Optimist Club of Tavistock)	Wade Stever (PeopleCare Centres Inc.)
Eugene Bender (Optimist Club of Tavistock)	Dan Ferguson (WalterFedy – consultant for PeopleCare Centres Inc.)
John Day (2825085 Ontario Inc.)	Tyler Kelly (WalterFedy)
Brian Wilhelm (2825085 Ontario Inc.)	Connor Occleston, Twp. Drainage Superintendent
Angela Kroetsch (GM BluePlan Engineering Limited – consultant for 2825085 Ontario Inc.)	Curtis MacIntyre (K. Smart Associates Ltd.)
	Alex Pasley (K. Smart Associates Ltd.)

On October 21, 2021, the on-site meeting for the Section 4 appointment was held at the Tavistock Optimist Park. Those in attendance are listed above. The Engineer briefly explained that this meeting was a required step in the Drainage Act process, and that the petitions brought forward would be evaluated for sufficiency. The meeting was divided into two segments, with the first half of the meeting focused on the petition for the 2825085 Ontario Inc. proposed development, and the second half for the PeopleCare Centres Inc. development. Both groups were invited to be present for each part. Questions/input are described below.

General Comments (related to both developments)

- Connor Occleston explained that the Township will require the relocated drains to be sized according to the Tavistock Master Storm System Drainage Plan from 2007 and that the costs for upsizing will be borne by the developers.
- Curtis MacIntyre explained that the Master Drainage Plan considers the Tavistock Drain 1985 to be a trunk sewer for the village and calls for the increased sizes to be a 975mm diameter pipe through the PeopleCare Centres Inc. development, and 1200mm/1050mm diameter pipes through the 2825085 Ontario Inc. development to Woodstock Street South. Curtis explained that the Master Drainage Plan likely allows for the recommended size to be reduced to a 1050mm diameter pipe near Woodstock Street South because the grade of the pipe is gradually steeper than the previous section. All parties acknowledged though that this reduced pipe size would not likely be proposed in practice.
- Curtis MacIntyre confirmed that the existing road crossing of Woodstock Street South was not included in the Master Drainage Plan, however calculations showed that the two elliptical concrete pipes at a 0.30% grade have the same capacity as the recommended 1200mm diameter pipe at a 0.90% grade leading up to the crossing. Therefore, it would appear that no upsizing of the Oxford County road crossing would be required.
- Connor Occleston explained the basis of the Township's required 10m right-of-way over the municipal drain for the purposes of future maintenance.



Drain Relocation & Upsizing: 2825085 Ontario Inc. Portion

- Angela Kroetsch explained that the existing drain has been located and surveyed using GPS.
- Property boundaries for the proposed development were staked out prior to the meeting. The severed property also includes an area along the northern limit for a cul-de-sac.
- 2825085 Ontario Inc. would like the drain re-aligned along the north property limit, under the future cul-de-sac, then along the west limit of the property.
- Through preliminary discussions prior to this meeting, it was generally understood that the ideal location for the relocated drain would be onto the Tavistock Optimist Park property. This would avoid a drain that is located within future residential rear yards. A portion of the existing Tavistock Drain 1985 already exists across the Optimist Park property near Woodstock Street, and the engineer will recommend that the full upsizing/relocation for this development be continued to the Woodstock Street South crossing. At this location the existing drain already has enough capacity to meet the Master Drainage Plan recommendations.
- The Optimist Club of Tavistock expressed a concern that this proposal may hinder any future development of their property. The representatives of the club wished to better understand the benefit to them for allowing the proposal.
- Curtis MacIntyre explained the concept of allowances provided under a Drainage Act report and suggested those may be in the range of approximately \$15,000 (based on similar allowance rates used for other recent drain reports within the village) provided to the Optimist Park lands for the drain being further relocated to their property. Curtis suggested the two parties may have to come to their own separate agreement outside of the allowances provided in the drain report.
- Angela Kroetsch explained that extensive stormwater management work was completed as part of a previous subdivision located west of Centennial Drive in the upper watershed of the Tavistock Drain 1985. She suggested that this work had been done after the completion of the Tavistock Master Storm System Drainage Plan and asked if this could be reviewed for a possible reduction in the required upsizing of the drain. Curtis MacIntyre agreed that this would be appropriate.
- 2825085 Ontario Inc. explained that they are anticipating a summer 2022 construction timeline.

Drain Relocation & Upsizing: PeopleCare Centres Inc. Portion

- Dan Ferguson explained that the drain is proposed to be relocated along northern property limit, then turn south along the western property limit.
- It was understood that the proposed drain would be fairly deep in the northwestern property corner (5m +/-) and will require a 10m wide easement for future maintenance.
- The Township requested that the relocated drain, along the west side of the proposed development, be moved as close to the property line as possible to avoid future impact to the underside of footings, if/when future maintenance work occurs
- PeopleCare Centres Inc. also expected a summer 2022 construction timeline.

Drain Upsizing: Between Two Proposed Developments

- Since the proposed developments are not directly connected, a portion of the Tavistock Drain 1985 exists in between the two developments that would otherwise be left without improvement/upsizing. A discussion was held at the meeting regarding this portion of the existing drain and whether an upsizing will also be required. After a

review of the recommended pipe sizes from the Master Drainage Plan in conjunction with the SWM improvements made in the upper watershed, it was later determined that this section of pipe would not be required to be upsized at this time.

6 AUTHORITY FOR REPORT

Section 4 of the Drainage Act provides for the construction of new drainage works for an area requiring drainage.

From a review of the August 11th, 2021 signed petition, the area requiring drainage was determined to be the area of the proposed 2825085 Ontario Inc. residential and highway commercial development (Roll No. 010-18811 severed from Roll No. 010-18800) identified as Pt. Lots 126 to 128, Reg. Plan 307, Township of East Zorra-Tavistock.

For the August 18th, 2021 signed petition, the area requiring drainage was determined to be the area of the proposed PeopleCare Centres long-term care facility expansion (Roll No. 010-09500 also severed from Roll No. 010-18800).

Both petitions were signed by Mr. Patrick Sommers of Canada Farm Distributors Ltd., who still owned the full property at the time of the signing. Since this time, both severances have been completed with the ownerships being transferred to 2825085 Ontario Inc. and PeopleCare Centres Inc., respectively. Both petitions represent all of the area of the owners in the area requiring drainage and are therefore sufficient (valid) in accordance with Sections 4(1) (a) and 4(1) (b) of the Drainage Act.

7 DESIGN AND CONSTRUCTION CONSIDERATIONS

The following are various matters that were considered in arriving at the recommendations in this Report:

7.1 Sizing Considerations

As outlined at the on-site meeting, the township requires that the relocated Tavistock Drain 1985 be upsized to convey a comparable flow to the pipe sizes recommended in the Township's Master Storm System Drainage Plan for Tavistock. In the plan, this drain was identified as a Trunk sewer, and is recommended to be designed to the 10-year storm return period. Due, however, to the improvements made in the upper part of the Tavistock Drain 1985 watershed from stormwater management implemented as a part of the "Ponds Subdivision", these recommended pipe sizes are no longer believed to represent the required sizes for a 10-year storm (overly conservative).

A full review of the pipe sizing has been completed and summarized in a Technical Memorandum attached to this Report in **Appendix B**. In summary, the Tavistock Drain 1985 Reconstruction 2023 pipe sizes are proposed to be 975mm diameter and a 1050mm diameter pipes for the PeopleCare Centres and 2825085 Ontario Inc. developments, respectively. Both drains are at a proposed grade of 0.75%.

Though the proposed pipe sizes and grades do not quite equate to the capacity of the recommended pipe sizes in the Tavistock Master Storm System Drainage Plan, it is believed that, in light of upstream SWM improvements, the proposed Drain provides capacity in excess of the 10-year storm, considering today's conditions.



In the previous report on the Tavistock Drain 1985, K. A. Smart, P. Eng. stated that the majority of the drain was sized for 2-year storm for urban areas, plus a 1" (25.4mm) drainage coefficient for rural/agricultural areas. He also stated that the runoff coefficient (C value) in this design was considered to be 0.8 for the area east of Mogk Street and north and south of Hope Street, and a coefficient of 0.5 for all other urban areas west of Mogk Street. At the request of the owners on the south side of Woodstock Street South at the time, who did not wish to see construction occur again in the near future for the purposes of development to the north, it was decided to install a drain across Woodstock Street and through their residential properties large enough to consider the 4 to 5 (at-the-time) agricultural properties to the north (totaling approximately 34 hectares in area) as if they were already developed lands. Under a separate analysis, the capacity of the elliptical pipes crossing Woodstock Street South is approximately equal to the capacity of the recommended upstream connecting 1200mm diameter pipe, proposed in the Tavistock Master Storm System Drainage Plan. Therefore, it can be said that the road crossing approximately equates to the 10-year storm under the existing conditions in 2007.

7.2 Route Considerations

For the portion of the relocated drain around the 2825085 Ontario Inc. development, through discussion with the Township, it was preferred that the alignment of the relocated drain be moved onto the Optimist Park property parallel to the 2825085 Ontario Inc. property. The alignment is proposed to be partially under the lawn near Woodstock Street and partially under the laneway. It is also to be located approximately 11m off of the existing Optimist Park shed to allow for future expansion. At the northern limits of the proposed subdivision, the relocated drain is proposed to turn to the east across the Canada Farm Distributors Ltd. property in part, as well as the proposed cul-de-sac of the 2825085 Ontario Inc. development. This alignment was preferred over other options considered, including the option for the relocated drain to be in the backyards of the proposed townhouse blocks or within the subdivision's proposed future street off of Woodstock Street South.

For the PeopleCare Centres Inc. development, through prior discussion with the Township and WalterFedy, the relocated drain alignment as discussed in *Section 5.1 On-Site Meeting* was preferred over the option to the relocate the drain along the east and southerly sides of the development. In considering future maintenance of the drain, the Township wished to avoid a situation where emergency access would ever be blocked to the facility. The alignment is to be located for the full extents within a 10m wide easement. Along the west side, the relocated alignment is proposed to be 3m off of the property line to maintain a sufficient distance from the proposed building footings. On the north side, however, the relocated drain will be centered within the easement so that backyards/fences of the adjacent residential properties are not impacted.

7.3 Sufficient Outlet

Section 15 of the Act requires that the proposed work be continued downstream to a sufficient outlet. Section 1 of the Act defines sufficient outlet as "a point at which water can be discharged safely so that it will do no damage to lands or roads".

The existing Tavistock Drain 1985 crosses Woodstock Street south as two elliptical concrete pipes (one 965x1525mm and one 865x1345mm) at grades of 0.30%. A capacity analysis has concluded that the combination of these two pipes has an approximate capacity of 3.9m³/s, which is approximately the same capacity of a 1200mm concrete pipe at a 0.91%



slope (would be the size of the upstream contributing pipe as recommended in the TMSSDP). Therefore, this indicates the existing road crossing is currently sized to pass the 10-year storm. Commentary in the Tavistock Drain 1985 report by K. A. Smart, P. Eng. supports this as being the likely design standard. Downstream of Woodstock Street South, the size of the drain increases to two (2) – 965x1525mm elliptical pipes for a short distance before continuing as the open ditch of the Hohner Drain.

For this project, the existing road crossing of the Tavistock Drain 1985 and open ditch of the Hohner Drain have been determined to be a sufficient outlet for the Tavistock Drain 1985 Reconstruction 2023.

7.4 Environmental Considerations

The Tavistock Drain 1985 is a fully enclosed pipe drain. The portion of the Drain proposed to be reconstructed currently traverses farm/vacant lands that are proposed to be developed. Each development will discharge their stormwater into the Tavistock Drain 1985, however, will be responsible for their own quality control measures as required by the Township or conservation authority during engineering review. There are no other known environmental constraints in the watershed.

A copy of this Report, including the specifications, will be submitted to the Upper Thames River Conservation Authority (UTRCA). All approvals and permits are to be obtained by the individual subdividers.

7.5 Soils Considerations

Both sites for proposed developments were historically on agricultural lands. The Perth County Soils Report and Map prepared in 1952 by the Environmental Farms Service, Canada Department of Agriculture and the Canada Agriculture College shows that the Village of Tavistock contains Huron clay loam, which is considered to be well drained with few stones.

PeopleCare Centres

A geotechnical investigation was completed by Chung and Vander Doelen Engineering Ltd. in May 2021, commissioned by the development. The investigation involved twelve boreholes including three monitoring wells. A review of the borehole logs in this report indicate that the drain construction is, for the most part, to occur in silty soils below occasional pockets of silty sands containing an approximate depth of 0.9m. In some locations the construction could be into a sandy silt till layer below the silt layer. Monitoring wells installed at the northwest and southwest corners of the development show observed water levels between 0.47m and 0.80m below the ground (recorded in spring 2021). The Servicing and Stormwater Management report prepared by WalterFedy did not identify any possible adverse conditions that would impact construction.

The proposed works should be able to proceed without any great delays or expense due to poor soil conditions, with the possible exception of high groundwater conditions at the northwest and southwest corners (proposed MH7 & MH8). Due to its depth and proximity to the property line, care should be given to the installation of MH8 and upstream pipe, to limit any adverse impact on the neighbouring residential properties.



7.6 Utilities

An Oxford County sanitary sewer exists alongside the Tavistock Drain 1985 for a portion of its existing route in the vicinity of the PeopleCare Centres Inc. development. The sewer is located in a 6.1m wide easement along the southern and eastern limits of the property and is not proposed to be relocated. At Hope Street West, the existing Tavistock Drain 1985 runs parallel to the sanitary sewer, but on the east side. At the northeastern corner of the PeopleCare Centres Inc. development, the existing drain crosses under the sanitary sewer to the west side. It is at this location where the existing drain will be located during construction and intercepted with a new maintenance hole structure to re-direct the drain to the west and around the proposed building. It is anticipated that the proposed maintenance hole structure will be constructed approximately 1m from the existing sanitary sewer. This design detail was reviewed with and accepted by Oxford County.

Utilities are not expected to be a problem for the initial construction of the Drain through the Optimist Park, nor the Canada Farm Distributors Ltd. properties. After construction of the drain, it is expected that watermain, sanitary and storm sewer crossings will be made above the Drain on the proposed future street in the 2825085 Ontario Inc. development.

The Contractor is to contact all utilities and landowners along the proposed Drain reconstruction route to determine the existence of all underground or overhead utilities on private properties.

Locates will be required to determine precise locations of any underground utilities prior to construction.

7.7 Construction Scheduling

The construction of the new Drain will be completed in two phases as identified by the two separate developments.

It is anticipated that the construction of the relocated drain around both developments will occur later in 2023.

8 INFORMATION SENT TO LANDOWNERS

An explanatory letter and an enlargement plan showing the proposed work will be sent to all landowners in the watershed of the Tavistock Drain 1985. The letter is intended to summarize the drain relocation work proposed in this Report, to advise of the proceedings, and to give direction on how to view or obtain a copy of this Report.

The explanatory letter and plan are duplicated and included in this Report in **Appendix A**.

9 SUMMARY OF RECOMMENDATIONS

The recommended work items listed here are primarily only those that pertain to the Tavistock Drain 1985 Reconstruction 2023.

The proposed storm sewers, manholes, catchbasins, services, swales, etc. that are to be built within the proposed development/subdivision are not listed in these recommendations. They will not be part of the Drain. The existing Tavistock Drain 1985 through the two developments is to be removed/destroyed after the new Drain is constructed and functioning.



From the surveys, design, and discussions listed above, the following is the recommended drain construction:

0+480 to 1+025 – 2023 Stationing by KSAL (m)
[480] – Tavistock Drain 1985 Original Stationing (ft.)

a) Works Part of Tavistock Drain 1985

(Note: Once these listed new works have been constructed/completed, they are to be recognized/incorporated as part of the Tavistock Drain 1985 for future maintenance purposes.)

Optimist Club of Tavistock (Roll No. 010-14001)

- 182m of 1050mm dia. reinforced concrete pipe (RCP).
 - Removal of two (2) trees
 - Enlarge existing hole in existing 2400mm dia. MH2A and connect proposed 1050mm dia. concrete pipe.
 - Cap existing Tavistock Drain 1985 pipe (900mm dia.).
- Construct two (2) - 2400mm dia. concrete maintenance holes (MH3 & MH4) including connections (see drawings 5 & 6).

Canada Farm Distributors Ltd. (Roll No. 010-18800)

- 41m (total) of 1050mm dia. reinforced concrete pipe (RCP).
- Construct 2400mm dia. concrete maintenance hole (MH5) including connections.
 - MH5 to be connected to existing Tavistock Drain 1985 upstream

2825085 Ontario Inc. (Roll No. 010-18811)

- 32m of 1050mm dia. reinforced concrete pipe (RCP).

PeopleCare Centres Inc. (Roll No. 010-09500)

- Construct three (3) - 2400mm dia. concrete maintenance hole (MH7, MH8 & MH9) including connections (see Drawings 7 & 8).
 - MH7 to be connected to existing Tavistock Drain 1985 downstream
 - MH9 to be connected to existing Tavistock Drain 1985 upstream
- 160m of 975mm dia. reinforced concrete pipe (RCP).

10 DRAWINGS AND SPECIFICATIONS

10.1 Drawings

10.1.1 Plans

The locations of the existing Tavistock Drain 1985, the Tavistock Drain 1985 Reconstruction 2023, and the affected downstream drain for maintenance (Hohner Drain (1979)) are shown on Drawing 1 (Overall Plan).

The location of the Tavistock Drain 1985 Reconstruction 2023 and the affected properties are shown on Drawing 2 (Watershed Plan). The heavy solid line indicates the location of the proposed drain reconstruction work. The heavy broken (dashed) line indicates the approximate watershed boundaries for the Drain.



Drawing 3 is a Reapportionment plan showing the 2825085 Ontario Inc. development where future lots will be proposed, as well as the existing parcels of the now completed Ponds Subdivision to receive reapportioned Schedules of Assessment for Future Maintenance as a part of this Report. See *Section 13.1 Reapportionments* for more information on reapportionments.

Drawing 4 is an Enlargement Plan showing the location of the proposed work in the vicinity of both developments, as well as the affected assessment roll numbers and landowners. The numbers adjacent to the heavy solid line are station numbers which indicate in metres the distance along the proposed drain reconstruction from the outlet. Stationing was started at 0+480 at the MH2A at Woodstock Street South to match the previous Tavistock Drain 1985 report. Where the proposed work ends at Station 0+735, the existing drain length remaining in place up to the existing structure referred to as MH6 near the PeopleCare Centres Inc. development was measured to be approximately 95m. The stationing for the PeopleCare Centres development was therefore started at Station 0+830 at this structure. Drawing 4 also shows some of the original Tavistock Drain 1985 stations upstream of the proposed work.

10.1.2 Detailed Plans, Profiles and Other Drawings

Detailed plans and subsequent profiles for the proposed Tavistock Drain 1985 Reconstruction 2023 were created for the work around each development. Drawings 5 & 6 show the work around the 2825085 Ontario Inc. development, while Drawings 7 & 8 are for the PeopleCare Centres Inc. development. Profile drawings show the grade of the proposed new pipes. The upper thin dashed line represents the existing ground level. In some cases, the upper thicker solid line represents the proposed post-development grade over the pipe.

Drawing 9 contains the Special Provisions (Specific Notes and General Notes).

10.2 Specifications

This Report includes the Standard Specifications and Special Provisions as listed in the Table of Contents, which are to govern the construction and maintenance of the Drain.

11 COST ESTIMATE

The cost estimate on this project consists of the allowances required to be made to the owners having work on their properties, the construction cost estimate including contingency items, the engineering cost estimate, the estimate of the construction supervision by the Engineer, an estimate of the Section 73 (administration and other) costs, and the estimated Net HST (1.76%). The Estimated Cost Summary is then shown.

The cost estimate for the proposed Tavistock Drain 1985 Reconstruction 2023 is outlined in detail in the following sections:

11.1 Allowances

Sections 29 to 33 of the Drainage Act provides for allowances (compensation) to be made to owners affected by the proposed drain construction. On this project, there are only allowances for Section 29 (R-O-W) and Section 30 (Damages).

11.1.1 Section 29 - Right-of-way

Section 29 of the Act provides for payment of an allowance to landowners for the right-of-way (R-O-W) required for construction and maintenance of the new Drain and for access routes to the Drain as necessary. Generally, the width of the R-O-W is the width needed to maintain the Drain.

For the portion of the Drain proposed to be relocated for the 2825085 Ontario Inc. development, the new Drain will be moved onto the Optimist Park and Canada Farm Distributors Ltd. properties. Though the two properties are zoned as Recreational and Development, respectively, for the purpose of the calculation of allowances in this Report, the properties have been considered to be equivalent and calculated based on a rate of approximately \$100,000/ha. The Section 29 right-of-way allowance will be for a 10m width along the route of the new pipe drain. Approximately 32m of the relocated Drain will be located across a future cul-de-sac of the 2825085 Ontario Inc. development. No right-of-way allowances have been provided for this portion.

For the portion of the Drain being relocated for the PeopleCare Centres Inc. development, the new reconstructed/relocated drain work will be contained within the development property and situated within a 10m easement, created pursuant to the subdivision registered plan (Roll No. 010-09500). No Section 29 allowances are provided for this property.

11.1.2 Section 30 - Damages

Section 30 of the Act provides for payment of allowances to landowners for damages to lands during construction of the Drain. The Section 30 allowances compensate the owners for damages caused by the construction equipment moving within the R-O-W and by the placement of any excavated spoil within or beyond the working area width needed for construction. Section 30 allowances are also provided for damages along access routes where separate from R-O-W routes, if any.

On this project, since the 2825085 Ontario Inc. development will be required to restore the landscaping on the Optimist Park property (Roll No. 010-14001) to existing conditions upon completion of the drain construction, no Section 30 allowances are necessary for damages to lawns. It is anticipated however, that two (2) mature trees (1 deciduous and 1 coniferous) will be removed along the proposed drain alignment, and therefore an amount of \$400 has been provided to the Optimist Park property (Roll No. 010-14001) for removal of the two trees.

11.1.3 Summary

In accordance with Section 62(3) of the Act, the allowances shown may be deducted from the final assessment levied. Payment to the owners for these allowances would only be made when the allowance is greater than the final assessment. The allowances are a fixed amount and are not adjusted at the conclusion of construction. Allowances can only be changed if the report is modified prior to adoption of the report by bylaw or in accordance with the paragraph in this Report that deals with changing the scope of work after the Bylaw is passed. Allowances will be paid out by the Township and the cost of the allowances is part of the cost of the Drain.

The allowances payable to the owners entitled thereto on this project are as follows:

Table 11.1-1 - Summary of Allowances

Roll Number (32-38-020-)	R.O.W. (Sec 29) (\$)	Damages (Sec 30) (\$)	Total (\$)
010-14001	18,200	400	18,600
010-18000	4,100		4,100
TOTAL ALLOWANCES	22,300	400	22,700

11.2 Construction Cost Estimate

The estimated cost of Labour, Equipment and Materials to construct the proposed Drain is outlined in detail in Table 11.6-1 - Estimated Cost Summary. A contingency amount is included to cover additional work that may be required due to field conditions or minor alterations to the project. This cost estimate does not include the cost estimate of any other storm sewers, manholes, catchbasins, services, swales, etc. within either development since these will not be part of the Drain. The Subdivider's Engineer has likely also prepared an estimate of this work for purposes of the Subdivision Agreement. These two estimates of construction may differ, but such will not impact this Report since the work is to be paid by the Subdivider/Landowner/Developer regardless of what actual tender is received.

The new works on the Drain, as set out in Table 11.6-1 - Estimated Cost Summary for the Tavistock Drain 1985 Reconstruction 2023 will be part of Tavistock Drain 1985 once constructed, for future maintenance purposes.

11.3 Engineering Cost Estimate (Report Preparation and Construction Phases)

Engineering costs include report preparation and attending the Council meeting to consider the report and the Court of Revision. The costs also include the preparation of reapportionments to the affected Schedules of Assessment for Future Maintenance (Tables 1-1, 1-2, 2-1, and 2-2 to be later discussed in *Section 13.1 Reapportionments*).

The Construction Phase Services estimate is prepared on the basis that the developers' Engineers will tender, award and supervise all work related to the Tavistock Drain 1985 Reconstruction 2023 related to their own development. The Township (this Engineer) will only make periodic reviews of the work related to the Tavistock Drain 1985 Reconstruction 2023. The Construction Phase Services may include: attending pre-construction meeting, periodic construction inspection, performing construction review, preparing as-built drawings, attending final inspection meeting, post construction follow-up, and assistance to the Township on processing the project and final cost analysis.

The estimated cost of report preparation as shown is usually not altered at the conclusion of a project unless the report is referred back or the report is appealed to the Drainage Tribunal, either of which would result in additional costs. The amounts shown for future meetings are estimates. The final cost will be based on the actual time required for meetings.

The estimate shown for Construction Phase Services is based on past experience, assumes good construction conditions and a Contractor who efficiently completes the construction. The final (actual) cost for construction phase services will vary as per the actual time spent during and following Drain construction.

Engineering costs are summarized in Table 11.6-1 - Estimated Cost Summary.



11.4 Estimate of Section 73 Administration (Other) Costs

Section 73(1) of the Drainage Act outlines that the following costs incurred by a Municipality can be included in the cost of the drain: “cost of any application, reference or appeal and the cost of temporary financing”. However, Sections 73(2) and 73(3) of the Act state that the costs of services provided by Municipal and County staff to carry out the Act process cannot form part of the final cost of the drain.

An estimate of Administration Costs is included to cover the above referenced items from Section 73(1) and primarily provides for interest charges on financing the Drain project until it is completed.

This administration cost estimate may not be adequate to cover legal or engineering costs incurred by or assessed to the Township should the project be appealed beyond the Court of Revision, though such costs normally form part of the final drain cost.

Section 73 costs are summarized in Table 11.6-1 - Estimated Cost Summary.

11.5 Harmonized Sales Tax

The Harmonized Sales Tax (HST) will apply to most costs on this project. The Township is eligible for a significant refund on the HST paid. The approximate resulting net 1.76% HST is included in the cost estimates in this Report. The Net HST has been rounded off to the nearest \$5.

11.6 Estimated Cost SummaryTable 11.6-1 - Estimated Cost Summary

DESCRIPTION							TOTAL COST
ALLOWANCES (From Table 11.6-1) (Note: These are “fixed” allowances and therefore are not “estimates”):							\$ 22,700
CONSTRUCTION COST ESTIMATE							
Item	Stations	Description	Unit	Quan.	Unit Price	Cost	
i) Main Drain (2825085 Ontario Inc. Portion)							
1	0+480	Break existing 900mm concrete pipe out of existing 2400mm MH at Woodstock Street. Remove and dispose of approximately 15m of existing pipe, capping end and end near subdivision property line. Cut approximately 200mm lower invert in existing maintenance hole for new 1050mm pipe.	L.S.	1	3,000	3,000	
2	0+480 to 0+527	47m of 1050mm dia. reinforced concrete pipe	/m	47	1,800	84,600	
3	0+527	2400mm dia. concrete manhole including connections	L.S.	1	30,000	30,000	
4	0+527 to 0+644	117m of 1050mm dia. reinforced concrete pipe	/m	117	1,800	210,600	
5	0+644	2400mm dia. concrete manhole including connections	L.S.	1	33,000	33,000	
6	0+644 to 0+735	91m of 1050mm dia. reinforced concrete pipe	/m	91	1,800	163,800	



DESCRIPTION							TOTAL COST
7	0+735	2400mm dia. concrete manhole including connections	L.S.	1	30,000	30,000	
8	0+480 to 0+735±	Remove and disposal of 140m of existing 900mm conc. pipe and 1800mm dia. MH	L.S.	1	5,000	5,000	
Sub Total Part i)						560,000	
ii) Main Drain (PeopleCare Centres Inc. Portion)							
9	0+865	2400mm dia. concrete manhole including connections	/m	1	33,000	33,000	
10	0+865 to 0+957	92m of 975mm dia. reinforced concrete pipe	/m	92	1,500	138,000	
11	0+957	2400mm dia. concrete manhole including connections	L.S.	1	33,000	33,000	
12	0+957 to 1+025	68m of 975mm dia. reinforced concrete pipe	L.S.	68	1,500	102,000	
13	1+025	2400mm dia. concrete manhole including connections	L.S.	1	33,000	33,000	
14	0+865 to 1+025±	Remove and disposal of 139m of existing 900mm conc. pipe and 1800mm dia. MH	L.S.	1	5,000	5,000	
Sub Total Part ii)						344,000	
iii) Contingencies							
Lump sum contingency allowance						90,400	
Sub Total Parts i), ii) & iii):						994,400	
Net HST (1.76%)						17,500	
TOTAL CONSTRUCTION COST ESTIMATE:							\$1,011,900
ENGINEERING COST ESTIMATE							
Report Preparation						\$36,000	
Preparation of reapportioned Schedules of Assessment for Future Maintenance for the Tavistock Drain 1985 and Hohner Drain						4,000	
Consideration of Report Meeting						1000	
Court of Revision Meeting						1000	
Construction Phase Services						20,000	
Net HST (1.76%)						1,090	
TOTAL ENGINEERING COST ESTIMATE:							\$63,090
SECTION 73 ADMINISTRATION (OTHER) COSTS ESTIMATE							
Interest estimate						1,500	
Unforeseen costs						810	
TOTAL SECTION 73 ADMINISTRATION (OTHER) COSTS ESTIMATE:							\$ 2,310
TOTAL PROJECT ESTIMATED COST:							\$1,100,000

12 ASSESSMENTS

The Drainage Act requires that the total project cost (initially the estimated costs, ultimately the actual costs) be assessed to the affected lands and roads under the categories of Benefit (Section 22), Outlet Liability (Section 23), Injuring Liability (Section 23), Special Benefit (Section 24) and/or Increased Cost (Section 26). On this project, assessments for "Special Benefit" only are involved and are described below.



The Schedule A included herein is based on estimated costs. The final project cost will be assessed out based on final/actual costs and using Table 12.1-1 and Schedule A.

12.1 Calculation of Special Benefit Assessments (Section 24) (Estimated)

The work in this Report benefits the proposed developments, and the undersigned has determined they are special benefits. Although an improved outlet (capacity) is provided to some properties, the undersigned has elected to assess only the two (2) parcels being developed. This decision is supported because the improved outlet capacity for the upstream watershed is only marginally greater than the existing Tavistock Drain 1985 being relocated/reconstructed as a result of the development. In addition, the subdivision agreement being developed between the owners and the Township will require that the owner of the development pay all of the costs of this Drain Report.

The project costs are therefore to be assessed to the owners of Roll Now. 010-18811 and 010-09500 using the category of Special Benefit (Section 24). The special benefit assessment to properties will include the allowances to be made, the engineering involved with the preparation and processing of this Report, the construction phase services and Section 73 administration costs of the Drainage Engineer, the applicable administration costs of the Township plus the applicable net HST.

The following table illustrates the calculation of the estimated Special Benefit (Section 24) Assessments:

Table 12.1-1 - Calculation of Special Benefit Assessments

Roll No.	Construction Costs	Net HST on Construction (1.76%)	Eng. Costs	Construction Supervision	Net HST on Eng. & Con. Super.(1.76%)	Sec. 73 Admin. Costs	Allow.	Total Special Benefit
	(Est.)	(Est.)	(Est.)	(Est.)	(Est.)	(Est.)	(Fixed)	(Est.)
010-18811	616,000	10,840	23,000	10,000	580	1,205	22,700	684,325
010-09500	378,400	6,660	19,000	10,000	510	1,105	0	415,675

The actual special benefit assessment to be levied to the landowner/developer will be calculated in accordance with this table. However, it is to be noted that:

- Actual construction costs are to be used. If the developer attends to, and pays directly, any or all of the construction items listed in the cost estimate of this Report, only the actual costs of any items that are attended to by the Township for the Drain will be used for final special benefit calculations. At this time, there are no construction items expected to be attended to by the Township.
- The Engineering costs should not vary significantly unless Drainage Act appeals have to be dealt with. Actual engineering costs as invoiced by this Engineer will be used.
- The Construction Phase Services costs and Section 73 Administration Costs will be the actual Construction Phase Services costs as invoiced by this Engineer or incurred by the Township.
- Net HST (1.76%) will be calculated on actual Construction, Engineering, Construction Phase Services and any applicable Administration costs.

- Allowances are fixed as per Table 11.1-1 of this Report. These allowances will be paid by the Township to the owners and the amounts collected pursuant to the Special Benefit billing will be used to reimburse the Township.

12.2 Assessment Schedules

12.2.1 Schedule A – Schedule of Assessments

The estimated (and final/actual) cost of the drainage works in this Report is to be assessed as shown by Schedule A - Schedule of Assessments. In Schedule A each affected parcel of land assessed has been identified by the municipal assessment roll number at the time of the preparation of this Report. For convenience only, each parcel is also identified by the owner's name(s) from the last revised assessment roll.

The amounts in Schedule A are derived from the distribution shown in Table 12.1-1.

After construction is complete and final/actual costs are known, the assessments for the actual costs will be calculated using Table 12.1-1.

12.2.2 Schedule B – Schedule for Actual Cost Bylaw

After the Engineer certifies the construction of the Drain complete, the Township will determine the total of incurred costs, which will be the final/actual cost of the Drain. Final/actual assessments will be determined by assessing the actual cost of the Drain using Table 12.1-1. Schedule B shows how the assessments in Schedule A will be applied. It illustrates the estimated net assessments after deducting the allowances from the total assessments shown in Schedule A. It will then be used for preparing the final/actual cost bylaw. Actual assessments as calculated pursuant to Schedule B will be levied to the owner of the identified parcel at the time the Actual Cost Bylaw is passed. Roll numbers are per the Township's last revised assessment roll and names are included for convenience.

Should it be determined that Assessment Roll No. 010-18811 is not owned by 2825085 Ontario Inc., at the time the costs of this Report are billed out, the amount (assessment) is to be instead levied to any property (lot or block) in the proposed subdivision still owned by 2825085 Ontario Inc. If the developer owns none of the properties, then the assessment is to be sent directly to them, since they were the original developer at the time of this Report.

The allowances for right-of-way (Section 29) and damages (Section 30) provided to the Tavistock Optimist Club and Canada Farm Distributors Ltd. properties (Roll No's. 010-14001 and 010-09500) are to be paid by the Township on behalf of the developer, 2825085 Ontario Inc., to the current owners, at the time the costs of this Report are billed out.

12.2.3 Schedules of Assessment for Future Maintenance

The Reapportioned Schedules of Assessment for Future Maintenance are described in Section 13.1 Reapportionments, and are shown in Tables 1-1, 1-2, 2-1, and 2-2 following Schedule B.

13 MAINTENANCE

The Township of East Zorra-Tavistock under Section 74 of the Drainage Act is required to maintain all drains constructed by bylaw under the Drainage Act. Any open ditch or closed drain constructed pursuant to the Drainage Act may require periodical repair or maintenance work. Examples of future work possibly necessary include ditch cleanouts, riprap repairs,



pipe repairs, maintenance hole and catchbasin repairs and cleanouts. The cost of the maintenance is to be assessed to all upstream lands and roads pro rata with the applicable Schedule of Assessment for Future Maintenance provided for in the Engineer's report in the current bylaw for the Drain.

Therefore, in order to keep the existing drain maintenance assessment schedules up-to-date for the Tavistock Drain 1985 and downstream Hohner Drain, the Township requires reapportionments/revisions. On this project, these reapportionments/revisions have been completed in accordance with Section 65 of the Drainage Act, and are as described in *Section 13.1 Reapportionments* below.

The Tavistock Drain 1985, for future maintenance purposes, shall consist of all new proposed components listed in *Section 9 SUMMARY OF RECOMMENDATIONS* of this Report, as well as all remaining components of the Tavistock Drain 1985 downstream, in between, and upstream of this proposed work, as listed in the report by K. A. Smart, P. Eng. dated October 31, 1985.

13.3 Future Maintenance Costs of Drain Repair near PeopleCare Building

Due to the proximity of the Tavistock Drain 1985 Reconstruction 2023 to the proposed PeopleCare Centres Inc. building, and the potential impact of undermining the building's footings during a repair, it is of the structural engineer's opinion that any future maintenance of the drain in the vicinity of the building (Sta. 0+880 to 1+115) should be undertaken with the use of a trench box (minimum) or alternative shoring methods. Consultation should be made with a structural engineer prior to undertaking maintenance work near building footings.

Due to these additional measures beyond that of a typical drain repair, it has been determined that the future maintenance costs of the materials (pipe or structure) are to be assessed to the watershed of the Drain as per the existing Schedule of Assessment for Future Maintenance (including the Reapportionments in this Report). The cost of the installation for the repaired pipe or structure (meeting the minimum trench box/shoring requirements) however, is to be assessed to the owner of the property with Roll No. 010-09500.

13.1 Reapportionments

For this project, two (2) existing drains will require reapportionment to the Schedules of Assessment for Future Maintenance (Tavistock Drain 1985 and Hohner Drain (1979)). The following is a description of the past and proposed future land changes creating the requirement for reapportionments to the existing Schedules of Assessment for Future Maintenance:

1. Two (2) recent severances to the property with Roll No. 010-18800 (Canada Farm Distributors Ltd.). The severed parcels have been given the Roll No.'s 010-18811 (2825085 Ontario Inc.) and 010-09500 (PeopleCare Centres Inc.)
2. Merging of several parcels owned by PeopleCare Centres Inc. into one parcel. The parcels merged had been referred to by roll number in one of the Schedules of Assessment for Future Maintenance in question, and by owner's name in the other (described in more detail in Note 3.).



3. As mentioned in *Section 2.3 Ponds Subdivision*, this Report will also address the recently subdivided parcel in the upper watershed. The subdivision is located on lands owned previously by G. & M. Holst and H. Wilker at the time of the 1985 and 1979 reports, respectively, and now consists of approximately 83 properties and two blocks designated as SWM facilities. Four of the properties created were severed off of the property with Roll No. 020-09500 (formerly owned by B. Halliday in 1985). The Ponds Subdivision was developed by the same owners as the current 2825085 Ontario Inc. development and a Section 65 report was a condition of their subdivision agreement with the Township. The cost to complete the reapportionment for the Ponds Subdivision will be separately identified and assessed to 2825085 Ontario Inc.

Tables 1-1, 1-2, 2-1, and 2-2 following Schedule B in this Report are the Reapportionments, in accordance with Section 65 of the Drainage Act, to the Schedules of Assessment for Future Maintenance for the Tavistock Drain 1985 and Hohner Drain. All reapportionment tables will only come into effect once the bylaw for this Report has been given third reading.

Once the proposed lots are confirmed for the 2825085 Ontario Inc. property, in order to acknowledge those additional severances and further update the Schedules of Assessment for Future Maintenance for both drains mentioned above, a report under Section 65 of the Drainage Act will be required.

Table 13.1-1 below assists in describing what properties/subdivisions each Reapportionment Table addresses.

Table 13.1-1 - Reapportionment Table Identifier

<u>Applicable Report Schedule</u> <u>Subject Properties</u>	Tavistock Drain 1985	Hohner Drain
2825085 Ontario Inc., PeopleCare Centres Inc., Optimist Club of Tavistock	<i>Table 1-1</i>	<i>Table 2-1</i>
Ponds Subdivision	<i>Table 1-2</i>	<i>Table 2-2</i>

The reapportioned subdivision lots, blocks and streets in the tables refer to the subdivision lots, blocks, and streets shown on Drawing No. 3 of this Report. The dollar amounts/values shown in the reapportioned maintenance schedules are not amounts to be paid at this time. They are only to be used to create the percentage or portion that each parcel (property) and road will pay for any actually incurred future repair/maintenance costs. In some cases, dollars are not shown, and the percentages only are provided.

Tables 1-1, 1-2, 2-1, and 2-2 will not change the division of future maintenance costs to any properties other than those outlined in the Tables and in the sections below. Though it is anticipated that all properties in the watershed will receive notification of the work proposed to occur on the drain, costs for future maintenance to properties outlined in the Tavistock Drain 1985 and Hohner Drain 2013 reports that are not proposed to be reapportioned by the Tables in this Report would not be eligible for appeal.

13.1.1 Tavistock Drain 1985

The report for the Tavistock Drain 1985 contained two schedules, a “*Schedule of Assessment (For Assessing Construction and Report Costs)*”, and an “*Assessment Schedule for Future Maintenance*”. It is the latter schedule that will require reapportionment, as shown in Table 1-1 and Table 1-2. Table 1-1 addresses the current PeopleCare Centres Inc. and 2825085 Ontario Inc. severances from the Canada Farm Distributors Ltd. property. Table 1-2 addresses the new lots, streets, etc. created from the Ponds subdivision, as described above.

The watershed limit for this drain has been adjusted slightly from the original 1985 report in three locations. See *Section 4 WATERSHED DESCRIPTION* for a summary of these alterations.

For purposes of future maintenance, the Tavistock Drain 1985 “*Assessment Schedule for Future Maintenance*” and the 2023 Reapportionment Tables (Table 1-1 & 1-2) will continue to be used until such time as the schedule is further modified in the future pursuant to Sections 65 or 76 of the Drainage Act. The drawings and specifications from the Tavistock Drain 1985 report by K. A. Smart, P.Eng. dated October 31, 1985 where not changed by this Report, and the drawings and specifications from this Report are to be referred to and used.

Copies of Table 1-1 and 1-2 should be placed in the Township’s files for the Tavistock Drain 1985.

Table 1-1

The “*Assessment Schedule for Future Maintenance*” will need to be reapportioned for the “Main Drain” portion of the 1985 Schedule in Columns 1, 2, & 3 and only involves the following 1985 properties:

- Three (3) People Care Centres Inc. properties as represented by Roll No.’s 010-09300 (Reg. Plan 307, E Pt. 65), 010-09400 (Reg. Plan 307, Pt. 68), and 010-09500 (Reg. Plan 307, 69 & 70).
- Two (2) Canada Farm Distributors Ltd. properties as represented by Roll No.’s 010-14001 (Reg. Plan 307, Pt. 126) and 010-18800 (Reg. Plan 307, Pt. 128, Pt. 127, and Pt. 126).

This reapportionment adds the new 2825085 Ontario Inc. parcel and revises the areas for the Canada Farm Distributors Limited and PeopleCare Centres Inc. properties, as a result of the severances. It also corrects the shape (reducing the size and future maintenance proportion) of the Optimist Club of Tavistock property and adds a lot off of Hope Street West now owned by the Township of East Zorra-Tavistock that must have been at some point severed from the Canada Farm Distributors property.

Table 1-2

The “*Assessment Schedule for Future Maintenance*” will also require reapportionment for the “Main Drain” portion of the 1985 Schedule in columns 1, 2, & 3, involving the following 1985 properties:

- G. & M. Holst (RP307, Pt. 22 & S. Pt. 64), 020-121 (Township of East Zorra-Tavistock)



- B. Halliday (RP307, W Pt. 64 & Pt. 22), 020-095 (Township of East Zorra-Tavistock)
- G. & M. Holst (Con 5, Pt Lot 22) (Township of South Easthope)

The reapportionment includes all the new lots, streets, and SWM Pond blocks of the Ponds Subdivision. It also revises the area for property with Roll No. 020-09500 that appears to have been severed several times over the years, with the most recent being the creation of four (4) lots in the Ponds subdivision on Jacob Street West. At the time of the completion of this Report there are several lots/parcels showing with multiple roll numbers. It is known that Roll No.'s 020-12158 & 020-12194 should be one single lot and has been shown as such in this Table 1-2. Additionally, Roll No.'s 020-12163, 020-12164, 020-12165, and 020-12187 are all currently owned by the owner of the adjacent Roll No. 020-12168; however, these parcels are recognized as easements in favor of the Township for the turning circle at the end of the street. See Note #8 on Table 1-2 for how future maintenance costs for these parcels should be addressed.

13.1.2 Hohner Drain

The Tavistock Drain 1985 outlets into the Hohner Drain. The Hohner Drain was originally constructed in accordance with a report by K. A. Smart, P.Eng. dated April 11, 1979 and contained only one schedule: "*Schedule of Assessments*". This schedule was to be used as both a schedule of assessment and as a future maintenance schedule with maintenance costs being assessed "in the same relative proportion".

This schedule was revised in 2013 in a report entitled Hohner Drain 2013 dated November 19, 2013 by K. A. Smart, P.Eng. "*Schedule 2 - Schedule of Assessments*" in this 2013 report is the original 1979 schedule that was revised to include a Block Assessment area consisting of three proposed subdivisions in Part E½ Lot 35, Concession 12 (Wettlaufer Heights, Harry Loewith and Croft lands) and 2 other properties. The remaining portions of the Schedule remained as it was in 1979, except that the 1979 Special Assessments were deleted because they were not applicable to maintenance. The 2013 "*Schedule 2 - Schedule of Assessment*" is the schedule to be used as the future maintenance schedule for the Hohner Drain and will be reapportioned as shown in Table 2-1 and Table 2-2. As above, Table 2-1 addresses the current PeopleCare Centres Inc. and 2825085 Ontario Inc. severances from the Canada Farm Distributors Ltd. property, and Table 2-2 addresses the new lots, streets, etc. created from the Ponds subdivision.

"*Schedule 2 – Schedule of Assessments*" from the 2013 report, where not changed by these 2023 Reapportionment Tables, will continue to be used until such time as the schedule is further modified in the future pursuant to Sections 65 or 76 of the Drainage Act. For purposes of future maintenance, the drawings and specifications from the Hohner Drain report by K. A. Smart, P. Eng. dated April 11, 1979, where not changed by this 2023 Report, are to be referred to and used.

Copies of Table 2-1 and 2-2 should be placed in the Township's files for the Hohner Drain.

Table 2-1

The "*Assessment Schedule for Future Maintenance*" will require reapportionment for the "Main Drain" portion of the 1979/2013 Schedule and involves the following 1979 properties:

- Canada Farm Distributors (RP307, Pt. 126, 127, & 128)



- T. Graham (Con 12, Pt. 126 & Pts. 235)
- C. Schaefer (RP307, E Pt 65)
- L. Stere (RP307, Lot 68)
- People Care Centres (RP307, Lots 69 & 70)

For the properties shown in Reapportioned Assessments, the same comments apply as stated for Table 1-1. C. Schaefer & L. Stere were properties once purchased by PeopleCare Centres Inc. with the roll numbers having been consolidated.

Table 2-2

The “*Assessment Schedule for Future Maintenance*” will require reapportionment for the “Main Drain” portion of the 1979/2013 Schedule and involves the following 1979 properties:

- H. Wilker (RP307, SPt 64 & SPt 22) (Township of East Zorra-Tavistock)
- D. Halliday (RP307, WPt 64 & Pt 22) (Township of East Zorra-Tavistock)
- H. Wilker (Con 5, Pt Lot 22) (Township of Perth East)

For the properties shown in this Reapportionment Table, the same comments apply as stated for Table 1-2.

13.2 Duties of Landowners re Future Maintenance

All parties affected by the Tavistock Drain 1985 Reconstruction 2023 are encouraged to periodically inspect the Drain and report any visible or suspected problems to the Township. A right-of-way along the Drain and access routes to the Drain, as indicated in the *Section 11.1 Allowances* of this Report, and in the 1985 report, if indicated, shall remain free of obstructions and be available for future maintenance work. The cost for removing obstructions is the responsibility of the owner.

The owners of the private lands, on which any part of the Drain is located, have to make an access to and a right-of-way along the Drain available to the Township at all reasonable times to allow for repair and maintenance of the Drain in the future.

Any landowner making a new connection to the Drain shall notify the Drainage Superintendent before making the connection. If the Drainage Superintendent is not notified, the cost to remedy new connections that obstruct or otherwise damage the Drain will be the responsibility of the owner.

13.3 Updating Maintenance Schedules for Future Parcel and Land Use Changes

To ensure maintenance assessments remain equitable, the assessments provided in any maintenance schedule should be reapportioned under Section 65 if and when future severances or amalgamations occur, or if and when new lands are connected to the Drain or if and when a land-use change occurs that can be accommodated by the existing drain. If a future land-use change will cause the drain capacity to be exceeded, a report under Section 4 or 78 may be required to provide increased capacity.

As mentioned previously in *Section 13.1 Reapportionments*, once the proposed lots are confirmed for the 2825085 Ontario Inc. property, in order to acknowledge those additional severances and further update the Schedules of Assessment for Future Maintenance for both drains mentioned above, a report under Section 65 of the Drainage Act will be required.



14 PRIVACY OF LANDS

A right of way for the Township will exist along the Drain once constructed on each property. However, the property on which the right of way is located remains private property. Other landowners or the public may not enter or use the drain right of way. Persons authorized to enter the drain right of way to carry out duties authorized under the Act include: Engineers, Contractors and the appointed Drainage Superintendent and/or their assistants.

15 DRAINS TO BE ABANDONED

In accordance with Section 19 of the Act, the following drains are hereby abandoned of status under the Drainage Act:

- The existing Tavistock Drain 1985 across the Optimist Club of Tavistock and the proposed 2825085 Ontario Inc. subdivision lands as previously identified by Sta. 480 to 680± in the 1985 report. The portion across the Optimist Park property is proposed to be abandoned, whereas the portion across the proposed subdivision will be removed/destroyed.
- The existing Tavistock Drain 1985 across the PeopleCare Centres Inc. property as previously identified by Sta. 810± to 944.5± in the 1985 report. This portion will be removed/destroyed.

16 GRANTS ON MAINTENANCE ASSESSMENTS

In accordance with the provisions of Section 85 of the Drainage Act and OMAFRA's ADIP policies, a grant not exceeding 1/3 (33-1/3%) may be available in the future on the assessments against privately owned parcels of land which are used for agriculture (as per OMAFRA's ADIP policies) and are eligible for the Farm Property Class Tax Rate (F.P.C.T.R.), for maintenance and repair, if done on the recommendation and supervision of an approved Drainage Superintendent.

There are no grants available on the Special Benefit assessment to be made related to costs of this Report.

17 BYLAW PASSAGE AND CONSTRUCTION IMPLEMENTATION

It is recommended that this Report be processed through all the mandatory steps of the Drainage Act (i.e., circulation, consideration, court of revision and resolution of any appeals) to the point where it could be adopted as a bylaw.

This Report, including assessment schedules, reapportionment tables, appendices, drawings and specifications, once adopted by bylaw in accordance with the Drainage Act, RSO 1990, will provide the basis for construction and maintenance of the project unless modified in whole or in part by a new and separate report. Construction may be implemented upon passage of the Bylaw.

18 CHANGES TO DRAIN AFTER BYLAW PASSED AND BEFORE COST IS LEVIED

Changes to the Drain requested by landowners, agencies or other authorities after the bylaw is passed cannot be undertaken unless the Report is amended.

Section 84.1 of the Act and the associated regulation, O. Reg. 500/21, now provide a process to amend this Report if design changes are required during construction. Design changes must: arise from unforeseen circumstances encountered during construction, comply with existing agency approvals, not increase the total project cost by more than 133% and not impact drain capacity. If design changes meet these criteria and are approved by the Engineer, the Report can be amended after construction with the as-constructed design before passing the actual cost bylaw.

Additional work desired by the landowner(s) which is not part of the drainage works may be arranged with the Contractor provided the cost of the work is paid by the landowner(s), and the Engineer reviews the additional work in advance. Such additional work is not part of the drainage works for future maintenance.

All of which is respectfully submitted.

K. SMART ASSOCIATES LIMITED



Curtis MacIntyre, P. Eng.



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**SCHEDULE A - SCHEDULE OF ASSESSMENTS
TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023
TOWNSHIP OF EAST ZORRA-TAVISTOCK**

Con/Plan	Lot	Roll No. (32-38-020-)	Owner	Special Benefit (Sec 24)
12	Pt 36	010-09500	PeopleCare Centres Inc.	415,675
12	Pt 35 & 36	010-14001	Optimist Club of Tavistock	0
12	Pt 35 & 36	010-18800	Canada Farm Distributors Limited	0
12	Pt 35	010-18811	2825085 Ontario Inc.	684,325
TOTALS:				1,100,000

Notes:

1. The lands shown above are considered as non-agricultural.
2. Section 21 of the Drainage Act, RSO 1990 requires that assessments be made to the affected parcel of land and road affected. The affected parcels of land have been identified using the roll number from the last revised assessment roll for the Township. For convenience only, the owners' names as shown by the last revised assessment roll, has also been included.

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**SCHEDULE B - SCHEDULE FOR ACTUAL COST BYLAW
TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023
TOWNSHIP OF EAST ZORRA-TAVISTOCK**

Con/ Plan	Lot	Roll No. (32-38-020-)	Owner	Gross Total	Less Allowances	NET ASSESSMENT
12	Pt 36	010-09500	PeopleCare Centres Inc.	415,675		415,675
12	Pt 35 & 36	010-14001	Optimist Club of Tavistock	-	18,600	(18,600)
12	Pt 35 & 36	010-18800	Canada Farm Distributors Limited	-	4,100	(4,100)
12	Pt 35	010-18811	2825085 Ontario Inc.	684,325		684,325
TOTALS:				1,100,000	22,700	1,077,300

Notes:

1. The lands shown above are considered as non-agricultural.
2. Section 21 of the Drainage Act, RSO 1990 requires that assessments be made to the affected parcel of land and road affected. The affected parcels of land have been identified using the roll number from the last revised assessment roll for the Township. For convenience only, the owners' names as shown by the last revised assessment roll, has also been included.
3. Amounts in brackets () are amounts to be paid to the listed roll number.
4. This schedule is included for information purposes only. It is not an official schedule, but could be used for preparing the actual cost by-law.
5. The value of the assessments identified in this schedule are estimates only and should not be considered final.
6. Actual assessment is levied to the owner of the parcel at the time of actual cost levy.

**TABLE 1-1
REAPPORTIONMENT FOR TAVISTOCK DRAIN 1985 (1)**

Previous Assessments - Schedule of Assessment (October 31, 1985)**Tavistock Drain 1985 (Main Drain)**

Con	Lot	Reg. Plan	Reg. Plan Lot No.	Roll No.	Owner (1985)	Approx. Ha Affected	404 to 440 South of Hwy Col. 1	440 to 978.5 Hwy to Hope St. Col. 2	380 to 025 Main Drain on Hope St. Col. 3
		307	E PT. 65	010-09300	People Care Centres Inc.	(0.06)	274	274	350
		307	Pt. 68	010-09400	People Care Centres Inc.	(0.10)	338	338	350
		307	69 & 70	010-09500	People Care Centres Inc.	(0.70)	1317	1317	350
		307	Pt. 126	010-140-01	Canada Farm Distributors Ltd.	(3.00)	400	1,400	
		307	Pt. 128, Pt. 127 & Pt. 126	010-188	Canada Farm Distributors Ltd.	(4.00)	520	2,020	
TOTALS:						(7.86)	2,849	5,349	1,050

Reapportioned Assessments**Tavistock Drain 1985 (Main Drain)**

Con	Lot	Reg. Plan	Reg. Plan Lot No.	Roll No. (32-38-020-)	Owner (2023)	Approx. Ha Affected	404 to 440 South of Hwy Col. 1	440 to 978.5 Hwy to Hope St. Col. 2	380 to 025 Main Drain on Hope St. Col. 3
				010-09500	PeopleCare Centres Inc.	(1.67)	2,063	2,813	1,050
				010-14001	Optimist Club of Tavistock	(1.14)	189	689	
				010-18750	Township of East Zorra-Tavistock	(0.06)	10	10	
				010-18800	Canada Farm Distributors Limited	(2.24)	371	1,371	
				010-18811	2825085 Ontario Inc.	(1.30)	215	465	
TOTALS:						(6.41)	2,849	5,349	1,050

Notes:

- This table was prepared for the Tavistock Drain 1985 Reconstruction 2023 report dated January 18, 2023, and should be attached to the existing **Tavistock Drain 1985 Assessment Schedule for Future Maintenance** completed under a report dated October 31, 1985.
- The above "Reapportioned Assessments" and the assessments that have not been revised from the existing 1985 report schedule dated October 31, 1985 are to be used to assess out repair and maintenance costs when incurred.
- "Reapportioned Assessments" are to replace "Previous Assessments" for the People Care Centres and Canada Farm Distributors Ltd. properties.
- The amounts shown are not dollars to be paid at this time. These amounts are only to be used to obtain the percentage or proportion that each parcel (property) and road will have of a future maintenance cost.
- This table will only come into effect once the Tavistock Drain 1985 Reconstruction 2023 has been constructed/completed and the Registered Plan for the proposed 2825085 Ontario Inc. subdivision has been registered and Assessment Roll Numbers, etc. have been assigned for each property/lots/blocks and the roads have been renamed and assumed by the Township.
- Column 4 (380 to 497 Branch A) from the original Tavistock Drain 1985 Schedule for Future Maintenance has not been impacted and was not included in the Table 1-1 above.

Calculations

- Total Original Ha. Affected (1985) of 2 Canada Farm Distributors Ltd. properties (excludes 3 People Care Centres Inc: 010-09300, 010-09400 & 010-09500)	(7.00)		
- Total Original 1/2 Benefit Assessment (1985) applied to Roll No. 010-14001	1000		
- Total Original 1/2 Benefit Assessment (1985) applied to Roll No. 010-18800	1500		
- Total Original Outlet Assessments (1985) to 2 Canada Farm Distributors properties by interval (represents outlet \$ to be reapportioned)		920	920
- Total New Ha. Affected (2023), excluding original People Care Centres Inc. properties (Canada Farm Distributors Ltd. + Optimist Club of Tavistock + 2825085 Ontario Inc. + 1 Twp lot on Hope Street West + new PeopleCare Centres Inc. area)	(5.55)		
Original Outlet Assessments (1985) for People Care Centres properties will be added to Roll No. 010-09500 (PeopleCare Centres Inc.)			
- Total Original 1/2 Benefit Assessment on Roll No. 010-14001 carried over and applied to Roll No. 010-14001 (500), Roll No. 010-18800 (250) and Roll No. 010-18811 (250)	1000		
- Total Original 1/2 Benefit Assessment on Roll No. 010-18800 carried over and applied half to Roll No. 010-18800 (750) and half to Roll No. 010-09500 (750)	1500		
Outlet rate applied to properties in Reapportioned Assessment by interval (/Ha. Affected):		165.74	165.74

**TABLE 1-2
REAPPORTIONMENT FOR TAVISTOCK DRAIN 1985 (2)**

Previous Assessments - Schedule of Assessment (October 31, 1985)**Tavistock Drain 1985 (Main Drain)**

Con	Lot	Reg. Plan	Reg. Plan Lot No.	Roll No.	Owner (1985)	Approx. Ha Affected	404 to 440 South of Hwy Col. 1	440 to 978.5 Hwy to Hope St. Col. 2	380 to 025 Main Drain on Hope St. Col. 3
Township of South Easthope	5			20-083-10	G. & M. Holst	(0.70)	144	144	18
Township of East Zorra-Tavistock	307	W Pt. 64 & Pt. 22	020-095	B. Halliday		(1.25)	1,135	1,135	350
	307	Pt. 22 & S. Pt. 64	020-121	G. & M. Holst		(7.00)	1,674	1,674	171
TOTALS:						(8.95)	2,953	2,953	539

Reapportioned Assessments**Tavistock Drain 1985 (Main Drain)**

Con	Lot	Reg. Plan	Reg. Plan Lot No.	Roll No. (32-38-020-)	Owner (2023) (Left out)	Approx. Ha Affected	404 to 440 South of Hwy Col. 1	440 to 978.5 Hwy to Hope St. Col. 2	380 to 025 Main Drain on Hope St. Col. 3
				020-09500		(1.02)	318	318	58
<i>Land Properties created from Ponds Subdivision</i>									
				020-09502		(0.05)	16	16	3
				020-09503		(0.05)	16	16	3
				020-09504		(0.05)	16	16	3
				020-09505		(0.05)	16	16	3
	41M-295	1		020-12103		(0.08)	25	25	5
	41M-295	2		020-12104		(0.07)	22	22	4
	41M-295	3		020-12105		(0.05)	16	16	3
	41M-295	4		020-12106		(0.05)	14	14	3
	41M-295	5		020-12107		(0.05)	14	14	3
	41M-295	6		020-12108		(0.05)	16	16	3
	41M-295	7		020-12109		(0.08)	25	25	5
	41M-295	8		020-12110		(0.09)	28	28	5
	41M-295	9		020-12111		(0.05)	16	16	3
	41M-295	10		020-12112		(0.05)	14	14	3
	41M-295	11		020-12113		(0.05)	14	14	3
	41M-295	12		020-12114		(0.05)	14	14	3
	41M-295	13		020-12115		(0.05)	14	14	3
	41M-295	14		020-12116		(0.06)	19	19	3
	41M-295	15		020-12117		(0.05)	14	14	3
	41M-295	16		020-12118		(0.05)	14	14	3
	41M-295	17		020-12119		(0.05)	14	14	3
	41M-295	18		020-12120		(0.05)	14	14	3
	41M-295	19		020-12121		(0.07)	22	22	4
	41M-295	20		020-12122		(0.12)	37	37	7
	41M-295	21		020-12123		(0.05)	16	16	3
	41M-295	Block 22		020-12124	<i>SWM POND</i>	(0.46)	144	144	26
	41M-310	1		020-12127		(0.06)	19	19	3
	41M-310	2		020-12128		(0.05)	14	14	3
	41M-310	3		020-12129		(0.05)	14	14	3
	41M-310	4		020-12130		(0.05)	14	14	3
	41M-310	5		020-12131		(0.05)	14	14	3
	41M-310	6		020-12132		(0.05)	14	14	3
	41M-310	7		020-12133		(0.05)	14	14	3
	41M-310	8		020-12134		(0.05)	14	14	3
	41M-310	9		020-12135		(0.05)	14	14	3
	41M-310	10		020-12136		(0.08)	25	25	5
	41M-310	11		020-12137		(0.05)	14	14	3
	41M-310	12		020-12138		(0.05)	14	14	3
	41M-310	13		020-12139		(0.06)	19	19	3
	41M-310	14		020-12140		(0.05)	14	14	3
	41M-310	15		020-12141		(0.05)	14	14	3
	41M-310	16		020-12142		(0.05)	14	14	3
	41M-310	17		020-12143		(0.05)	14	14	3
	41M-310	18		020-12144		(0.05)	14	14	3
	41M-310	19		020-12145		(0.05)	14	14	3
	41M-310	20		020-12146		(0.05)	14	14	3
	41M-310	21		020-12147		(0.06)	19	19	3
	44M-68	1		020-12150		(0.12)	37	37	7
	44M-68	2		020-12151		(0.07)	22	22	4
	44M-68	3		020-12152		(0.07)	22	22	4
	44M-68	4		020-12153		(0.06)	19	19	3
	44M-68	5		020-12154		(0.05)	16	16	3
	44M-68	6		020-12155		(0.05)	16	16	3
	44M-68	7		020-12156		(0.05)	16	16	3
	44M-68	8		020-12157		(0.05)	16	16	3
	44M-68/			020-12158 &		(0.04)	13	13	2
	41M-335	Block 9/Block 29		020-12194					
	44M-68/					(0.05)	16	16	3
	41M-335	Block 10/Block 28		020-12159					
	44M-68/					(0.14)	44	44	8
	41M-335	Block 11/Block 27		020-12160					
				020-12163,		(0.02)	6	6	1
				020-12164,					
	44M-68/	Blocks 14, 15, 16/		020-12165 &					
	41M-335	Block 22		020-18700					
	41M-335	1		020-12166		(0.05)	14	14	3

Reapportioned Assessments
Tavistock Drain 1985 (Main Drain)

Con	Lot	Reg. Plan	Reg. Plan Lot No.	Roll No. (32-38-020-)	Owner (2023) (Left out)	Approx. Ha Affected	404 to 440 South of Hwy Col. 1	440 to 978.5 Hwy to Hope St. Col. 2	380 to 025 Main Drain on Hope St. Col. 3
		41M-335	2	020-12167		(0.05)	14	14	3
		41M-335	3	020-12168		(0.05)	14	14	3
		41M-335	4	020-12169		(0.05)	14	14	3
		41M-335	5	020-12170		(0.05)	14	14	3
		41M-335	6	020-12171		(0.05)	14	14	3
		41M-335	7	020-12172		(0.05)	14	14	3
		41M-335	8	020-12173		(0.05)	14	14	3
		41M-335	9	020-12174		(0.05)	14	14	3
		41M-335	10	020-12175		(0.05)	16	16	3
		41M-335	11	020-12176		(0.07)	22	22	4
		41M-335	12	020-12177		(0.05)	16	16	3
		41M-335	13	020-12178		(0.05)	16	16	3
		41M-335	14	020-12179		(0.05)	16	16	3
		41M-335	15	020-12180		(0.05)	16	16	3
		41M-335	16	020-12181		(0.05)	16	16	3
		41M-335	17	020-12182		(0.06)	19	19	3
		41M-335	18	020-12183		(0.07)	22	22	4
		41M-335	19	020-12184		(0.08)	25	25	5
		41M-335	20	020-12185		(0.05)	14	14	3
		41M-335	Block 21	020-12186		(0.08)	25	25	5
		44M-68/				(0.05)	14	14	3
		41M-335	Block 13/Block 23	020-12188					
		44M-68/	Block 12/			(0.05)	16	16	3
		41M-335	Block 24 & 25	020-12189					
		41M-335	Block 26	020-12191		(0.03)	9	9	2
		41M-335	Block 27	020-12192		(0.03)	9	9	2
		41M-335	Block 30	020-12195	SWM Pond	(1.68)	524	524	96
Sub Total on Lands:						(7.65)	2,385	2,385	435
Roads									
			Halliday Drive	Township of East Zorra-Tavistock		(1.09)	340	340	62
			Jacob Street West	Township of East Zorra-Tavistock		(0.67)	209	209	38
			Hansuld Drive	Township of East Zorra-Tavistock		(0.06)	19	19	3
Sub Total on Roads:						(1.82)	568	568	104
TOTALS:						(9.47)	2,953	2,953	539

Notes:

- This table was prepared for the Tavistock Drain 1985 Reconstruction 2023 report dated January 18, 2023, and should be attached to the existing **Tavistock Drain 1985 Assessment Schedule for Future Maintenance** completed under a report dated October 31, 1985.
- The above "Reapportioned Assessments" and the assessments that have not been revised from the existing 1985 report schedule dated October 31, 1985 are to be used to assess out repair and maintenance costs when incurred.
- "Reapportioned Assessments" are to replace "Previous Assessments" for the B. Halliday and G. & M. Holst properties (Ponds Subdivision).
- The amounts shown are not dollars to be paid at this time. These amounts are only to be used to obtain the percentage or proportion that each parcel (property) and road will have of a future maintenance cost.
- This table will only come into effect once the bylaw for the Tavistock Drain 1985 Reconstruction 2023 has received third reading.
- Column 4 (380 to 497 Branch A) from the original Tavistock Drain 1985 Schedule for Future Maintenance has not been impacted and was not included in the Table 1-2 above.
- The total original Approx. Ha. Affected (1985) for the B. Halliday property plus the G. & M. Holst properties do not total to the same total Approx. Ha. affected shown in the "Reapportioned Assessments". This is partially because the new Ponds subdivision includes a portion of land previously shown as owned by C.N.R. and also includes additional land north of the C.N.R. not previously included in the Tavistock Drain 1985 watershed. This discrepancy in total areas does not affect the calculations of "Reapportioned Assessments". The future maintenance totals of the original properties is proportioned over the total new lands shown today as a result of the subdivision and other severences in this area.
- It was confirmed by the Township that parcels with Roll No.'s 020-12163, 020-12164, 020-12165 and 020-12187 are all owned by the owner of property with Roll No. 020-12186 but are easements in favor of the township for the turning circle at the end of Jacob Street West. If the area represented by these four parcels is still a turning circle at the time maintenance work occurs, the township of East Zorra-Tavistock should pay for the maintenance assessment as per this reapportionment table. If however, the village has expanded to the west, with the turning circle and easement removed, this assessment should be included with the assessment to property with Roll No. 020-12186.
- At the time of the creating of this Table 1-2 of "Reapportioned Assessments", one property along Jacob Street West still shows as two separate roll numbers, though it is clear that it is one property and house has already been constructed. It is for this reason that these two roll numbers have been joined and considered as one assessment. If roll numbers are merged in the future, it is expected that one of these two roll numbers will be retained for this property.

Calculations

- Total Original Ha. Affected (1985) of B. Halliday and two (2) G. & M. Holst properties	(8.95)			
- Total Original Outlet Assessments (1985) of B. Halliday and two (2) G. & M. Holst properties by interval		2,953	2,953	539
- Total New Ha. Affected (2023) for all properties	(9.47)			
Outlet rate applied to properties in Reapportioned Assessment by interval (/Ha. Affected):		311.99	311.99	56.95

**TABLE 2-1
REAPPORTIONMENT FOR HOHNER DRAIN (1)**

Previous Assessments - Schedule of Assessment (November 19, 2013/ April 11, 1979)

Main Drain

Con	Plan	Lot	Roll No.	Owner (1985)	Approx. Acres Affected	Approx. Ha Affected	Benefit	Outlet	Total
	RP307	Pt. 126, 127, & 128		Canada Farm Distributors	15.6	(6.31)		1,172	1,172
12		Pt 126 & Pts. 235		T. Graham	9.0	(3.64)	1,500	675	2,175
	RP307	E Pt 65		C. Schaefer	0.2	(0.08)		15	15
	RP307	68		L. Stere	0.3	(0.12)		15	15
	RP307	69 & 70		People Care Centres	1.7	(0.69)		40	40
TOTALS:						(10.85)	1,500	1,917	3,417

Reapportioned Assessments

Main Drain

Con	Plan	Lot	Roll No. (32-38-020-)	Owner (2023)	Approx. Acres Affected	Approx. Ha Affected	Benefit	Outlet	Total
12		Pt 36	010-09500	PeopleCare Centres Inc.		(1.70)	0	236	236
12		Pt 35 & 36	010-14001	Optimist Club of Tavistock		(4.29)	1,500	882	2,382
12		Pt 35 & 36	010-18800	Canada Farm Distributors Limited		(2.59)	0	532	532
12		Pt 35	010-18811	2825085 Ontario Inc.		(1.30)	0	267	267
TOTALS:						(9.88)	1,500	1,917	3,417

Notes:

1. This table was prepared for the Tavistock Drain 1985 Reconstruction 2023 report dated January 18, 2023, and should be attached to the existing **Hohner Drain 2013 Schedule 2 - Schedule of Assessments** completed under a section 76 appointment dated November 19, 2013.
2. The above "Reapportioned Assessments" and the assessments that have not been revised from the existing 1985 report schedule dated October 31, 1985 are to be used to assess out repair and maintenance costs when incurred.
3. "Reapportioned Assessments" are to replace "Previous Assessments" for the People Care Centres and Canada Farm Distributors Ltd. properties.
4. The amounts shown are not dollars to be paid at this time. These amounts are only to be used to obtain the percentage or proportion that each parcel (property) and road will have of a future maintenance cost.
5. This table will only come into effect once the bylaw for the Tavistock Drain 1985 Reconstruction 2023 has received third reading.

Calculations

- Total Original Ha. Affected (1979) of Canada Farm Distributors and T. Graham, properties	(9.96)
- Total Original Benefit Assessment (1979) for T. Graham (Con 12, Pt. 126 & Pts 235)	1500
- Total Original Outlet Assessments (1979) to Canada Farm Distributors and T. Graham properties (used to establish Outlet/Ha)	1,847
- Total New Ha. Affected (2023), excluding original People Care Centres, L. Stere & C. Schaefer properties (Canada Farm Distributors Ltd. + Optimist Club of Tavistock + 2825085 Ontario Inc. + new PeopleCare Centres Inc. area)	(8.99)
Original Outlet Assessments (1979) for People Care Centres, L. Stere & C. Schaefer will be added to Roll No. 010-09500 (PeopleCare Centres Inc.)	
- Total Original Benefit Assessment (1979) for T. Graham now applied to Roll No. 010-14001 (Optimist Club of Tavistock)	1500
Outlet rate applied to properties in Reapportioned Assessment (/Ha. Affected):	
205.55 /Ha. Affected	

**TABLE 2-2
REAPPORTIONMENT FOR HOHNER DRAIN (2)**

Previous Assessments - Schedule of Assessment (November 19, 2013/ April 11, 1979)**Main Drain**

Con	Plan	Lot	Roll No.	Owner (1979)	Approx. Acres Affected	Approx. Ha Affected	Benefit	Outlet	Total
Township of East Zorra-Tavistock									
	RP307	SPT 64 & SPT 22		H. Wilker	17.75	(7.18)		478	478
	RP307	WPT 64 & Pt 22		D. Halliday	3.00	(1.21)		75	75
Township of Perth East									
5		Pt 22		H. Wilker	1.80	(0.73)		45	45
TOTALS:						(9.13)	0	598	598

Reapportioned Assessments**Main Drain**

Con	Reg. Plan	Reg. Plan Lot No.	Roll No. (32-38-020-)	Owner (2023) (Left out)	Approx. Acres Affected	Approx. Ha Affected	Benefit	Outlet	Total
			020-09500			(1.02)	0	64	64
<i>Land Properties created from Ponds Subdivision</i>									
			020-09502			(0.05)	0	3	3
			020-09503			(0.05)	0	3	3
			020-09504			(0.05)	0	3	3
			020-09505			(0.05)	0	3	3
41M-295	1		020-12103			(0.08)	0	5	5
41M-295	2		020-12104			(0.07)	0	4	4
41M-295	3		020-12105			(0.05)	0	3	3
41M-295	4		020-12106			(0.05)	0	3	3
41M-295	5		020-12107			(0.05)	0	3	3
41M-295	6		020-12108			(0.05)	0	3	3
41M-295	7		020-12109			(0.08)	0	5	5
41M-295	8		020-12110			(0.09)	0	6	6
41M-295	9		020-12111			(0.05)	0	3	3
41M-295	10		020-12112			(0.05)	0	3	3
41M-295	11		020-12113			(0.05)	0	3	3
41M-295	12		020-12114			(0.05)	0	3	3
41M-295	13		020-12115			(0.05)	0	3	3
41M-295	14		020-12116			(0.06)	0	4	4
41M-295	15		020-12117			(0.05)	0	3	3
41M-295	16		020-12118			(0.05)	0	3	3
41M-295	17		020-12119			(0.05)	0	3	3
41M-295	18		020-12120			(0.05)	0	3	3
41M-295	19		020-12121			(0.07)	0	4	4
41M-295	20		020-12122			(0.12)	0	8	8
41M-295	21		020-12123			(0.05)	0	3	3
41M-295	Block 22		020-12124	<i>SWM POND</i>		(0.46)	0	29	29
41M-310	1		020-12127			(0.06)	0	4	4
41M-310	2		020-12128			(0.05)	0	3	3
41M-310	3		020-12129			(0.05)	0	3	3
41M-310	4		020-12130			(0.05)	0	3	3
41M-310	5		020-12131			(0.05)	0	3	3
41M-310	6		020-12132			(0.05)	0	3	3
41M-310	7		020-12133			(0.05)	0	3	3
41M-310	8		020-12134			(0.05)	0	3	3
41M-310	9		020-12135			(0.05)	0	3	3
41M-310	10		020-12136			(0.08)	0	5	5
41M-310	11		020-12137			(0.05)	0	3	3
41M-310	12		020-12138			(0.05)	0	3	3
41M-310	13		020-12139			(0.06)	0	4	4
41M-310	14		020-12140			(0.05)	0	3	3
41M-310	15		020-12141			(0.05)	0	3	3
41M-310	16		020-12142			(0.05)	0	3	3
41M-310	17		020-12143			(0.05)	0	3	3
41M-310	18		020-12144			(0.05)	0	3	3
41M-310	19		020-12145			(0.05)	0	3	3
41M-310	20		020-12146			(0.05)	0	3	3
41M-310	21		020-12147			(0.06)	0	4	4
44M-68	1		020-12150			(0.12)	0	8	8
44M-68	2		020-12151			(0.07)	0	4	4
44M-68	3		020-12152			(0.07)	0	4	4
44M-68	4		020-12153			(0.06)	0	4	4
44M-68	5		020-12154			(0.05)	0	3	3
44M-68	6		020-12155			(0.05)	0	3	3
44M-68	7		020-12156			(0.05)	0	3	3
44M-68	8		020-12157			(0.05)	0	3	3
44M-68/			020-12158 &			(0.04)	0	3	3
41M-335	Block 9/Block 29		020-12194						
44M-68/						(0.05)	0	3	3
41M-335	Block 10/Block 28		020-12159						
44M-68/						(0.14)	0	9	9
41M-335	Block 11/Block 27		020-12160						
			020-12163,			(0.02)	0	1	1
			020-12164,						
44M-68/	Blocks 14, 15, 16/		020-12165 &						
41M-335	Block 22		020-18700						
41M-335	1		020-12166			(0.05)	0	3	3
41M-335	2		020-12167			(0.05)	0	3	3
41M-335	3		020-12168			(0.05)	0	3	3
41M-335	4		020-12169			(0.05)	0	3	3
41M-335	5		020-12170			(0.05)	0	3	3

Reapportioned Assessments**Main Drain**

Con	Reg. Plan	Reg. Plan Lot No.	Roll No. (32-38-020-)	Owner (2023) (Left out)	Approx. Acres Affected	Approx. Ha Affected	Benefit	Outlet	Total
	41M-335	6	020-12171			(0.05)	0	3	3
	41M-335	7	020-12172			(0.05)	0	3	3
	41M-335	8	020-12173			(0.05)	0	3	3
	41M-335	9	020-12174			(0.05)	0	3	3
	41M-335	10	020-12175			(0.05)	0	3	3
	41M-335	11	020-12176			(0.07)	0	4	4
	41M-335	12	020-12177			(0.05)	0	3	3
	41M-335	13	020-12178			(0.05)	0	3	3
	41M-335	14	020-12179			(0.05)	0	3	3
	41M-335	15	020-12180			(0.05)	0	3	3
	41M-335	16	020-12181			(0.05)	0	3	3
	41M-335	17	020-12182			(0.06)	0	4	4
	41M-335	18	020-12183			(0.07)	0	4	4
	41M-335	19	020-12184			(0.08)	0	5	5
	41M-335	20	020-12185			(0.05)	0	3	3
	41M-335	Block 21	020-12186			(0.08)	0	5	5
	44M-68/					(0.05)	0	3	3
	41M-335	Block 13/Block 23	020-12188						
	44M-68/	Block 12/Block 24				(0.05)	0	3	3
	41M-335	& 25	020-12189						
	41M-335	Block 26	020-12191			(0.03)	0	2	2
	41M-335	Block 27	020-12192			(0.03)	0	2	2
	41M-335	Block 30	020-12195	SWM Pond		(1.68)	0	106	106
Sub Total on Lands:						(7.65)	0	483	483
Roads									
	Halliday Drive			Township of East Zorra-Tavistock		(1.09)	0	69	69
	Jacob Street West			Township of East Zorra-Tavistock		(0.67)	0	42	42
	Hansuld Drive			Township of East Zorra-Tavistock		(0.06)	0	4	4
Sub Total on Roads:						(1.82)	0	115	115
TOTALS:						(9.47)	0	598	598

Notes:

- This table was prepared for the Tavistock Drain 1985 Reconstruction 2023 report dated January 18, 2023, and should be attached to the existing **Hohner Drain 2013 Schedule 2 - Schedule of Assessments** completed under a section 76 appointment dated November 19, 2013.
- The above "Reapportioned Assessments" and the assessments that have not been revised from the existing report schedule completed under a Section 76 appointment dated November 19, 2013 are to be used to assess out repair and maintenance costs when incurred.
- "Reapportioned Assessments" are to replace "Previous Assessments" for the D. Halliday and H. Wilker properties (Ponds Subdivision).
- The amounts shown are not dollars to be paid at this time. These amounts are only to be used to obtain the percentage or proportion that each parcel (property) and road will have of a future maintenance cost.
- This table will only come into effect once the bylaw for the Tavistock Drain 1985 Reconstruction 2023 has received third reading.
- The total original Approx. acres/Ha. Affected (1979) for the D. Halliday property plus the H. Wilker properties do not total to the same total Approx. Ha. affected shown in the "Reapportioned Assessments". This is partially because the new Ponds subdivision includes a portion of land previously shown as owned by land north of the C.N.R. not previously included in the Tavistock Drain 1985 watershed. This discrepancy in total areas does not affect the calculations of C.N.R. and also includes additional "Reapportioned Assessments". The future maintenance totals of the original properties are proportioned over the total new lands shown today as a result of the subdivision and other severances in this area.
- It was confirmed by the Township that parcels with Roll No.'s 020-12163, 020-12164, 020-12165 and 020-12187 are all owned by the owner of property with Roll No. 020-12186 but are easements in favor of the township for the turning circle at the end of Jacob Street West. If the area represented by these four parcels is still a turning circle at the time maintenance work occurs, the township of East Zorra-Tavistock should pay for the maintenance assessment as per this reapportionment table. If however, the village has expanded to the west, with the turning circle and easement removed, this assessment should be included with the assessment to property with Roll No. 020-12186.
- At the time of the creating of this Table 2-2 of "Reapportioned Assessments", one property along Jacob Street West still shows as two separate roll numbers, though it is clear that it is one property and house has already been constructed. It is for this reason that these two roll numbers have been joined and considered as one assessment. If roll numbers are merged in the future, it is expected that one of these two roll numbers will be retained for this property.

Calculations

- Total Original Ha. Affected (1985) of B. Halliday and two (2) G. & M. Holst properties	(9.13)		
- Total Original Outlet Assessments (1985) of B. Halliday and two (2) G. & M. Holst properties by interval		0	598
- Total New Ha. Affected (2023) for all properties	(9.47)		
Outlet rate applied to properties in Reapportioned Assessment (/Ha. Affected):		63.18 /Ha. Affected	

APPENDIX A

Explanatory Note Sent to Landowners





K. SMART ASSOCIATES LIMITED

CONSULTING ENGINEERS AND PLANNERS

85 McIntyre Drive
Kitchener ON N2R 1H6
www.ksmart.ca

Tel: (519) 748-1199
Fax: (519) 748-6100

January 18, 2023

File No. 21-135

RE: TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023
Pt. Lots 126 to 128, Registered Plan 307, Part 2 Plan 41R-1977

Dear Sir/Madam,

In September/October 2021 the Township of East Zorra-Tavistock appointed K. Smart Associates Limited to prepare a Drainage Report pursuant to Section 4 of the Drainage Act, RSO 1990. This Council resolution was in response to two petitions for relocation of the existing Tavistock Drain 1985 in Pt. Lots 126 to 128, Registered Plan 307, Part 2 Plan 41R-1977 (lands west of William Street South, between Hope Street West and Woodstock Street South) for the purpose of development.

The relocation of the Tavistock Drain 1985 is to facilitate the construction of a new long-term care facility on William Street South, as well as a residential development on Woodstock Street South. The Tavistock Drain 1985 is a 900mm diameter (36") pipe that provides the stormwater outlet for your area and is currently located in the middle of the two proposed developments. This Drainage Report will provide for the relocation of the drain around the new developments and, in the process, will improve the drain's capacity.

This letter is only a notification of the drainage work proposed for the Tavistock Drain 1985, as your property is within the watershed of the Drain. **No costs relating to the Drainage Report or drain construction work will be levied to your property. The Engineer will be assessing all costs to the owners of the two developments.**

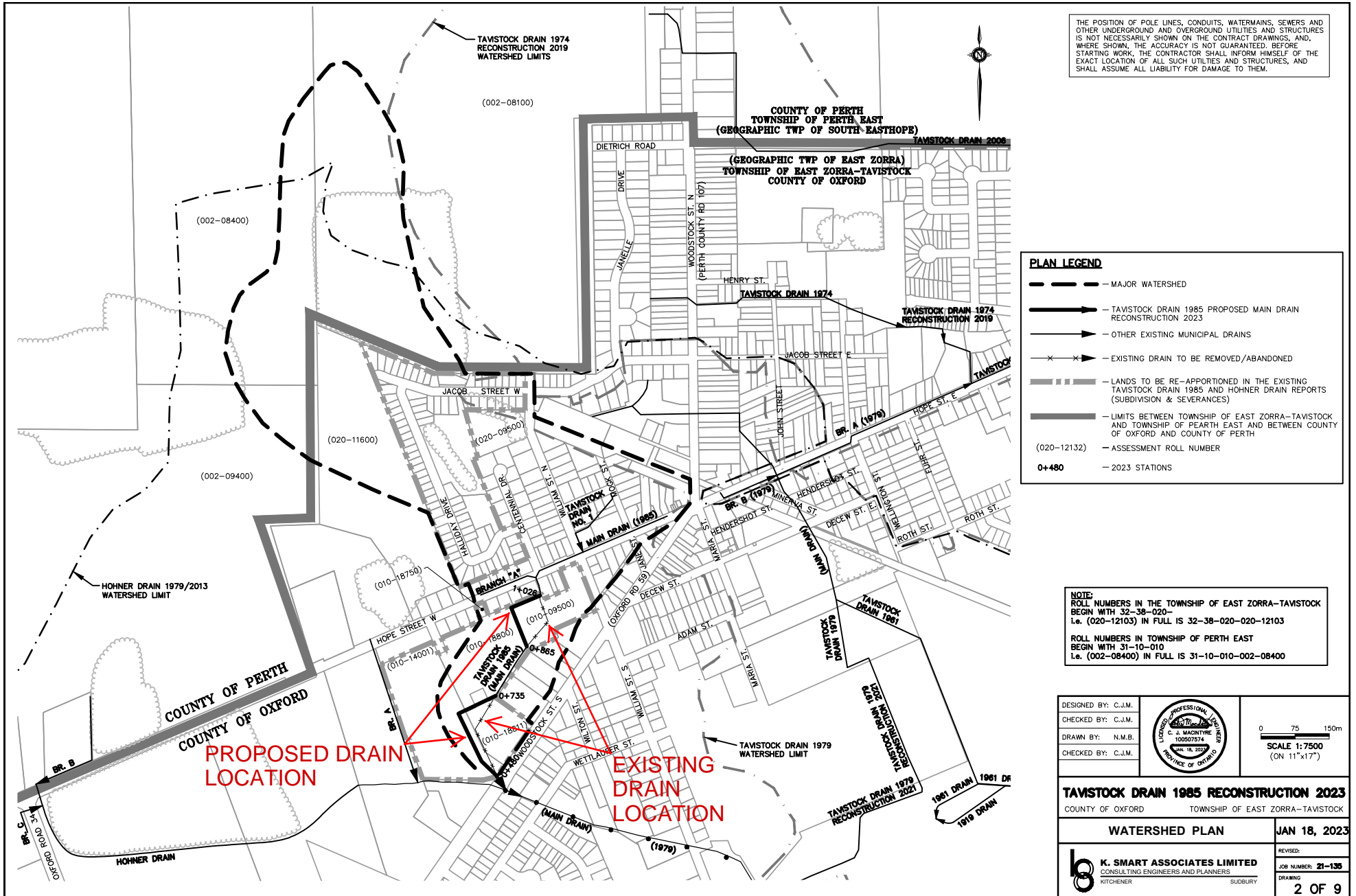
For your convenience, an overall plan drawing showing the existing drain and the proposed re-routing of the Tavistock Drain 1985 is enclosed.

If you wish to view the Drainage Report, copies are available at the Township office in Hickson or an electronic version can be requested by contacting the Engineer at cmacintyre@ksmart.ca. If you have any questions or concerns about the drain relocation work please call Connor Occleston at the Township at 519-462-2697 or the Engineer at 519-748-1199, Ext. 252.

This Report, regarding the relocation of the drain, will be considered before Township Council on Wednesday, February 15, 2023 at 7:00 p.m.

Sincerely,

Curtis MacIntyre, P. Eng.
K. Smart Associates Limited



**K. SMART ASSOCIATES LIMITED**

CONSULTING ENGINEERS AND PLANNERS

85 McIntyre Drive
Kitchener ON N2R 1H6
www.ksmart.ca

Tel: (519) 748-1199
Fax: (519) 748-6100

January 18, 2023

File No. 21-135

**RE: TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023
Pt. Lots 126 to 128, Registered Plan 307, Part 2 Plan 41R-1977
&
MAINTENANCE SCHEDULE REAPPORTIONMENTS FOR PONDS SUBDIVISION
(HALLIDAY DRIVE & JACOB STREET WEST PROPERTIES)**

Dear Sir/Madam,

In September/October 2021 the Township of East Zorra-Tavistock appointed K. Smart Associates Limited to prepare a Drainage Report pursuant to Section 4 of the Drainage Act, RSO 1990. This Council resolution was in response to two petitions for relocation of the existing Tavistock Drain 1985 in Pt. Lots 126 to 128, Registered Plan 307, Part 2 Plan 41R-1977 (lands west of William Street South, between Hope Street West and Woodstock Street South) for the purpose of development.

The relocation of the Tavistock Drain 1985 is to facilitate the construction of a new long-term care facility on William Street South, as well as a residential development on Woodstock Street South. The Tavistock Drain 1985 is a 900mm diameter (36") pipe that provides the stormwater outlet for your area and is currently located in the middle of the two proposed developments. The primary purpose of this Drainage Report is to provide for the relocation of the drain around the new developments and, in the process, improve the drain's capacity.

In addition, drain reports are required to contain a "*Maintenance Schedule*" outlining the distribution of costs if/when maintenance work is undertaken on the drain in the future. Since the original Maintenance Schedule was created in 1985, an update is required to add your properties to the schedule (secondary purpose of the Drainage Report). Table 1-2 attached to this letter outlines the re-distribution (reapportionment) of the original 1985 properties to the current subdivision properties that exist today. **It is important to note that the numbers in the Table are not costs to you**, they are values used to determine your property's share of costs if/when maintenance work is completed on the drain in the future. Table 2-2 is the reapportionment to the schedule of the "Hohner Drain".

This letter is only a notification of the drainage work proposed, and reapportionment to the schedule of the Tavistock Drain 1985 and Hohner Drain, as your property is within the watershed of both drains. **No costs relating to the Drainage Report or drain construction work will be levied to your property. The Engineer will be assessing all costs to the owners of the developments and original owner of the subdivision.**

For your convenience, an overall plan drawing showing the existing drain and the proposed re-routing of the Tavistock Drain 1985 is enclosed. Also shown are the properties on Halliday Drive and Jacob Street West being reapportioned by Tables 1-2 & 2-2.

(see back)

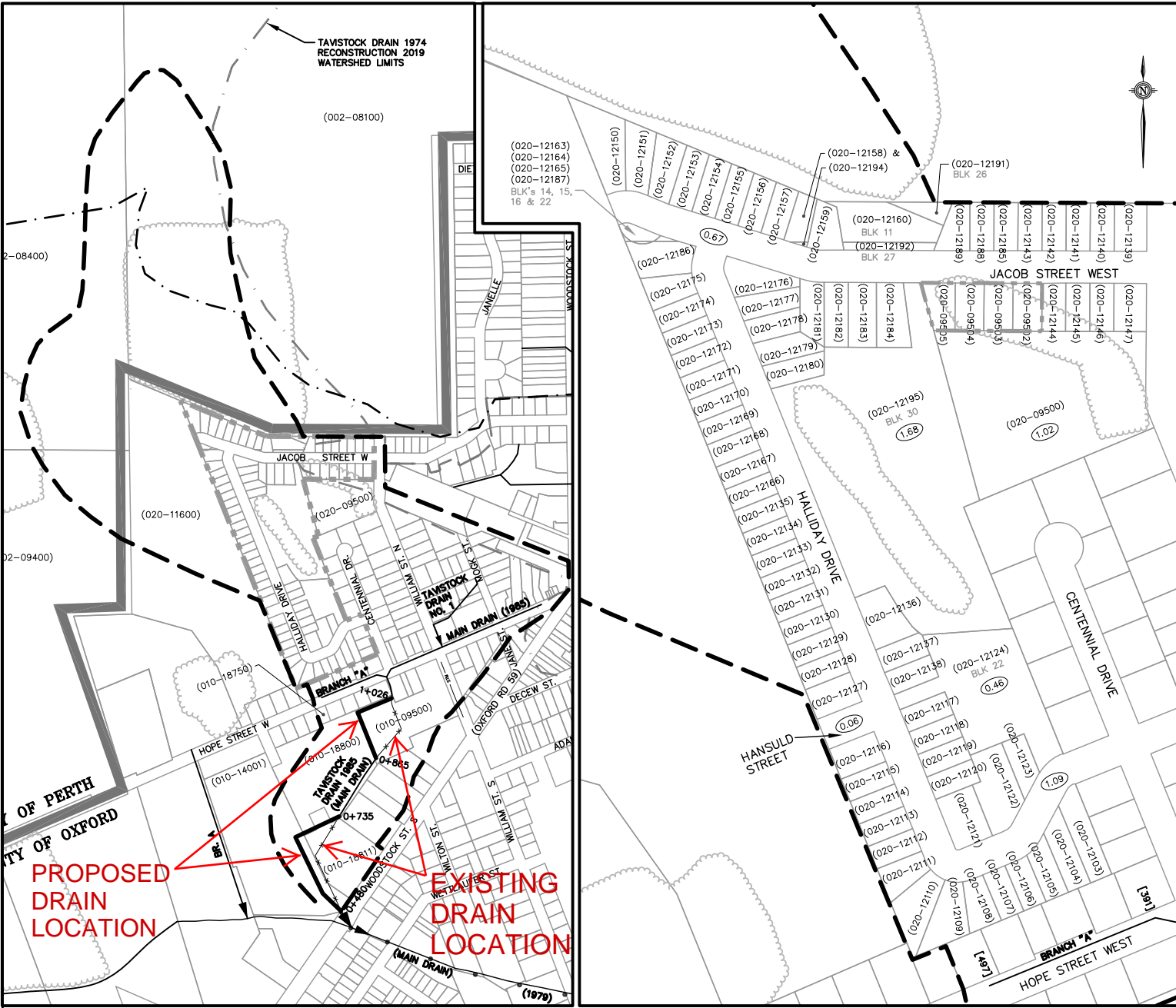
If you wish to view the Drainage Report, copies are available at the Township office in Hickson or an electronic version can be requested by contacting the Engineer at cmacintyre@ksmart.ca. If you have any questions or concerns about the drain relocation work please call Connor Occleston at the Township at 519-462-2697 or the Engineer at 519-748-1199, Ext. 252.

This Report, regarding the relocation of the drain, will be considered before Township Council on Wednesday, February 15, 2023 at 7:00 p.m.

Sincerely,

A handwritten signature in black ink, appearing to read "Curtis MacIntyre". The signature is fluid and cursive, with the first name "Curtis" and last name "MacIntyre" clearly distinguishable.

Curtis MacIntyre, P. Eng.
K. Smart Associates Limited



THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

PLAN LEGEND

- MAJOR WATERSHED
- TAVISTOCK DRAIN 1985 PROPOSED MAIN DRAIN RECONSTRUCTION 2023
- OTHER EXISTING MUNICIPAL DRAIN
- EXISTING DRAIN TO BE REMOVED/ABANDONED
- PONDS SUBDIVISION
- PROPERTIES SEVERED FROM ROLL NO. 020-09500 TO BE INCLUDED IN REAPPORTIONMENT
- (020-12132) — ASSESSMENT ROLL NUMBER
- 0+480 — 2023 STATIONS
- [480] — 1985 STATIONS

NOTE:
ROLL NUMBERS IN THE TOWNSHIP OF EAST ZORRA-TAVISTOCK BEGIN WITH 32-38-020-
I.e. (020-12103) IN FULL IS 32-38-020-020-12103

ROLL NUMBERS IN TOWNSHIP OF PERTH EAST BEGIN WITH 31-10-010
I.e. (002-08400) IN FULL IS 31-10-010-002-08400

DESIGNED BY: C.J.M.
CHECKED BY: C.J.M.
DRAWN BY: N.M.B.
CHECKED BY: C.J.M.



SCALE: AS SHOWN
(ON 11"x17")

TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023
COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK

WATERSHED PLAN & DETAIL JAN 18, 2023

K. SMART ASSOCIATES LIMITED
CONSULTING ENGINEERS AND PLANNERS
KITCHENER SUDBURY

REVISED:
JOB NUMBER: **21-135**
DRAWING
FIGURE A

APPENDIX B

Technical Memorandum





January 18, 2023

Ref. #21-135

Technical Memorandum

Tavistock Drain 1985

Introduction

This technical memo has been prepared to analyze an appropriate reduction in pipe sizing for the Tavistock Drain 1985 from its current recommended size as depicted in the "Tavistock Master Storm System Drainage Plan" (TMSSDP) prepared by R. J. Burnside and Associates dated 2007 [2]. Two (2) new developments within the lower watershed of the Tavistock Drain 1985 will propose a re-alignment of the existing drain and therefore, as a requirement of the Township, upsizing of the pipe to meet the recommendations in the R.J. Burnside Report.

It has been brought to the engineer's attention that after this 2007 report was completed, a subdivision in the upper part of the watershed was constructed with enlarged stormwater management facilities that should reduce the flow downstream and therefore make the recommendations for pipe sizing in the 2007 report out of date.

To complete this analysis, in addition to the 2007 report, the "Stormwater Management Design Report for Mansoura Developments Inc." prepared by Gamsby and Mannerow dated March 12, 2013 [2] was also reviewed.

Background

The two developments were created as severances from the original Canada Farm Distributors Ltd. property located between Woodstock Street South, Hope Street West and William Street South on the west end of Tavistock. The size of the existing Drain through this property is a 900mm dia. pipe at a 0.91% slope for the majority of the route, increasing to a 0.96% slope near Woodstock Street South and Optimist Park. The "Tavistock Master Storm System Drainage Plan" considers the Tavistock Drain 1985 as a trunk sewer for the village and recommends that all trunk sewers be sized to the 10-year storm. Exhibit 1 shows the pipes evaluated by the TMSSDP. Exhibit 2 shows the plan and profile of the drain from the K. Smart Associates Limited 1985 report. Table 1 below separates each segment of pipe (4) through the sites in question, comparing the existing capacities to the capacities of the recommended pipe sizes contained in the TMSSDP. In summary, the TMSSDP recommended the following pipe sizes starting at Hope Street West, continuing south to Woodstock Street South: 975mm dia. (node 521x to 780), 1050mm dia. (node 780 to 781), 1200mm dia. (node 781 to 782), and finally back to a 1050mm dia. (node 782 to 783). Since the relocated drain will contain grades differing from those currently existing (typically flatter grades since relocations are longer than existing alignments), it is the capacity of the recommended pipe sizes using existing grades that is compared to when observing the proposed design.

Technical Memorandum
Tavistock Drain 1985

Table 1: Existing and Recommended Pipe Sizes from TMSSDP

PeopleCare Centres Inc.	Node 521x to 780 (Sta. 985.5 to 882.5)										
	Description	Slope	n	D (m)	y (m)	Θ (rad)	A (m ²)	P (m)	R (m)	Q (m ³ /s)	V (m/s)
	Existing	0.0091	0.013	0.900	0.850	5.33	0.62	2.40	0.2593715	1.857	2.984
	Recomm. (TMSSDP)	0.0091	0.013	0.975	0.920	5.32	0.73	2.60	0.2812343	2.299	3.150
	Node 780 to 781 (Sta. 882.5 to 775)										
	Description	Slope	n	D (m)	y (m)	Θ (rad)	A (m ²)	P (m)	R (m)	Q (m ³ /s)	V (m/s)
2825085 Ontario Inc.	Existing	0.0091	0.013	0.900	0.850	5.33	0.62	2.40	0.2593715	1.857	2.984
	Recomm. (TMSSDP)	0.0091	0.013	0.975	0.920	5.32	0.73	2.60	0.2812343	2.299	3.150
	Node 781 to 782 (Sta. 775 to 595)										
	Description	Slope	n	D (m)	y (m)	Θ (rad)	A (m ²)	P (m)	R (m)	Q (m ³ /s)	V (m/s)
	Existing	0.0091	0.013	0.900	0.850	5.33	0.62	2.40	0.2593715	1.857	2.984
	Recomm. (TMSSDP)	0.0091	0.013	1.200	1.130	5.31	1.10	3.18	0.3468088	4.000	3.622
	Node 782 to 783 (Sta. 595 to 480)										
	Description	Slope	n	D (m)	y (m)	Θ (rad)	A (m ²)	P (m)	R (m)	Q (m ³ /s)	V (m/s)
	Existing	0.0096	0.013	0.900	0.840	5.24	0.62	2.36	0.2621412	1.908	3.087
	Recomm. (TMSSDP)	0.0096	0.013	1.050	0.990	5.32	0.85	2.79	0.3030945	2.878	3.401

It is noted that the recommended pipe size jumped up to 1200mm and then back down to a 1050mm for the final length to Woodstock Street South. Considering that the only change in this section is a slight increase of grade from 0.91% to 0.96%, it can be inferred that the modeler's design flow from node 781 downstream is approximately equal to the capacity of a 1050mm pipe at a 0.96% grade (2.88 m³/s). It is believed that the 1200mm pipe between nodes 781 & 782 is only proposed because the 0.91% grade does not quite meet that objective. Therefore, the design flow for the improved/re-aligned Tavistock Drain 1985 at the 2825085 Ontario Inc. development (node 781 to 783) is considered to be 2.88 m³/s.

Criteria for Reduction to Design Flow

The reduction to the design flow for the relocated Tavistock Drain 1985 will be the lesser of two separate flow calculations:

1. The actual capacity of the portion of existing 900mm dia. Tavistock Drain 1985 through private land between the proposed PeopleCare Centres Inc. site and Hope Street West. This section of pipe is unlikely to be replaced in the near future and the relocated downstream drain must convey maximum pipe flows coming from Hope Street West.

Capacity of Existing 900mm dia. pipe = 1.857m³/s

Capacity of the Recommended 975mm dia. pipe = 2.3m³/s

Difference (reduction) = 0.443m³/s

2. The difference between the 10-year existing and the 10-year post development flows in the Ponds Subdivision, as shown in the Mansoura Developments Storm Management Design Report.

Stormwater Management Design Report for Mansoura Developments Inc.

The Mansoura Development Lands (later referred to as the Ponds Subdivision) are located within the Tavistock Drain 1985 watershed, north of Hope Street West and west of Centennial Drive. Two (2) stormwater management ponds and one (1) subsurface storage system were constructed within the subdivision. The report stated that one of the objectives was to “provide quantity control to attenuate post-development stormwater runoff to the 2-year pre-development flow rate for a full range of design storm events” (2-100-year). Table 2 below summarizes the flow rates for the 2-year and 10-year storm events for the existing condition catchments upstream and within the subdivision (note: whether flow is directed down Centennial Drive or William Street, all flow eventually contributes to the Tavistock Drain 1985 downstream). The table further summarizes the allowable discharge rates and runoff volumes from the site, as shown in the SWM Report. Exhibit 3 contains Figure No. 2 from the SWM report, depicting the “Existing Conditions Drainage Areas Plan” correlating to the summaries below.

For this analysis, it is observed that the existing flow rate during the 10-year storm from the site and upstream external lands is 2.444 m³/s.

Table 2: Existing Condition Flow Rates and Runoff Volumes

CATCHMENTS										
	10	20	21	11	22	Total to Centennial Drive	30	40	Total to William Street	Total from Site
2-Year										
Flow Rate (m ³ /s)	0.425	0.116	0.014	0.003	0.069	0.627	0.053	0.032	0.085	0.712
10-Year										
Flow Rate (m ³ /s)	1.511	0.382	0.046	0.011	0.218	2.168	0.173	0.103	0.276	2.444
Allowable Flow Rates for a 10-year storm Event										
Flow Rate (m ³ /s)	1.511	0.116	0.014	0.011	0.069	1.721	0.173	0.032	0.205	1.926

**Red text indicates values used to determine “Allowable Flow Rates”. If 2-year is selected, then it is a catchment within the site. Otherwise, catchment is external (10, 11, & 30).*

Exhibit 4 contains Figure No. 3 from the SWM report and depicts the “Post-Development Drainage Areas Plan”. Table 3 below summarizes a table in the SWM report outlining the post-development flows for each specific area discharging to Centennial Drive/William Street and leaving the site.

It is considered that after the construction of the subdivision and stormwater retention areas, the flow rate eventually discharging to the Tavistock Drain 1985 is 1.555 m³/s.

Table 3: Post Development Flow Rates

CATCHMENTS										
	100 & 201 (SWM 1)	101, 202 & 204 (SWM2)	203A	203B	205	Total to Centennial Drive	300 (minor) 400 & 500	300 (major)	Total to William Street	Total from Site
10-Year										
Flow Rate (m ³ /s)	0.467	0.563	0.046	0.051	0.243	1.37	0.065	0.120	0.185	1.555

Taking the results presented in the SWM report, the improvement of flow to the Tavistock Drain 1985, because of this subdivision is suggested to have been the difference between the existing conditions 10-year flow and the post-development 10-year flow from the site.

$$\text{Improvement} = 2.444 \text{ m}^3/\text{s} - 1.555 \text{ m}^3/\text{s} = 0.889 \text{ m}^3/\text{s}$$

Conclusion

The lesser of the two flow reductions calculations is the $0.442 \text{ m}^3/\text{s}$, as determined by the difference of flows in the existing to recommended pipe sizes on the private property between Hope Street West and the PeopleCare Centres Inc. development. In a given storm event, this is the capacity required downstream to convey upstream flows from Hope Street West, regardless of the total reduction of flow provided by the constructed SWM facilities of the Ponds Subdivision.

Flow Reduction from TMSSDP = $0.442 \text{ m}^3/\text{s}$

The flow reduction stated above has been applied to the flow capacities of each recommended pipe from the TMSSDP shown earlier in Table 1. Table 4 below outlines new proposed sizes, also taking into account the revised grades of the re-aligned drain around the new developments.

Table 4: Proposed Pipe Sizes after Applying Flow Reduction

PeopleCare Centres Inc.	Node 521x to 780 (Sta. 985.5 to 882.5)									
	Description	Slope	n	D (m)	y (m)	Θ (rad)	A (m ²)	P (m)	R (m)	Q (m ³ /s)
	Existing	0.0091	0.013	0.900	0.850	5.33	0.62	2.40	0.25937154	1.857
	Recomm. (TMSSDP)	0.0091	0.013	0.975	0.920	5.32	0.73	2.60	0.2812343	2.299
	Reduction from TMSSDP									-0.442
	Required Capacity									1.857
	Proposed	0.0075	0.013	0.975	0.915	5.28	0.73	2.57	0.282661	2.088
	Node 780 to 781 (Sta. 882.5 to 775)									
	Description	Slope	n	D (m)	y (m)	Θ (rad)	A (m ²)	P (m)	R (m)	Q (m ³ /s)
	Existing	0.0091	0.013	0.900	0.850	5.33	0.62	2.40	0.25937154	1.857
	Recomm. (TMSSDP)	0.0091	0.013	0.975	0.920	5.32	0.73	2.60	0.28123435	2.299
	Reduction from TMSSDP									-0.442
	Required Capacity									1.857
	Proposed	0.0075	0.013	0.975	0.915	5.28	0.73	2.57	0.282661	2.088
2825085 Ontario Inc.	Node 781 to 782 (Sta. 775 to 595)									
	Description	Slope	n	D (m)	y (m)	Θ (rad)	A (m ²)	P (m)	R (m)	Q (m ³ /s)
	Existing	0.0091	0.013	0.900	0.850	5.33	0.62	2.40	0.25937154	1.857
	Recomm. (TMSSDP)	0.0091	0.013	1.200	1.130	5.31	1.10	3.18	0.34680878	4.000
	Design Flow = Recommended Pipe from Node 782 to 783									2.878
	Reduction from TMSSDP									-0.442
	Required Capacity									2.436
	Proposed	0.0075	0.013	1.050	0.990	5.32	0.85	2.79	0.303094	2.543
	Node 782 to 783 (Sta. 595 to 480)									
	Description	Slope	n	D (m)	y (m)	Θ (rad)	A (m ²)	P (m)	R (m)	Q (m ³ /s)
	Existing	0.0096	0.013	0.900	0.840	5.24	0.62	2.36	0.26214119	1.908
	Recomm. (TMSSDP)	0.0096	0.013	1.050	0.990	5.32	0.85	2.79	0.30309447	2.878
	Reduction from TMSSDP									-0.442
	Required Capacity									2.436
	Proposed	0.0075	0.013	1.050	0.990	5.32	0.85	2.79	0.303094	2.543

Technical Memorandum
Tavistock Drain 1985

This technical memorandum has been respectfully prepared by the undersigned.

A handwritten signature in black ink, reading "Curtis MacIntyre". The signature is fluid and cursive, with the first name "Curtis" and last name "MacIntyre" clearly legible.

Curtis MacIntyre, P. Eng.

K. SMART ASSOCIATES LTD.

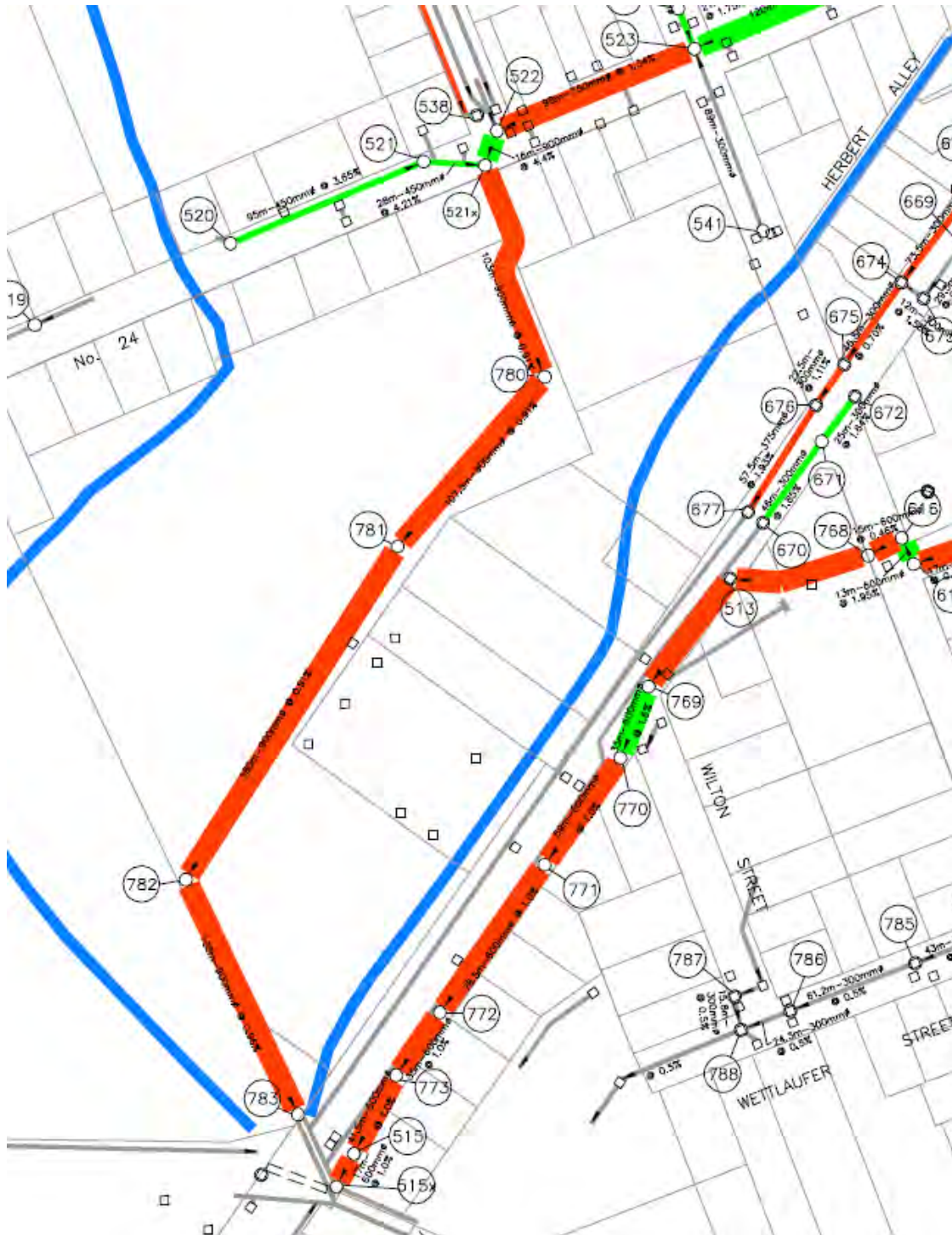
EXHIBIT 1: Map of Minor Storm System (TMSSDP) [1]

EXHIBIT 2: Plan and Profile of Existing Drain with Node Labels

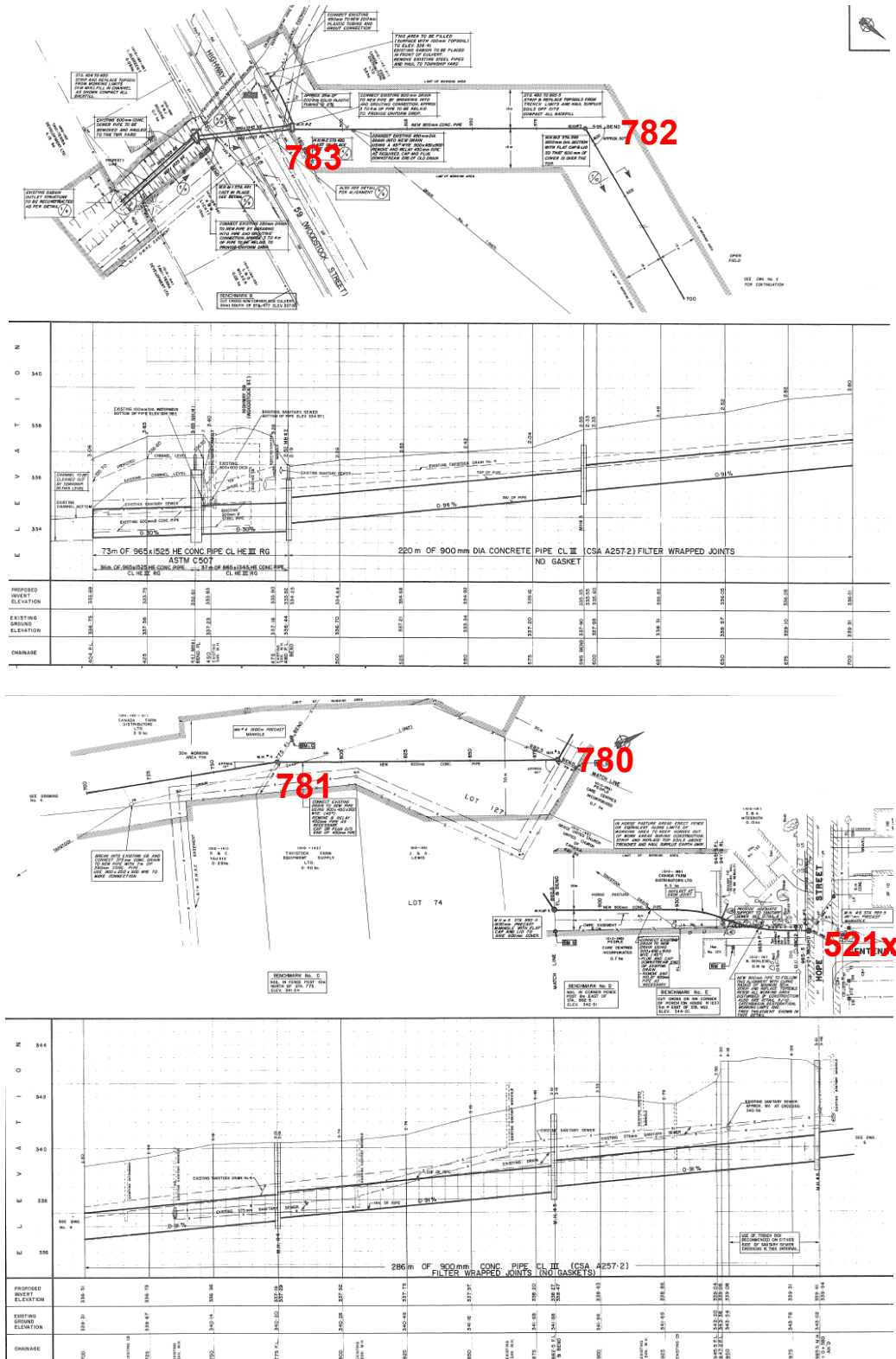


EXHIBIT 3: Existing Conditions Plan (Mansoura Dev.) [2]

407039
MANSOURA DEVELOPMENTS INC.
TOWNSHIP OF EAST
ZORRA-TAVISTOCK (TAVISTOCK)
COUNTY OF OXFORD

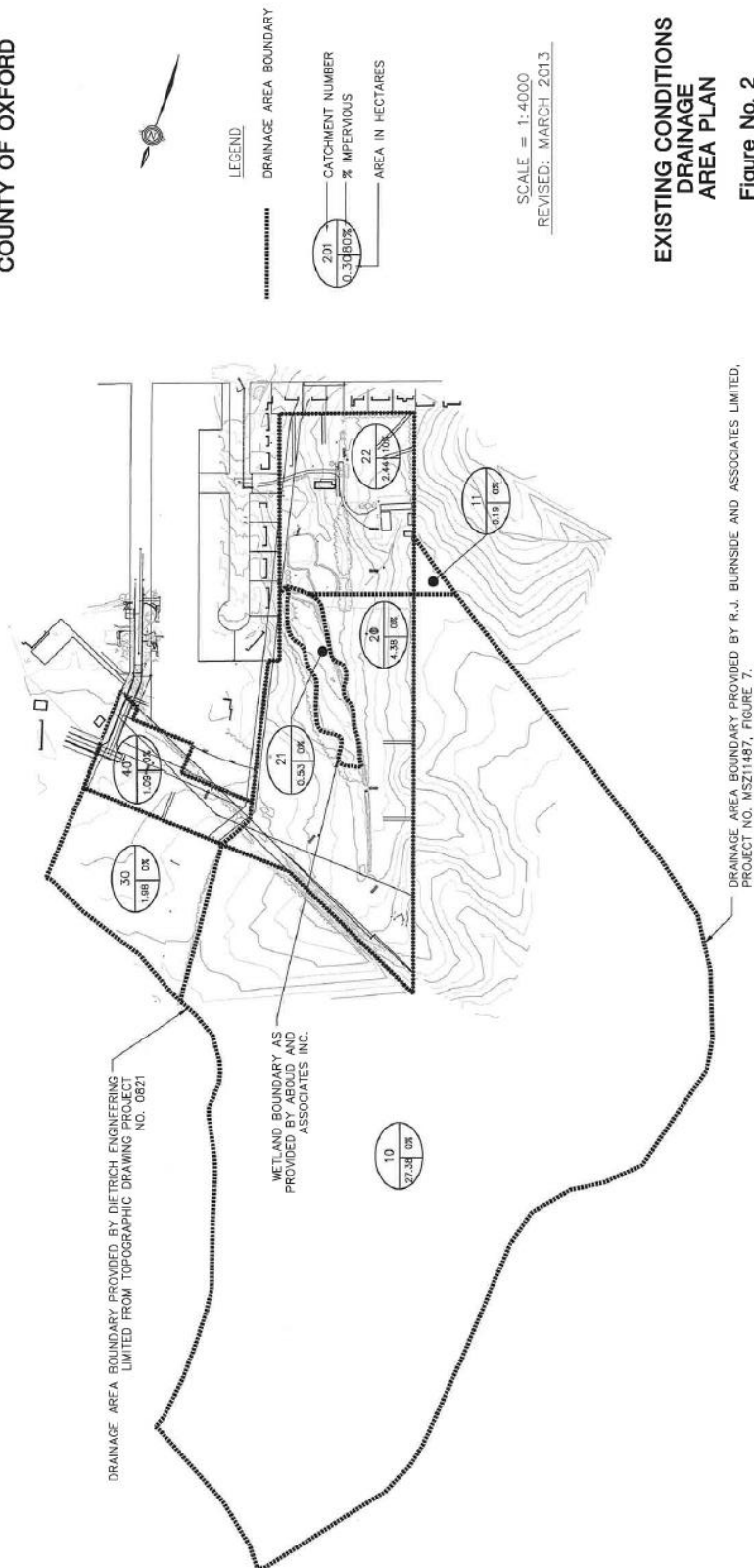
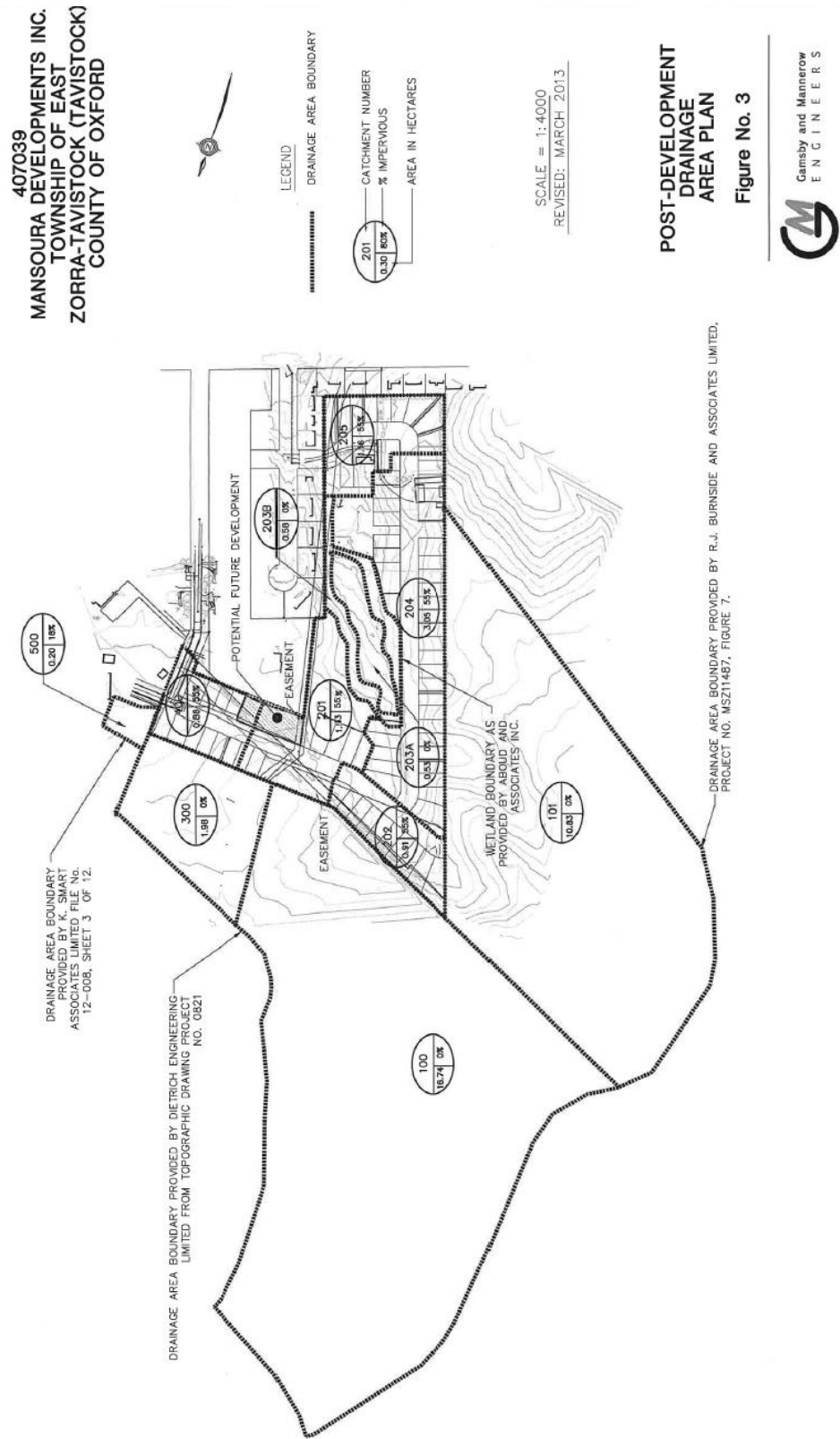


EXHIBIT 4: Post-Development Plan (Mansoura Dev.) [2]



References

- [1] Jackie Gravel, P.Eng., "Tavistock Master Storm System Drainage Plan", R. J. Burnside & Associates Limited, Township of East Zorra-Tavistock, July 2007.
- [2] Angela Kroetsch, P. Eng., "Stormwater Management Design Report, Mansoura Developments Inc.", Gamsby and Mannerow Limited, Township of East Zorra-Tavistock, March 2013.

400 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF DRAINS

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400 STANDARD SPECIFICATIONS FOR CONSTRUCTION OF DRAINS

400.1 ABBREVIATIONS

- i) MTO means the Ministry of Transportation of Ontario.
- ii) ASTM means the American Society for Testing Materials.
- iii) CSA means the Canadian Standard Association.
- iv) OPSD means Ontario Provincial Standard Drawings
- v) OPSS means Ontario Provincial Standard Specifications
- vi) DFO means Fisheries and Oceans Canada
- vii) MNRF means Ministry of Natural Resources and Forestry
- viii) MECP means Ministry of Environment, Conservation and Parks

400.2 PRE CONSTRUCTION MEETING

The Contractor should arrange a pre-construction meeting with the Engineer, Municipality, affected landowners prior to commencement of construction.

If there is no pre-construction meeting or if a landowner is not present at the pre-construction meeting, the following shall apply. The drain is to be walked by the Contractor and each landowner prior to construction to ensure that both agree on the work to be done. Any difference of opinion shall be referred to the Engineer for decision. If the landowner is not contacted for such review, they are to advise the Engineer and/or Municipality.

400.3 COLD WEATHER

When working in cold weather is approved by the Engineer, the Contractor shall provide suitable means for heating, protection, and snow and ice removal. All work completed in cold weather conditions shall be to the satisfaction of the Engineer and any additional cost to remedy unsatisfactory work, or protect the work shall be borne by the Contractor. All backfilling operations shall be done as soon as possible to avoid backfilling with ground containing frozen particles. The Contractor will assume all responsibility for damages to any tile drains and for settlements or bank slippages that may result from work in cold weather.

400.4 WORKING AREA

Where any part of the drain is on a road allowance, the road allowance shall be the working area. For a closed drain the working area shall be a 10 metre width on either side of the trench or any combination not exceeding 20 metres. A 10m x 10m working area shall exist around any catchbasin, junction box or access point. For an open drain the working area shall be 17 metres on the side for leveling and 3 metres on the opposite side. A 10m working area shall exist for any overflow swale or grassed waterway. If any part of the drain is close to a property line then the fence line shall be one of the limits of the work area. Reduced or increased working areas will be described in detail on the Drawings.

400.5 ACCESS

The Contractor shall have access to the drain by entering the working area directly from road allowances or along access routes shown on the Drawings. All specifications governing fences, livestock and crops during drain construction apply to access routes. No other access routes shall be used unless first approved by the Engineer and the affected landowner. The Contractor shall contact each landowner prior to using the designated access routes. Contractor shall make good any damages caused by using the designated access routes.

400.6 ACCESS TO PROPERTIES ADJOINING THE WORK

The Contractor shall provide at all times and at no additional cost, adequate pedestrian access to private homes and commercial establishments unless otherwise authorized by the Engineer. Where interruptions to access have been authorized by the Engineer, reasonable notice shall be given by the Contractor to the affected landowners and such interruptions shall be arranged to minimize interference to those affected.

400.7 DRAINAGE SUPERINTENDENT

Where a Drainage Superintendent (Superintendent) is appointed by the Municipality, the Engineer may designate the Superintendent to act as the Engineer's representative. If so designated, the Superintendent will have the power to inspect and direct the execution of the work.

Any instructions given by the Superintendent which change the proposed work or with which the Contractor does not agree shall be referred to the Engineer for final decision.

400.8 ALTERATIONS TO WORK

The Engineer shall have the power to make alterations, additions and/or deletions in the work as shown or described in the Drawings or Specifications and the Contractor shall proceed to implement such changes without delay. Alterations ordered by the Engineer shall in no way render the contract void.

If a landowner desires deviations from the work described on the Drawings, the landowner shall submit a written request to the Engineer, at least 48 hours in advance of the work in question.

In every such case, the contract amount shall be increased or decreased as required according to a fair evaluation of the work completed. Where such changes involve additional work similar to items in the contract, the price for additional work shall be determined after consideration is given to the tendered price for similar items.

In no case shall the Contractor commence work considered to be extra work without the Engineer's approval. Payment for extra work is contingent on receipt of documentation to the satisfaction of the Engineer. Refer to the Extra Work Summary included in the Special Provisions.

400.9 ERRORS AND UNUSUAL CONDITIONS

The Contractor shall notify the Engineer immediately of any error or unusual conditions which may be found. Any attempt by the Contractor to correct the error without notice shall be done at the Contractor's risk. Any additional cost incurred by the Contractor to remedy an error or unusual condition without notice shall be borne by the Contractor. The Engineer shall direct the alteration necessary to correct errors or unusual conditions. The contract amount shall be adjusted in accordance with a fair evaluation of documentation for the work added, deleted or adjusted.

400.10 TESTS

The Engineer reserves the right to subject any materials to a competent testing laboratory for compliance with the standard. If any materials supplied by the Contractor are determined to be inadequate to meet the applicable standards, the Contractor shall bear full responsibility to remove and/or replace all such inadequate materials with materials capable of meeting the standards.

The cost of testing the materials supplied by the Contractor shall be borne by the Contractor.

400.11 BENCHMARKS AND STAKES

Prior to construction, the Engineer will confirm the benchmarks. The Contractor shall be held liable for the cost of replacing any benchmarks destroyed during construction.

If the Engineer provides layout stakes, the Contractor shall be held liable for the cost of replacing any layout stakes destroyed during construction.

Where property bars are shown on the Drawings, they are to be protected and if damaged by the Contractor, they will be reinstated by an Ontario Land Surveyor at the expense of the Contractor. Where property bars not shown on the Drawings are damaged, they will be reinstated by an Ontario Land Surveyor at the expense of the project.

400.12 OPENING UP OF FINISHED WORK

If ordered by the Engineer, the Contractor shall make such openings in the work as are needed to re-examine the work, and shall forthwith make the work good again. Should the Engineer find the work so opened up to be faulty in any respect, the whole of the expense of opening, inspecting and making the work good shall be borne by the Contractor. Should the Engineer find the work opened up to be in an acceptable condition the Contractor shall be paid for the expense of opening and making the work good, unless the Contractor has been obligated by any specification or by the direction of the Engineer to leave the work open for the Engineer's inspection.

400.13 FINAL INSPECTION

Final inspection by the Engineer will be made within twenty (20) days after receiving notice in writing from the Contractor that work is complete, or as soon thereafter as weather conditions permit. All the work included in the contract must at the time of final inspection have the full dimensions and cross-sections.

Prior to commencing the final inspection an on-site meeting may be held by the Engineer and landowners directly affected by the construction of the drain. The Contractor will attend this meeting upon notice by the Engineer.

If there is no on-site meeting with the Engineer and landowners, the Contractor shall obtain from each landowner a written statement indicating that the work has been performed to the owner's satisfaction. If the Contractor is unable to obtain a written statement from the landowner, the Engineer will determine if further work is required prior to issuing the Completion Certificate.

400.14 WARRANTY

There shall be a one-year warranty period on all completed work. The warranty period will commence on the date of the Completion Certificate.

When directed by the Engineer, the Contractor shall repair and make good any deficiencies in the work that may appear during the warranty period.

Before the work shall be finally accepted by the Municipality, the Contractor shall complete all work as directed by the Engineer and remove all debris and surplus materials and leave the work neat and presentable.

400.15 MATERIALS**400.15.1 Concrete Drain Tile**

Concrete drain tile shall conform to the requirements of the most recent ASTM C412 specifications for heavy duty extra quality, unless a stronger concrete tile is required by the Special Provisions or Drawings. All tile furnished shall be subject to the approval of the Engineer.

The minimum nominal lengths of the tile shall be 750mm for 150 to 350mm diameter tile and 1200mm for 400 to 900mm diameter tile.

All tile should be of good quality, free from distortions and cracks and shall meet the standards specified. The ends should be smooth and free from cracks or checks. All rejected tile are to be immediately removed from the site.

Granular backfill, where required, shall consist of approved sand or gravel having no particles retained on a screen having 50mm square openings.

Earth backfill shall consist of approved material having no large lumps or boulders.

400.15.2 Corrugated Plastic Tubing

Corrugated plastic tubing shall conform to the *Land Improvement Contractors of Ontario Standard Specification for Corrugated Plastic Drainage Tubing, 2006*. Type of material (solid or perforated) and need for filter sock will be specified on the Drawings or in the description of the work in the Special Provisions. Filter sock where specified shall be a standard synthetic filter material as provided by a recognized plastic tubing manufacturer unless noted differently on the contract drawings or elsewhere in the contract document. Protect coils of plastic tubing from damage and deformation.

400.15.3 Corrugated Steel Pipe

Corrugated Steel Pipe (CSP) shall be according to OPSS 1801 (CSA G401). Unless stated otherwise in the Special Provisions the pipe shall be:

- galvanized
- helical corrugation with lock seam and re-rolled annular ends
- 68mm x 13mm corrugation profile for diameters up to 1200mm
- 125mm x 25mm corrugation profile for diameters 1200mm and larger
- minimum wall thickness of 1.6mm for diameters up to 500mm
- minimum wall thickness of 2.0mm for diameters 600mm and larger
- joined using standard couplers matching the pipe diameter and material

Other coatings that may be specified include aluminized Type 2 or polymer. Polymer coating shall be a 254mm polymer film laminated to both sides of the pipe.

400.15.4 Plastic Pipe

Plastic Pipe shall be a high density polyethylene (HDPE) double wall corrugated pipe with smooth inner wall, solid with no perforations in accordance with OPSS 1840.

A minimum stiffness of 320 KPa at 5% deflection

The pipe shall be joined with snap-on or split couplers.

400.15.5 Concrete Sewer Pipe

Concrete sewer pipe shall be in accordance with OPSS 1820.

Non-reinforced concrete sewer pipe shall be used for pipe 375mm in diameter and smaller and reinforced concrete sewer pipe shall be used for pipe over 375mm.

Classes shall be as shown on the Contract Drawings or as described in the Form of Tender.

All new concrete sewer pipe shall have rubber-type gasket joints.

Where concrete sewer pipe “seconds” are specified, the pipe should exhibit no damage or cracks on the barrel section and shall be capable of satisfying the crushing strength requirements of OPSS 1820. The pipe may contain cracks or chips in the bell or spigot which prevent the use of rubber gaskets but the joints must be protected with filter cloth.

400.16 RIPRAP

All riprap is to be placed on a geotextile underlay (Terrafix 360R or equal) unless directed otherwise in the specific construction notes. The riprap is to be graded heavy angular stone (quarry stone is recommended) with particles averaging in size from 200mm to 300mm and is to be placed at 300mm thickness. Fine particles may be included to fill voids. Along upstream edges of riprap, where surface water will enter, underlay is to extend a minimum of 300mm upstream from riprap and then be keyed down a minimum of 300mm. Wherever riprap is placed, the area is to be over-dug so that finished top of riprap is at design cross-section, at design elevation or flush with existing ground.

400.17 GEOTEXTILE

To be non-woven fabric that is rot proof, non-biodegradable, chemically resistant to acidic or alkaline soils and is dimensionally stable under different hydraulic conditions. The filter fabric is to be a material whose primary function is to act as a highly permeable, non-clogging soil separator for fine soils (Terrafix 360R or equal). Contractor is to follow the manufacturer's recommendations for cutting, installation and precautions necessary to avoid damage to fabric. Other approved equals will be considered by the Engineer prior to construction.

400.18 DISPOSAL OF MATERIALS

The Contractor shall remove all surplus materials from the job site at the end of the project. The Contractor shall locate the disposal site for all materials to be disposed of. Disposal of materials shall comply with applicable regulations.

400.19 NOTIFICATION OF RAILROADS, ROAD AUTHORITIES AND UTILITIES

Contractor will notify any Railroad, Road Authority or Utility at least 48 hours in advance regarding work to be performed on their property or affecting their infrastructure. The notice will be in writing and is exclusive of Saturdays, Sundays and Holidays.

A utility includes any entity supplying the general public with necessities or conveniences.

400.20 WORKING IN ROAD ALLOWANCES**400.20.1 General**

Work within public road allowances shall be done in accordance with the Ontario Traffic Manual Book 7, latest edition.

400.20.2 Road Crossings

If no specific detail is provided for road crossings on the drawings or in the specifications the following shall apply:

- A Road Authority will supply no labour, equipment or materials for the construction of the road crossing.
- Contractor will not commence road crossing work until any required permits have been obtained. The Engineer may apply for any required permits prior to construction.
- Contractor will notify the Road Authority at least 72 hours in advance of any construction in the road allowance.
- Road crossings may be made with an open cut unless otherwise noted.
- Exact location of crossing shall be verified with the Road Authority and the Engineer.
- Pipe shall be placed on a minimum 150mm depth of Granular A shaped for the pipe.
- Pipe backfill shall be compacted Granular A and extend 300mm above the top of the pipe.
- Trench shall be backfilled with acceptable native material for the base width of the road bed.
- The material shall be placed in lifts not exceeding 300mm in depth and shall be thoroughly compacted with an approved mechanical vibrating compactor.
- Top 600mm of the road bed backfill shall consist of 450mm Granular B and 150mm of Granular A placed in lifts and fully compacted.
- Any surplus excavated material within the road allowance may be spread on the right-of-way with consent of the Road Superintendent otherwise the surplus material shall be hauled away.
- Existing asphalt or concrete pavement or surface treatment shall be replaced by the Contractor to the satisfaction of the Engineer and Road Authority.
- Contractor shall be responsible for correcting any backfill settlement during construction and during the warranty period. Upon approval of the road authority, surplus gravel shall be stockpiled near gravel road crossings to provide backfill for future trench settlement.
- All road crossings shall meet the approval of the Road Authority.
- If any road crossing is not left in a safe manner at the end of the working day barricades and warning signs shall be erected to guarantee the safety of the travelling public.
- If the Engineer deems a road to surface to have been damaged by the construction of a drain, either across or along the road, the Engineer may direct the Contractor to restore the road surface to existing or better condition at no additional cost.

400.20.3 Maintenance of Traffic

Unless directed otherwise on the drawings or in the specifications the Contractor shall keep the road open to traffic at all times. The Contractor shall provide suitable warning signs and/or flagging to the satisfaction of the Road Authority to notify of the construction work.

If a detour is required, the Contractor shall submit a proposal as to the details of the detour for approval by the Road Authority. If necessary to close the road to through traffic, the Contractor shall provide for and adequately sign the detour route. Contractor shall undertake all notifications required for a road closure in consultation with the Municipality.

400.21 LOCATIONS OF EXISTING UTILITIES

The position of pole lines, conduits, watermains, sewers and other underground and overhead utilities are not necessarily shown on the Contract Drawings, and, where shown, the accuracy of the position of such utilities and structures is not guaranteed. Before starting work, the Contractor shall have all utilities located in accordance with the Ontario Underground Infrastructure Notification System Act.

All utilities shall be exposed to the satisfaction of the utility company to verify that the construction proposed will not conflict with the utility structure. Additional payment will be allowed for relocation of utilities if conflicts should occur.

The Contractor is responsible for protecting all located and exposed utilities from damage during construction. The Contractor shall assume liability for damage caused to all properly located utilities.

400.22 LANEWAYS

If no specific detail is provided for laneway crossings on the Drawings or in the Specifications the following shall apply:

- Pipe backfill shall be acceptable native material that can be compacted in place.
- Top 450mm of laneway backfill shall consist of 300mm Granular B and 150mm of Granular A placed in lifts and fully compacted.
- Minimum cover on laneway culverts shall be 300mm.
- Existing asphalt or concrete pavement or surface treatment shall be replaced by the Contractor.
- The width of surface restoration shall match the existing laneway.
- Contractor shall be responsible for correcting any backfill settlement during construction and during the warranty period.

The timing of laneway closures will be coordinated by the Contractor to the satisfaction of the landowner.

400.23 EXISTING CROSSING CLEANOUT

Where the Special Provisions require an existing crossing to be cleaned, the Contractor shall provide a bottom width and depth that provides capacity equivalent to the capacity of the channel on either side. Excavated materials shall be hauled away unless adjacent landowners give permission for leveling. Care shall be taken to ensure that existing abutments or any portion of the structure are not damaged or undercut. The method of removing the material is to be pre-approved by the Engineer.

400.24 FENCES

If the Contractor is responsible to remove and install fences, the following shall apply:

- All fences removed by a Contractor are to be re-erected in as good a condition as existing materials permit.
- All fences shall be properly stretched and fastened. Where directed by the Engineer, additional steel posts shall be placed to adequately support a fence upon re-erection.
- Where practical and where required by the landowner, the Contractor shall take down an existing fence at the nearest anchor post and roll the fence back rather than cutting the fence and attempting to patch it.
- Where fence materials are in such poor condition that re-erection is not possible, the Contractor shall replace the fence using equivalent materials. Such fence material shall be approved by the Engineer and the landowner. Where the Engineer approves new fence material, additional payment will be provided.

Any fences paralleling an open drain, that are not line fences, that hinder the proper working of the excavating machinery for drain construction or maintenance shall be removed and rebuilt by the landowner at their own expense. If such parallel fences are line fences they shall be removed and reinstalled by the Contractor.

No excavated or cleared material shall be placed against fences.

The installation of all fences shall be done to the satisfaction of the Engineer and the landowner.

400.25 LIVESTOCK

If any construction will be within a fenced field containing livestock that are evident or have been made known to the Contractor, the Contractor shall notify the owner of the livestock 48 hours in advance of access into the field. Thereafter, the owner shall be responsible for the protection of the livestock in the field during construction and shall also be liable for any damage to or by the livestock.

Where the owner so directs or where the Contractor has failed to reach the owner, the Contractor shall adequately re-erect all fences at the end of each working day. No field containing livestock shall have a trench left open at the end of the working day, unless the trench has been adequately backfilled or protected. Failure of the Contractor to comply with this paragraph shall render the Contractor liable for any damage to or by the livestock.

Where livestock may be encountered on any property the Contractor shall notify the Engineer to arrange for inspection of the work prior to backfilling.

400.26 STANDING CROPS

The Contractor shall not be held responsible for damages to standing crops within the working area for the drain. However, the Contractor shall notify the owner of the crops 48 hours prior to commencement of construction so as to allow the owner an opportunity to harvest or salvage the crop within the drain working area. If this advance notice is not given the Contractor may be liable for the loss of the standing crops.

400.27 CLEARING VEGETATION

400.27.1 General

The area for clearing, if not defined elsewhere, shall be 15m on each side of the drain.

400.27.2 Trees to Remain

Where it is feasible to work around existing trees that do not impede the function of the drainage works, the Contractor shall not remove any deciduous tree larger than 300mm and any coniferous tree larger than 200mm, unless authorized by the Engineer.

400.27.3 Incidental Clearing

Incidental clearing includes removal of trees, brush or other vegetation with an excavator during construction activities, and the cost is to be included in the price for the related construction activity.

400.27.4 Power Brushing

Power brushing includes removal of above-ground vegetation with a rotary brush cutter or other mechanical means. Stump and root removal is not required. Power brushed vegetation in a channel cross-section shall be removed and leveled in the working area. Excavated material may be placed and leveled on power brushed vegetation.

400.27.5 Close-Cut Clearing

Close-cut clearing includes removal of above-ground vegetation cut flush with the ground. Stump and root removal is not required.

400.27.6 Clearing And Grubbing

Clearing and grubbing includes removal of vegetation, including stumps and roots. Removal of earth from the grubbed area into the windrows or piles is to be minimized.

400.27.7 Disposal of Cleared Vegetation**400.27.7.1 In Bush Areas**

Cleared vegetation is to be pushed into windrows or piles at the edge of the cleared area. Stumps and roots are to be piled first at the edge of the cleared area, followed by other vegetation (trunks, branches, etc.). Provisions for lateral drainage are required through all windrows. Windrows are not to block any laneways or trails. After removing cleared vegetation, the working area shall be leveled to the satisfaction of the Engineer.

400.27.7.2 In Field Areas

Cleared vegetation resulting from incidental clearing or power brushing may be hauled away, mulched in place or reduced to a size that permits cultivation using conventional equipment without causing undue hardship on farm machinery.

Cleared vegetation resulting from close-cut clearing or clearing and grubbing is to be hauled away to an approved location. Disposal sites may be in bush areas or other approved locations on the same farm. No excavated material shall be levelled over any logs, brush or rubbish of any kind.

400.27.8 Landowner Requested Salvage

A landowner may request that wood be separated from the windrows for the landowner's future use. This additional work would be eligible for extra payment, subject to the approval of the Engineer. The cost of the additional work would be assessed to the landowner.

400.27.9 Clearing by Landowner

Wherever the Special Provisions indicate that clearing may be undertaken by the landowner, work by the landowner shall be in accordance with the Clearing Vegetation requirements of this specification and must be completed so as not to cause delay for the Contractor. If the landowner does not complete clearing in accordance with these requirements, the Contractor will undertake the clearing at a price approved by the Engineer.

400.28 ROCK REMOVAL**400.28.1 General**

Rock shall be defined as bedrock and boulders that are greater than one-half cubic metre in size and that require blasting or hoe-ram removal. Bedrock or boulders that can be removed with a standard excavator bucket are not considered rock removal.

400.28.2 Blasting Requirements

All blasting shall be performed by a competent, qualified blaster in accordance with OPSS 120. Blasting mats are required. A pre-blast survey meeting the requirements of OPSS 120 must be completed for any structure within 200m of any blasting. The cost for pre-blast survey shall be included in the tender price for rock removal.

400.28.3 Typical Sections and Pay Limits

For tile drains and road culverts, rock shall be removed to 150mm below the proposed grade shown on the profile so that pipes are not in direct contact with rock. The width of rock removal shall be 1m minimum or the diameter of the pipe plus 600mm.

For open drains, rock removal shall match the proposed grade and bottom width shown on the Drawings. Side slopes shall be vertical or sloped outward. Side slopes shall be free of loose rock when excavation is completed.

Payment for the quantity of rock removed will be based on the typical sections described in these specifications and confirmed by field measurements. There will be no payment for overbreak.

400.28.4 Disposal of Rock

Excavated rock shall be piled at the edge of the working area at locations designated by the landowner. The cost to pile excavated rock shall be included in the tender price for rock removal. If the Special Provisions or the landowner require excavated rock to be hauled away, additional payment will be considered.

Where approved by the Engineer, excavated rock may be used in place of imported riprap.

400.29 SEEDING

400.29.1 General

Contractor responsible for re-seeding as necessary for uniform catch during warranty period. Areas that remain grassed after construction may not need to be seeded unless directed otherwise by the Engineer.

400.29.2 Drainage Works and Road Allowances

All disturbed ditch banks, berms and road allowances are to be seeded at the end of the day.

The following seed mixture shall be applied at 60kg/ha using a mechanical (cyclone) spreader:

- 35% Creeping Red Fescue
- 25% Birdsfoot Trefoil
- 25% Kentucky Bluegrass
- 10% Cover Crop (Oats, Rye, Barley, Wheat)
- 5% White Clover

Provide temporary cover for late fall planting by adding an additional 10 kg/ha of rye or winter wheat.

400.29.3 Hydroseeding

Where hydroseeding is specified, disturbed areas will be restored by the uniform application of a standard roadside mix, fertilizer, mulch and water at a rate of 2,000 kg/ha and be in accordance with OPSS 804.

400.29.4 Seeding Lawns

Unless specified otherwise, lawn areas shall be seeded with Canada No. 1 lawn grass mixture applied at 300 kg/ha using a mechanical (cyclone) spreader on 100mm of topsoil. Fertilizer shall be 5:20:20 or 10:10:10 applied at 300 kg/ha. Seed and fertilizer shall be applied together. Contractor shall arrange for watering with landowners.

400.29.5 Sod

Where sod is specified, sod is to be commercial grade turfgrass nursery sod, Kentucky Bluegrass placed on 50mm of topsoil. Fertilizer shall be 5-20-20 applied at 10kg/ha. Place sod in accordance with supplier instructions. Contractor is responsible for saturating the sod with water on the day of sod placement. Subsequent watering is the responsibility of the landowner.

400.30 EROSION CONTROL BLANKETS

Erosion Control Blankets (ECB) shall be biodegradable and made of straw/coconut (Terrafix SC200, Nilex SC32 or equal) or coconut (Terrafix C200, Nilex C32 or equal) with photodegradable, double net construction. The blanket and the staples shall be supplied and installed as per OPSS 804.

Erosion control blanket shall be placed and stapled into position as per the manufacturer's installation instructions on slopes as directed by the Engineer. Blankets shall be installed in direct contact with the ground surface to form a uniform, cohesive mat over the seeded earth area. The blankets are to be single course with 150mm overlap between blankets and joints are to be staggered. The Contractor shall ensure that the ECB is anchored to the soil and that tenting of the ECB does not occur.

On slopes, when the ECB cannot be extended 1m beyond the crest of the slope, the uppermost edge of the ECB shall be anchored in a 150mm wide by 150mm deep trench. The trench shall be backfilled with earth and compacted.

400.31 SEDIMENT CONTROL**400.31.1 General**

Contractor shall install sediment control features at the downstream limits of the project and at other locations as shown on the drawings or directed by the Engineer.

Sediment control features shall be installed prior to any excavation taking place upstream of that location. The Contractor shall maintain all sediment control features throughout construction and the warranty period.

Sediment that accumulates during construction shall be removed and levelled as required.

400.31.2 Flow Check Dams**400.31.2.1 Temporary Straw Bale Flow Check Dam**

The straw bale flow check dam shall consist of a minimum of 3 bales. Each bale is to be embedded at least 150mm into the channel bottom and shall be anchored in place with 2 T-bar fence posts or 1.2m wooden stakes driven through the bale.

Straw bales shall be hauled away at the end of the warranty period. Accumulated sediments shall be excavated and levelled when the temporary straw bale flow check dam is removed.

400.31.2.2 Temporary Rock Flow Check Dam

The temporary rock flow check dam shall extend to the top of the banks so that dam overtopping does not cause bank erosion. Rock shall be embedded a minimum of 150mm into the ditch bottom and banks. No geotextile is required for temporary rock flow check dams.

Accumulated sediments shall be excavated and levelled when the temporary rock flow check dam is removed at the conclusion of the warranty period.

400.31.2.3 Permanent Rock Flow Check Dam

The requirements of temporary rock flow check dams shall apply except rock shall be placed on geotextile and the dam shall remain in place permanently.

400.31.3 Sediment Traps**400.31.3.1 General**

The channel bottom shall be deepened in accordance with the dimensions provided in the Drawings or Special Provisions. If dimensions are not specified on the Drawings, the sediment trap shall be excavated within the channel cross-section at least 0.3m below the design grade.

The Contractor will monitor the sediment trap during construction and cleanout accumulated sediments as required to maintain the function of the sediment trap.

If specified to be temporary, no sediment trap maintenance is required after construction is complete.

If specified to be permanent, the contractor will clean out the sediment trap at the conclusion of the warranty period, unless directed otherwise by the Engineer.

400.31.3.2 Sediment Trap with Flow Check Dam

A permanent rock sediment trap shall include a permanent sediment trap and a rock flow check dam.

A temporary rock/straw sediment trap shall include a temporary sediment trap and a rock/straw flow check dam.

400.31.4 Turbidity Curtains

A turbidity curtain is required when there is permanent water level/flow and a sediment trap is not feasible.

Turbidity curtains shall be in accordance with OPSS 805 and installed per manufacturer's instructions.

Turbidity curtains shall be sized and anchored to ensure the bottom edge of the curtain is continuously in contact with the waterbody bed so that sediment passage from the enclosed area is prevented. The curtain must be free of tears and capable of passing the base flow from the drainage works. Turbidity curtain locations may be approved by the Engineer.

Turbidity curtains are to remain functional until work in the enclosed area is completed. Prior to relocating or removing turbidity curtains, accumulated sediment is to be removed from the drain and levelled.

Where a turbidity curtain remains in place for more than two weeks it shall be inspected for damage or clogging and replaced, repaired or cleaned as required.

400.31.5 Silt Fence

Silt fence shall be in accordance with OPSS 805.07.02.02 and OPSD 219.110 (light-duty).

400.32 GRASSED WATERWAYS AND OVERFLOW SWALES

Grassed waterways and overflow swales typically follow low ground along the historic flow route. The cross-section shall be saucer shaped with a nominal 1m bottom width, 8:1 side slopes and 300mm depth unless stated otherwise in the Special Provisions.

All grassed waterways are to be permanently vegetated. Grassed waterways shall be seeded with the following permanent seed mixture: 50% red fescue, 45% perennial ryegrass and 5% white clover, broadcast at 80 kg/ha. Fertilizer to be 7-7-7 applied at 80 kg/ha.

Provide temporary cover for late fall planting by adding an additional 10 kg/ha of rye or winter wheat.

Overflow swales may be cropped using conventional farming practice.

400.33 BUFFER STRIPS

Open drains shall include minimum 3m wide, permanently vegetated buffer strips on each side of the drain. Catchbasins shall include a minimum 1m radius, vegetated buffer strip around the catchbasin.

Cultivation of buffer strips using conventional farming practice may be undertaken, provided sediment transport into the drain is minimized.

400.34 MAINTENANCE CORRIDOR

The maintenance corridor along the route of the drain, as established in the report, shall be kept free of obstructions, ornamental vegetation and structures. When future maintenance is undertaken, the cost of removing such items from the corridor shall be assessed to the landowner.

400.35 POLLUTION

The Contractor shall keep their equipment in good repair. The Contractor or any landowner shall not spill or cause to flow any polluted material into the drain that is not acceptable to the MECP. The local MECP office and the Engineer shall be contacted if a polluted material enters the drain. The Contractor shall refill or repair equipment away from open water. If the Contractor causes a spill, the Contractor is responsible to clean-up the spill in accordance with MECP clean-up protocols.

400.36 SPECIES AT RISK

If a Contractor encounters a known Species At Risk designated by the MECP, MNRF or DFO, the Contractor shall notify the Engineer immediately and follow the Ministry's guidelines for work around the species.

420

STANDARD SPECIFICATIONS

FOR

TILE DRAINS

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420 STANDARD SPECIFICATIONS FOR TILE DRAINS**420.1 DESCRIPTION**

Work under this specification will consist of supplying, hauling, laying and backfilling subsurface drainage conduit with the conduit materials as described on the Drawings and in the location, depth and invert grade as shown on the Drawings. In this specification the word "tile" will apply to all described conduit materials. Lengths are in millimeters (mm) and meters (m).

The work shall include the supplying of all labour, tools, equipment and extra materials required for the installation of the tile; the excavation and backfilling of the trenches; the hauling, handling, placing and compaction of the excavated material for backfill, the loading, hauling, handling and disposal of surplus excavation material; the removal and replacing of topsoil and sod where required by the Engineer.

All existing laterals crossed by the new line shall be reconnected in an approved manner. Either special manufactured connections shall be used or another method of sealing connections as approved by the Engineer. The Contractor shall also construct catchbasins, junction boxes and other structures where directed by the Engineer.

Except where complete removal of an existing pipe is required by new construction, existing pipes to be abandoned shall be sealed with a concrete or mortar plug with a minimum length of 300mm to the satisfaction of the Engineer.

Sections 6 and 7 of the current version of the *Drainage Guide for Ontario*, OMAFRA Publication 29 shall provide a general guide to all methods and materials to be used in the construction of tile drains except where superseded by this Contract.

The licensing requirements of the *Agricultural Tile Drainage Installation Act, 1990* will not be applicable to this Contract unless specified otherwise by this Contract.

420.2 MATERIALS

Refer to Section 400, Standard Specifications for Drain Construction for any materials required for tile drain construction.

420.3 CONSTRUCTION**420.3.1 Outlet**

A tile drain outlet into a ditch or creek shall be protected using a 6m length of rigid pipe with a hinged grate for rodent protection. Maximum spacing between bars on the rodent grate shall be 50mm. Material for rigid pipe will be specified in the Special Provisions, plastic pipe is preferred. The joint between the rigid pipe and the tile drain shall be wrapped with filter fabric. All outlets will be protected with rock riprap to protect the bank cut and as a splash apron. In some locations riprap may also be required on the bank opposite the outlet. The quantity of riprap required will be specified in the Special Provisions. A marker stake as approved by the Engineer shall be placed at each tile outlet.

420.3.2 Line

The Engineer will designate the general location of the new drain. A landowner may indicate a revised location for the drain which must be approved by the Engineer. Where a change in alignment is required that is not accommodated in a catchbasin, junction box or similar structure the alignment change shall run on a curve with a radius not less than the minimum installation radius specified for the tile material.

The Contractor shall exercise care to not disturb any existing tile drains which parallel the course of the new drain, particularly where the new and existing tile act together to provide the necessary capacity. Where an existing tile is disturbed or damaged the Contractor shall perform the necessary correction or repair with no additional compensation.

NOTE: It is the Contractor's responsibility to ascertain the location of, and to contact the owners of all utility lines, pipes and cables in the vicinity of drain excavations. The Contractor shall be completely responsible for all damages incurred.

420.3.3 Grade Control

Tile is to be installed to the elevation and grade shown on the profiles. Accurate grade control must be maintained by the Contractor at all times during tile installation. The tile invert elevation should be checked every 50m and compared to the elevation on the profile.

Benchmarks are identified on the Contract Drawings. The Engineer will confirm all benchmark elevations prior to construction.

420.3.4 Variation from Design Grade

No reverse grade will be allowed. A small variation in grade can be tolerated where the actual capacity of the drain exceeds the required capacity. The constructed grade should be such that the drain will provide the capacity required for the drainage area. Constructed grade should not deviate from design grade by more than 10% of the internal diameter for more than 25m. Grade corrections shall be made gradually over a distance not less than 10m.

420.3.5 Installation

At each work stoppage, the exposed end of the tile shall be covered by a tight fitting board or metal plate. No installed tile shall be left exposed overnight. Any tile damaged or plugged during construction shall be replaced or repaired at the Contractor's expense.

Topsoil over the trench shall be stripped, stockpiled separately and replaced after the trench is backfilled. Where installation is across a residential lawn, existing sod over the trench shall be cut, lifted and replaced in a workmanlike manner or new sod laid to match pre-construction conditions.

420.3.5.1 Installation of Concrete Tile

Concrete tile shall be installed by a wheel trencher unless an alternate method of construction is noted on the Drawings.

Digging of the trench shall start at the outlet end and proceed upstream. The location and grade shall be as shown on Drawings but shall be liable to adjustment or change by the Engineer on site with no additional payment allowed except where the change involves increased depth of cut beyond the limitation of the wheel trencher in use at the time of the change. The trench width measured at the top of the tile should be at least 150mm greater than the tile diameter.

The bottom of the trench is to be cut accurately to grade and shaped so that the tile will be embedded in undisturbed soil or in a compacted bed at least for 10% of its overall height. Where hard shale, boulders or other unsuitable bedding material is encountered, the trench shall be excavated to 75mm below grade and backfilled with granular material compacted to a shaped, firm foundation. If the trench is overcut below the proposed grade, it is to be backfilled with granular material to the correct grade and compacted to a shaped, firm foundation.

Where the depth for the tile installation exceeds the depth capacity of the wheel trencher the Contractor shall excavate a trench of sufficient depth so that the wheel trencher can install the tile at the correct depth

and grade. The tender price shall include the cost of the additional excavation and backfilling and stripping and replacing topsoil over the trench.

The inside of the tile is to be kept clean during installation. All soil and debris should be removed before the next tile is laid. Maximum spacing at joints between tiles should be about 3mm. Directional changes can be made without fittings or structures provided the centre-line radius of the bend is not less than 15m radius. The tiles are to be beveled, if necessary, to ensure close joints on all bends.

All tile joints and connections with other pipe materials are to be fully and tightly wrapped with a minimum 300mm width of geotextile drain wrap. A 150mm overlap on top is required. No additional payment will be made for joint wrapping.

420.3.5.2 *Installation of Corrugated Plastic Tubing*

Corrugated plastic tubing shall be installed by a drainage plow or wheel trencher unless an alternate method of construction is specified on the Drawings. For other installation methods, proper bedding and backfill is required to maintain the structural integrity of the plastic tubing so that surface and earth loads do not deflect the tubing by more than 20% of its nominal diameter.

For all installation methods:

- the plastic tubing should not be stretched by more than 7% of its normal length
- protect tubing from floating off grade when installing in saturated soil conditions
- directional changes can be made without fittings provided the centre-line radius of the bend is not less than five times the tubing diameter

Drainage plow equipment should construct a smooth bottomed opening in the soil and maintain the opening until the tubing is properly installed. The size of the opening in the soil should conform closely to the outside diameter of the tubing.

420.3.5.3 *Installation of Concrete Sewer Pipe or Plastic Pipe*

The Contractor may install pipe using a wheel trencher. For concrete sewer pipe, the bells must be recessed.

The Contractor may install pipe using an excavator by shaping the bottom of the trench to receive and support the pipe over 10% of its diameter if the trench is backfilled with native material. Shaping the trench bottom is not required where 150mm of granular bedding is placed to the satisfaction of the engineer.

420.3.6 **Backfilling**

All tile should be blinded by the end of the day's work to protect and hold them in place against disturbances. After tile is inspected, it shall initially be backfilled with a minimum cover of 300mm.

For blinding and initial backfilling use clean native soil with no organic matter. Initial backfill shall be tamped around the pipe by backhoe bucket or similar if directed by the Engineer.

The tile shall be backfilled with native material such that there is a minimum cover of 600mm. In addition, a sufficient mound must be placed over the trench to ensure that no depression occurs after settling along the trench.

420.3.7 **Tile Connections**

All lateral drains encountered along the route of the new tile drain are to be connected to the new drain if the intercepted tile are clean and do not contain polluted water. Lateral drains that are full of sediments or contain polluted waters will be addressed by the Engineer at the time of construction. All lateral drains are to be connected to the new tile using a pipe material and size that will provide the same flow capacity as the existing lateral drain unless a different connection is described in the Special Provisions. Corrugated plastic tubing can be used for all tile connections. Tubing can be solid or perforated, filter sock is not required.

Contractor is responsible for installation and backfilling in a manner than maintains the structural integrity of the connection. Manufactured fittings should be used to ensure tight connections. Where an opening must be made in the new tile drain for a connection, the opening shall be field cut or cored. After the opening is cut in the new tile any gaps or voids around the connection shall be sealed with mortar, low-expanding spray foam or geotextile. Lateral tubing shall not protrude more than 25mm beyond the inside wall of the new tile drain. The Contractor shall ensure that any material used to seal the connection does not protrude beyond the inside wall of the new tile drain.

All connections that are described in the Special Provisions are considered to be part of the original Contract price. For all other connections the Contractor will be paid in accordance with the price established in the Schedule of Tender Prices. The Contractor must list all connections on the Lateral Connection Summary sheet, if included in the Special Provisions, in order to qualify for payment. The Lateral Connection Summary sheet describes all tile encountered based on location (station), side of trench, size and type of tile and approximate length and type of material used for the connection.

420.3.8 Stones and Rock

The Contractor shall immediately contact the Engineer if bedrock or stones of sufficient size and number are encountered such that installation by wheel trencher cannot continue. The Engineer may direct the Contractor to use some other method of excavation to install the tile. The basis of payment for such extra work shall be determined by the Engineer. Stones greater than 300mm in diameter that are removed during excavation shall be disposed of by the Contractor at an offsite location. No additional payment for excavating or hauling these stones will be provided.

420.3.9 Brush, Trees and Debris

Unless stated otherwise in the Special Provisions, the following requirements shall apply for installation of a tile drain in a wooded area. The Contractor will clear and grub a minimum corridor width of 30m centered on the tile drain alignment. The resulting debris shall be placed in a windrow along the edge of the working area. No additional payment will be made for such work.

420.3.10 Subsoil Instability

If poor subsoil conditions are encountered during tile installation by wheel trencher an attempt shall be made to install the tile with a continuous geotextile underlay in the trench bottom. The cost of the underlay, if approved by the Engineer, will be paid as an extra. If the continuous geotextile underlay is not sufficient then the tile will be installed by backhoe or excavator on a bedding of 19mm clear crushed stone (300mm depth) to achieve trench bottom stability for the new tile. If approved, the above work will be paid based on the unit price provided on the Form of Tender. The unit price shall include the cost to supply and place the stone. If more than 300mm depth of stone is required for bottom stability, additional payment will be allowed for the additional depth of stone. The additional quantity of stone shall be supported by weigh tickets and the suppliers invoice.

If poor subsoil conditions are encountered during tile installation by backhoe or excavator, the tile shall be installed on stone bedding as noted above. For this installation only the material cost of the stone will be paid as an extra. Supply of stone and cost to be supported by weigh tickets and supplier's invoice.

If the subsoil is a fine grained soil it may necessary to place the stone on a geotextile with the geotextile wrapped over the stone before laying the tile. Additional payment will be allowed to supply and install the geotextile.

420.3.11 Broken or Damaged Tile

The Contractor shall dispose of all damaged or broken tile and broken tile pieces off-site.

420.3.12 Excess Tile

All excess tile shall be removed from the job site.

420.3.13 Catchbasins**420.3.13.1 General**

All catchbasins shall have minimum inside dimensions matching the dimensions shown on the Drawings. Contractor is responsible for ordering catchbasins to match the inlet and outlet connections and top elevations required by the Special Provisions and the Drawings.

420.3.13.2 Materials

Requirements in this section apply to catchbasins in non-travelled locations. Where catchbasins are proposed for travelled locations, refer to the Special Provisions and the Drawings for applicable OPSD information.

Precast concrete catchbasins shall be manufactured by as Coldstream Concrete or approved equal. Minimum wall thickness for catchbasins without reinforcement is 150mm and with reinforcement 100mm. The joints between precast catchbasin sections shall be protected with geotextile to prevent soil material from entering into the catchbasin. Joint protection using mortar or water tight barrier is also acceptable. Grates are to be birdcage grates as manufactured by Coldstream Concrete or approved equal unless specified otherwise on the Drawings. All grates to be secured with corrosion resistant hardware.

HDPE catchbasins shall be as fabricated by ADS, Armtec, Hancor or approved equal. Steel catchbasins shall be the Heavy Duty Steel Catch Basin as manufactured by AgriDrain or approved equal. PVC catchbasins shall be Nyloplast as manufactured by ADS or approved equal. HDPE, steel and PVC catchbasins shall be supplied with integral stubouts fabricated by the manufacturer and sized according to the pipe connections shown on the Drawings. Grates for HDPE, steel or PVC catchbasins shall be in accordance with the Special Provisions and manufacturer recommendations.

Marker stakes as supplied by Coldstream Concrete or equal are to be placed beside each catchbasin unless specified otherwise on the Drawings.

420.3.13.3 Installation

All tile or pipe connected to concrete catchbasins shall be mortared or secured in place so that no gaps remain at the connection. Mortar is to be applied on both the inside and outside wall surfaces.

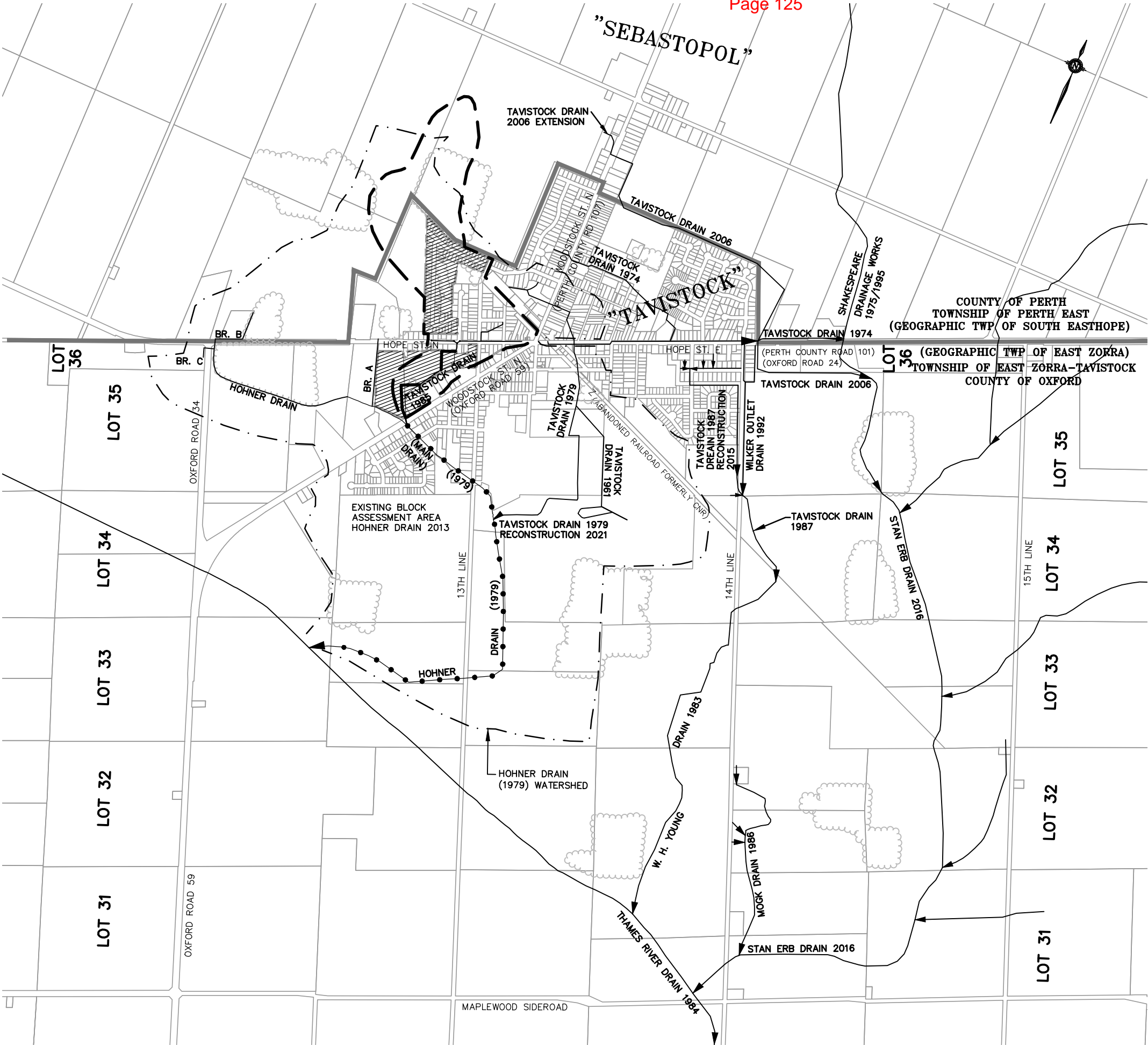
Backfill around all new catchbasins is recommended to be 19mm clear crushed stone to avoid future settlements. The Contractor shall be responsible for backfilling all settlement areas around catchbasins during the contract warranty period. No additional payment will be provided for adding backfill to settlement areas around catchbasins.

All catchbasin sumps to be fully cleaned by the Contractor after completion of drain installation and backfilling.

420.3.14 Junction Boxes

Junction boxes shall be precast concrete to the same specification as above for catchbasins except that the junction box shall have a solid lid. The lid shall be a minimum of 125mm thick with wire mesh reinforcement and 2 lifting handles. The top of the junction box should have a minimum ground cover of 450mm.

THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.



PLAN LEGEND

- MAJOR WATERSHED
- TAVISTOCK DRAIN 1985 PROPOSED MAIN DRAIN RECONSTRUCTION 2023
- OTHER EXISTING MUNICIPAL DRAINS
- OTHER EXISTING MUNICIPAL DRAIN AFFECTED FOR MAINTENANCE
- LIMITS BETWEEN TOWNSHIP OF EAST ZORRA-TAVISTOCK AND TOWNSHIP OF PERTH EAST AND ALSO BETWEEN COUNTY OF OXFORD AND COUNTY OF PERTH
- LANDS TO BE RE-APPORTIONED IN THE EXISTING TAVISTOCK DRAIN 1985 AND HOHNER DRAIN REPORTS (SUBDIVISION & SEVERANCES)

DESIGNED BY: C.J.M.		
CHECKED BY: C.J.M.		
DRAWN BY: N.M.B.		
CHECKED BY: C.J.M.		
REVIEWED BY:		
TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023 COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK		
OVERALL PLAN		JAN 18, 2023
K. SMART ASSOCIATES LIMITED CONSULTING ENGINEERS AND PLANNERS KITCHENER SUDBURY		REVISED: JOB NUMBER: 21-135 DRAWING 1 OF 9

THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

PLAN LEGEND

- MAJOR WATERSHED
- TAVISTOCK DRAIN 1985 PROPOSED MAIN DRAIN RECONSTRUCTION 2023
- OTHER EXISTING MUNICIPAL DRAINS
- ✕ ✕ → EXISTING DRAIN TO BE REMOVED/ABANDONED
- LANDS TO BE RE-APPORTIONED IN THE EXISTING TAVISTOCK DRAIN 1985 AND HOHNER DRAIN REPORTS (SUBDIVISION & SEVERANCES)
- LIMITS BETWEEN TOWNSHIP OF EAST ZORRA-TAVISTOCK AND TOWNSHIP OF PEARTH EAST AND BETWEEN COUNTY OF OXFORD AND COUNTY OF PERTH
- (020-12132) ASSESSMENT ROLL NUMBER
- 0+480 2023 STATIONS

NOTE:
ROLL NUMBERS IN THE TOWNSHIP OF EAST ZORRA-TAVISTOCK BEGIN WITH 32-38-020-
i.e. (020-12103) IN FULL IS 32-38-020-020-12103






ROLL NUMBERS IN TOWNSHIP OF PERTH EAST BEGIN WITH 31-10-010
i.e. (002-08400) IN FULL IS 31-10-010-002-08400

DESIGNED BY: C.J.M.		
CHECKED BY: C.J.M.		
DRAWN BY: N.M.B.		
CHECKED BY: C.J.M.		
TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023 COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK		
WATERSHED PLAN		JAN 18, 2023
	K. SMART ASSOCIATES LIMITED CONSULTING ENGINEERS AND PLANNERS KITCHENER SUDBURY	REVISED:
		JOB NUMBER: 21-135
		DRAWING 2 OF 9

THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.



PLAN LEGEND

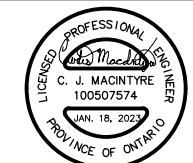
-  — MAJOR WATERSHED
 — TAVISTOCK DRAIN 1985 PROPOSED MAIN DRAIN RECONSTRUCTION 2023
 — OTHER EXISTING MUNICIPAL DRAINS
 — EXISTING DRAIN TO BE REMOVED/ABANDONED
 — PROPERTIES SEVERED FROM ROLL NO. 020-09500 TO BE INCLUDED IN REAPPORTIONMENT
 (020-12132) — ASSESSMENT ROLL NUMBER
0+480 — 2023 STATIONS
[480] — 1985 STATIONS

NOTE:
ROLL NUMBERS IN THE TOWNSHIP OF EAST ZORRA-TAVISTOCK
BEGIN WITH 32-38-020-
i.e. (020-12103) IN FULL IS 32-38-020-020-12103

ROLL NUMBERS IN TOWNSHIP OF PERTH EAST
BEGIN WITH 31-10-010
i.e. (002-08400) IN FULL IS 31-10-010-002-08400

* PROPOSED LOT FABRIC FOR THE 2825085 ONTARIO INC. SUBDIVISION NOT YET FINALIZED AT THE TIME OF THIS REPORT FILING. FUTURE SEVERANCES TO BE ADDRESSED IN SEPARATED SECTION 65 OF THE DRAINAGE ACT.

DESIGNED BY:	C.J.M.
CHECKED BY:	C.J.M.
DRAWN BY:	N.M.B.
CHECKED BY:	C.J.M.



SCALE: AS SHOWN
(ON 11"x17")

TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023

COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK

REAPPORTIONMENT PLAN

JAN 18, 2023



K. SMART ASSOCIATES LIMITED
CONSULTING ENGINEERS AND PLANNERS
KITCHENER SUDBURY

REVISED:
JOB NUMBER: 21-135
DRAWING 3 OF 9

2825085 ONTARIO INC. SUBDIVISION (FUTURE) *SEE NOTE THIS DRAWING
SCALE 1:1500

THE PONDS SUBDIVISION
SCALE 1:2500



THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND, WHERE SHOWN, THE ACCURACY IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

PLAN LEGEND


- MAJOR WATERSHED
- TAVISTOCK DRAIN 1985 PROPOSED MAIN DRAIN RECONSTRUCTION 2023
- OTHER EXISTING MUNICIPAL DRAINS
- EXISTING DRAIN TO BE REMOVED/ABANDONED
- SAN — EXISTING SANITARY SEWER
- STM — EXISTING STORM SEWER
- (ACCESS) — ACCESS
- (010-18750) — ASSESSMENT ROLL NUMBER
- 0+480 — 2023 STATIONS
- [480] — 1985 STATIONS

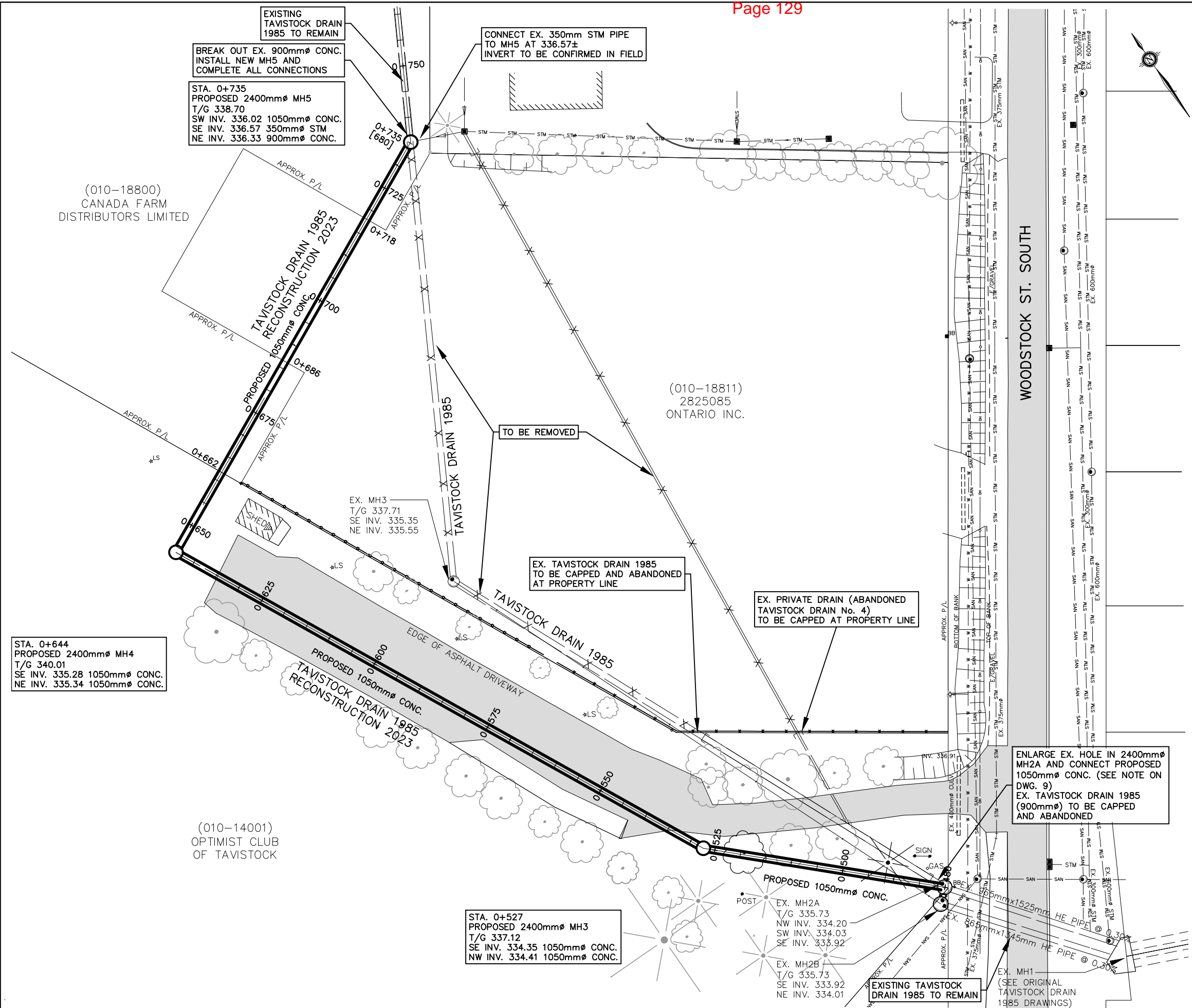
DESIGNED BY: C.J.M.
CHECKED BY: K.A.S.
DRAWN BY: N.M.B.
CHECKED BY: C.J.M.
REVIEWED BY:



0 20 40m
SCALE 1:2,000
(ON 11"x17")

TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023
COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK

ENLARGEMENT PLAN		JAN 18, 2023
 K. SMART ASSOCIATES LIMITED CONSULTING ENGINEERS AND PLANNERS KITCHENER SUDBURY	REVISED:	
	JOB NUMBER: 21-135	
	DRAWING	4 OF 9



LEGEND

- OH — EXISTING OVERHEAD HYDRO
- SAN — EXISTING SANITARY SEWER
- STM — EXISTING STORM SEWER
- W — EXISTING WATERMAIN
- X — X — PROPOSED CHAINLINK FENCE
- □ — □ — PROPOSED PRIVACY FENCE
- (010-14001) — ASSESSMENT ROLL NUMBER
- 0+480 — 2023 STATIONS
- [480] — 1985 STATIONS
- LS — EXISTING LIGHT STANDARD
- EXISTING BELL BOX
- EXISTING CONIFEROUS/DECIDUOUS TREES

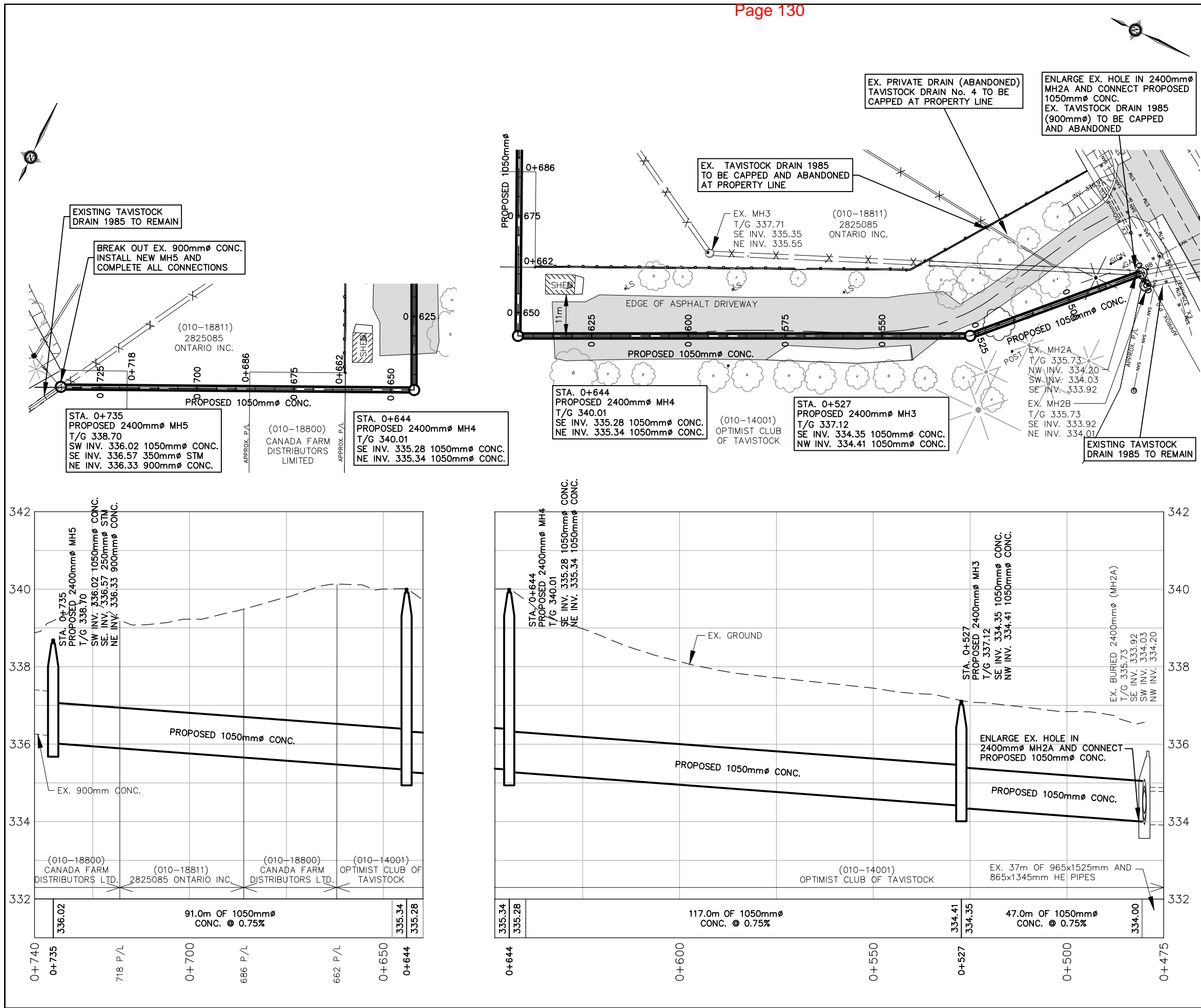
NOTE:
ALL SURVEY, DESIGN AND DRAWING WORK FOR THE PROPOSED RECONSTRUCTION OF TAVISTOCK DRAIN 1985 SHOWN ON THIS DRAWING HAS BEEN PREPARED AND PROVIDED BY GM BLUEPLAN ENGINEERING (GMBP). SLIGHT ALTERATIONS TO GMBP DRAWING BY K. SMART ASSOCIATES LTD. HAVE BEEN MADE ONLY TO EMPHASIZE THE TAVISTOCK DRAIN 1985 RECONSTRUCTION WORK.

DESIGNED BY: C.J.M.		
CHECKED BY: C.J.M.		
DRAWN BY: N.M.B.		
CHECKED BY: C.J.M.		

TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023
COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK

PLAN STA. 0+480 TO 0+735	JAN 18, 2023
REVISED:	
JOB NUMBER: 21-135	
DRAWING	
5 OF 9	

K. SMART ASSOCIATES LIMITED
CONSULTING ENGINEERS AND PLANNERS
KITCHENER SUDBURY



LEGEND

- OH — EXISTING OVERHEAD HYDRO
- SAN — EXISTING SANITARY SEWER
- STM — EXISTING STORM SEWER
- W — EXISTING WATERMAIN
- X — X — PROPOSED CHAINLINK FENCE
- □ — □ — PROPOSED PRIVACY FENCE
- (010-14001) — ASSESSMENT ROLL NUMBER
- 0+480 — 2023 STATIONS
- [480] — 1985 STATIONS
- LS — EXISTING LIGHT STANDARD
- EXISTING BELL BOX
- EXISTING CONIFEROUS/DECIDUOUS TREES

NOTE:
ALL SURVEY, DESIGN AND DRAWING WORK FOR THE PROPOSED RECONSTRUCTION OF TAVISTOCK DRAIN 1985 SHOWN ON THIS DRAWING HAS BEEN PREPARED AND PROVIDED BY GM BLUEPLAN ENGINEERING (GMBP). SLIGHT ALTERATIONS TO GMBP DRAWING BY K. SMART ASSOCIATES LTD. HAVE BEEN MADE ONLY TO EMPHASIZE THE TAVISTOCK DRAIN 1985 RECONSTRUCTION WORK.

DESIGNED BY: C.J.M.		0 10 20m
CHECKED BY: C.J.M.		SCALE 1 : 1000
DRAWN BY: N.M.B.		0 1 2m
CHECKED BY: C.J.M.		SCALE 1 : 100
		(ON 11"x17")

TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023












COUNTY OF OXFORD	TOWNSHIP OF EAST ZORRA-TAVISTOCK
PROFILE STA. 0+480 TO 0+735	JAN 18, 2023
	REVISD:
	JOB NUMBER: 21-135
	DRAWING
KITCHENER	SUDBURY
6 OF 9	

*CAUTION: FUTURE MAINTENANCE WORK

DUE TO THE PROXIMITY OF THE TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023 TO THE PROPOSED PEOPLECARE CENTRES INC. BUILDING, ANY FUTURE MAINTENANCE WORK ON THE DRAIN IN THE VICINITY OF THE BUILDING (STA. 0+880 TO 1+115) SHOULD BE UNDERTAKEN WITH THE USE OF A TRENCH BOX (MINIMUM) OR ALTERNATIVE SHORING METHODS.

TOWNSHIP DRAINAGE SUPERINTENDENT AND CONTRACTOR SHOULD REVIEW THE FINAL AS-CONSTRUCTED DRAWINGS FOR THE BUILDING. IF NECESSARY, CONSULTATION SHOULD BE MADE WITH A STRUCTURAL ENGINEER PRIOR TO UNDERTAKING MAINTENANCE WORK NEAR BUILDING FOOTINGS.

LEGEND

- | | |
|---|-------------------------------------|
|  | — EXISTING BELL LINE |
|  | — EXISTING SANITARY SEWER |
|  | — EXISTING & PROPOSED STORM SEWER |
|  | — EXISTING WATERMAIN |
|  | — EXISTING & PROPOSED PRIVACY FENCE |
|  | — OVERHEAD HYDRO |
| (010-09500) | — ASSESSMENT ROLL NUMBER |
|  | — EXISTING BELL BOX |
|  | — EXISTING DECIDUOUS TREES |
|  | — PROPOSED LIGHT STANDARD |
|  | — PROPOSED TRANSFORMER PAD |
|  | — PROPOSED FIRE HYDRANT |
| 0+865 | — 2023 STATIONS |
| [810] | — 1985 STATIONS |

NOTE:
ALL SURVEY, DESIGN AND DRAWING WORK FOR THE PROPOSED SITE PLAN, SERVICING, AND RECONSTRUCTION OF TAVISTOCK DRAIN 1985 SHOWN ON THIS DRAWING HAS BEEN PREPARED AND PROVIDED BY WALTERFEDY ENGINEERING. SOME DETAILS HAVE BEEN LEFT OFF THIS DRAWING IF DETERMINED TO BE NOT RELEVANT TO THE CONSTRUCTION OF THE DRAIN. SLIGHT ALTERATIONS TO WALTERFEDY DRAWING BY K. SMART ASSOCIATES LTD. HAVE BEEN MADE ONLY TO EMPHASIZE THE TAVISTOCK DRAIN 1985 RECONSTRUCTION WORK. EXACT DETAILS AND LOCATIONS OF PROPOSED STRUCTURES, SERVICES, WALKWAYS, PARKING, ETC. HAVE NOT BEEN FINALIZED AND MAY STILL BE ALTERED DURING SITE PLAN REVIEW. ALTERATIONS ARE EXPECTED TO BE MINOR AND NOT LIKELY TO IMPACT PROPOSED DRAIN RECONSTRUCTION.

DESIGNED BY: C.J.M.

CHECKED BY: C.J.M.

DRAWN BY: N.M.B.

CHECKED BY: C.J.M.



SCALE

TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023

COUNTY OF OXFORD

TOWNSHIP OF EAST ZORRA-TAVISTOCK

PLAN STA. 0+865 TO 1+025

JAN 18, 2023



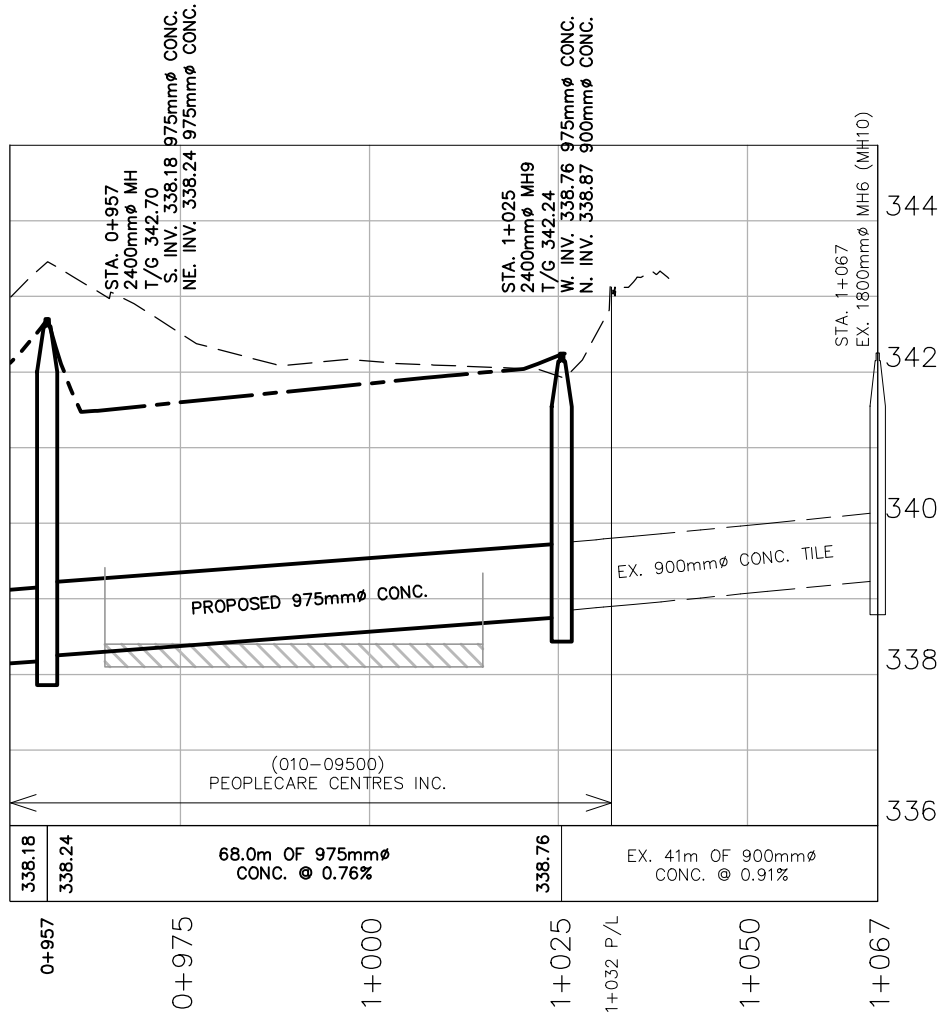
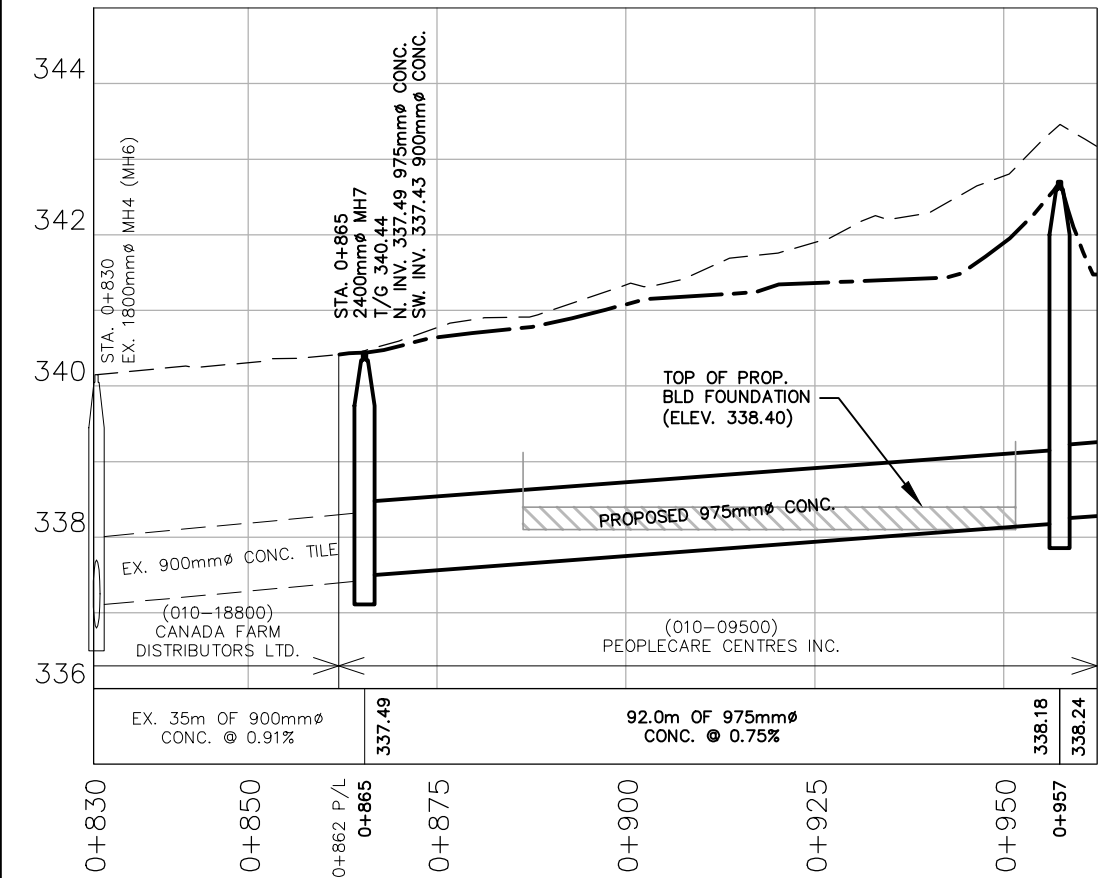
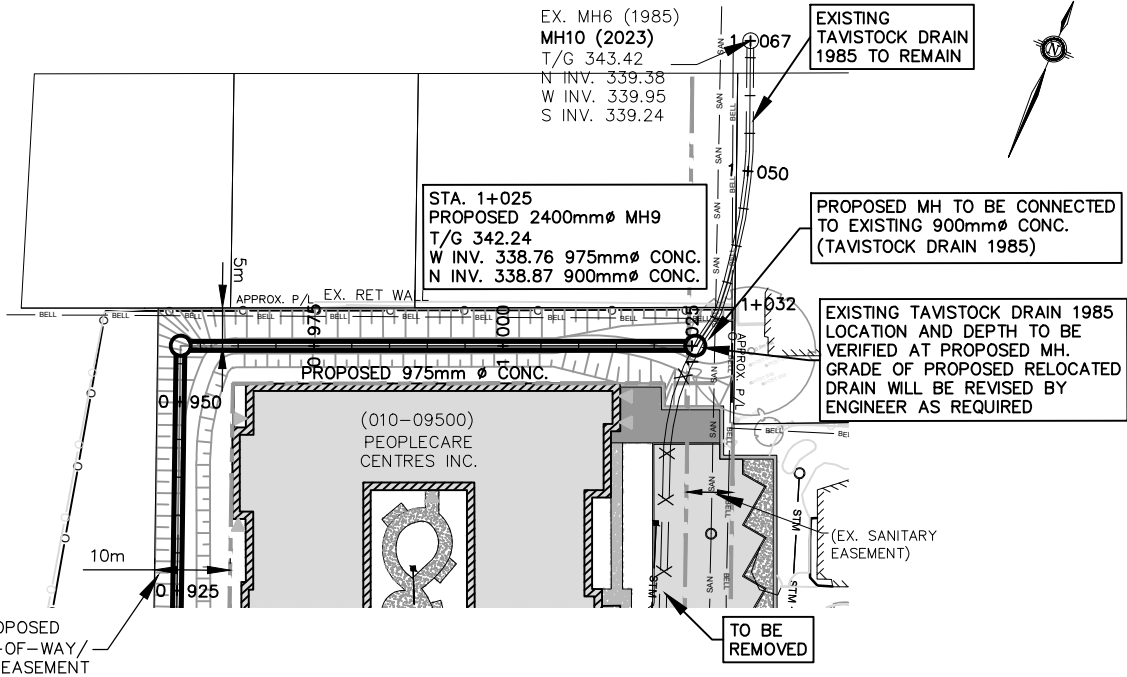
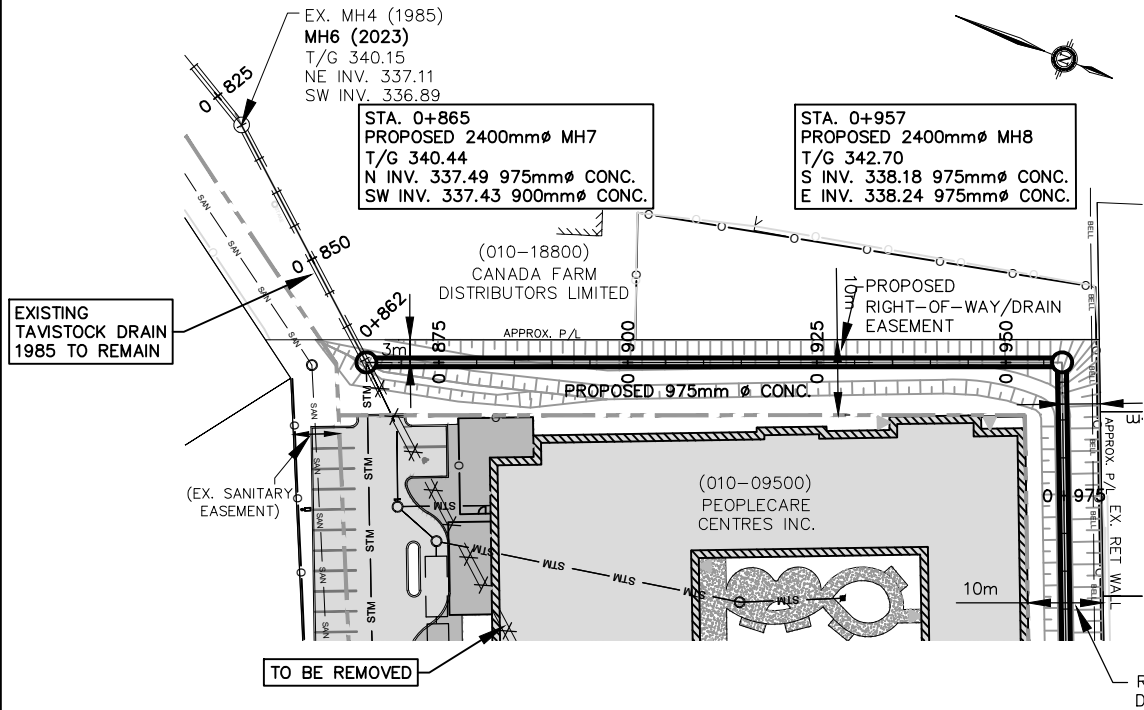
K. SMART ASSOCIATES LIMITED
CONSULTING ENGINEERS AND PLANNERS
KITCHENER SUDBURY

REVISÉ:

JOB NUMBER: **21-135**

DRAWING

7 OF 9



***CAUTION: FUTURE MAINTENANCE WORK**


DUE TO THE PROXIMITY OF THE TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023 TO THE PROPOSED PEOPLECARE CENTRES INC. BUILDING, ANY FUTURE MAINTENANCE WORK ON THE DRAIN IN THE VICINITY OF THE BUILDING (STA. 0+880 TO 1+115) SHOULD BE UNDERTAKEN WITH THE USE OF A TRENCH BOX (MINIMUM) OR ALTERNATIVE SHORING METHODS.

TOWNSHIP DRAINAGE SUPERINTENDENT AND CONTRACTOR SHOULD REVIEW THE FINAL AS-CONSTRUCTED DRAWINGS FOR THE BUILDING. IF NECESSARY, CONSULTATION SHOULD BE MADE WITH A STRUCTURAL ENGINEER PRIOR TO UNDERTAKING MAINTENANCE WORK NEAR BUILDING FOOTINGS.


- LEGEND**
- SAN — EXISTING SANITARY SEWER
 - STM — EXISTING & PROPOSED STORM SEWER
 - W — EXISTING WATERMAIN
 - X — PROPOSED CHAINLINK FENCE
 - O — EXISTING & PROPOSED PRIVACY FENCE
 - OH — OVERHEAD HYDRO
 - (010-09500) — ASSESSMENT ROLL NUMBER
 - ☒ — EXISTING BELL BOX
 - ◯ — EXISTING DECIDUOUS TREES
 - ⦿ — PROPOSED LIGHT STANDARD
 - ◊ — PROPOSED TRANSFORMER PAD
 - ★ — PROPOSED FIRE HYDRANT
 - 0+865 — 2023 STATIONS
 - [810] — 1985 STATIONS

NOTE:

ALL SURVEY, DESIGN AND DRAWING WORK FOR THE PROPOSED SITE PLAN, SERVICING, AND RECONSTRUCTION OF TAVISTOCK DRAIN 1985 SHOWN ON THIS DRAWING HAS BEEN PREPARED AND PROVIDED BY WALTERFEDY ENGINEERING. SOME DETAILS HAVE BEEN LEFT OFF THIS DRAWING IF DETERMINED TO BE NOT RELEVANT TO THE CONSTRUCTION OF THE DRAIN. SLIGHT ALTERATIONS TO WALTERFEDY DRAWING BY K. SMART ASSOCIATES LTD. HAVE BEEN MADE ONLY TO EMPHASIZE THE TAVISTOCK DRAIN 1985 RECONSTRUCTION WORK. EXACT DETAILS AND LOCATIONS OF PROPOSED STRUCTURES, SERVICES, WALKWAYS, PARKING, ETC. HAVE NOT BEEN FINALIZED AND MAY STILL BE ALTERED DURING SITE PLAN REVIEW. ALTERATIONS ARE EXPECTED TO BE MINOR AND NOT LIKELY TO IMPACT PROPOSED DRAIN RECONSTRUCTION.

DESIGNED BY: C.J.M.		0 10 20m SCALE 1 : 1000 HORZ.
CHECKED BY: C.J.M.		0 1 2m SCALE 1 : 100 VERT.
DRAWN BY: N.M.B.		(ON 11"x17")
CHECKED BY: C.J.M.		

TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023
COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK

PROFILE STA. 0+865 to 1+025	JAN 18, 2023
 K. SMART ASSOCIATES LIMITED CONSULTING ENGINEERS AND PLANNERS KITCHENER SUDBURY	REVISED:
	JOB NUMBER: 21-135
	DRAWING 8 OF 9

300) SPECIAL PROVISIONS

300.1) SPECIFIC NOTES

0+480 to 1+025 – 2023± Stationing by KSAL (m)
[480] – Tavistock Drain 1985 Original Stationing (m)

The existing Tavistock Drain 1985 across the two (2) proposed developments is to be removed/destroyed after the new Drain is constructed and functioning. A portion of existing Tavistock Drain 1985 across the Optimist Park property is to be capped at each end and abandoned in place.

i) Works to be Part of Tavistock Drain 1985
Sta. Description

Optimist Club of Tavistock (Roll No. 010-14001)

0+480 - Enlarge existing hole in existing 2400mm dia. MH2A and connect proposed 1050mm dia. concrete pipe. Hole should be enlarged at the bottom, with new invert below the existing invert, and top of pipe at the same elevation of existing top of pipe. (It is believed only 200mm clearance exists below lid)
- Cap existing Tavistock Drain 1985 pipe (900mm dia.)

0+480 to 0+527 - 47m of 1050mm dia. reinforced concrete pipe (RCP)

0+527 - Construct 2400mm dia. concrete maintenance hole (MH3) including connections

0+527 to 0+644 - 117m of 1050mm dia. reinforced concrete pipe (RCP)

0+644 - Construct 2400mm dia. concrete maintenance hole (MH4) including connections

0+644 to 0+662 - 18m of 1050mm dia. reinforced concrete pipe (RCP)

Canada Farm Distributors Ltd. (Roll No. 010-18800)

0+662 to 0+686 - 24m of 1050mm dia. reinforced concrete pipe (RCP)

2825085 Ontario Inc. (Roll No. 010-18811)

0+686 to 0+718 - 32m of 1050mm dia. reinforced concrete pipe (RCP)

Canada Farm Distributors Ltd. (Roll No. 010-18800)

0+718 to 0+735 - 17m of 1050mm dia. reinforced concrete pipe (RCP)

0+735 - Construct 2400mm dia. concrete maintenance hole (MH5) including connections

See Note 8 (this drawing) for restoration details on above properties.

PeopleCare Centres Inc. (Roll No. 010-09500)

Existing Municipal Drain (Tavistock Drain 1985) location and depth to be verified at MH9. Grade to proposed drain will be revised by Engineer as required.

0+865 - Construct 2400mm dia. concrete maintenance hole (MH7) including connections

0+865 to 0+957 - 92m of 975mm dia. reinforced concrete pipe (RCP)

0+957 - Construct 2400mm dia. concrete maintenance hole (MH8) including connections

0+957 to 1+025 - 68m of 975mm dia. reinforced concrete pipe (RCP)

1+025 - Construct 2400mm dia. concrete maintenance hole (MH9) including connections

300.2) GENERAL NOTES

Notes below are described in the likely order of occurrence during the project, and have been written to generally conform to “NOTES” prepared by GM BluePlan Engineering and WalterFedy drawings for their respective developments.

1. Miscellaneous – Commencement

1.1 No changes are to be made without the approval of the Design Engineer and the Township of East Zorra-Tavistock.

- 1.2 All work to be done in accordance with the Ontario Provincial Standard Drawings (OPSD) and Specifications (OPSS) except where noted.
- 1.3 Approximate locations of existing utilities have been indicated on the drawings. No responsibility is assumed by the Engineer or locate company for the exact locations as shown or the completeness of any or all locates.
- 1.4 Prior to construction, the Contractor must:
- Check and verify all dimensions and existing elevations which includes, but is not limited to, the benchmark elevation, existing service connections and existing inverts.
 - Obtain all utility locates and required permits and licenses.
 - Confirm all drawings used for construction are of the most recent revision.
 - Report discrepancies in existing condition information immediately to the Engineer.
- 1.5. The Contractor shall contact the Engineer 48 hours prior to commencing work to determine degree of inspection and testing required for certification of underground service installation.
2. Site
- 2.1 Any area disturbed during construction shall be restored to its original condition or better to the satisfaction of the Engineer and authority having jurisdiction.
- 2.2 The Contractor shall assume all liability for damage to existing works. Damage shall be rectified to the satisfaction of the Engineer and Owner.
- 2.3 All construction traffic shall enter the site:
- For 2825085 Ontario Inc.: either the existing laneway to property or Optimist Club of Tavistock laneway.
 - For PeopleCare Centres Inc.: through existing laneway fronting William St.
3. Utilities
- The Contractor shall arrange with all local utility companies (telephone, Union Gas, hydro) to verify the location of all utilities within road allowances or on private lands. All utilities shall be exposed to the satisfaction of the utility company to verify that their elevations will not conflict with the construction of the drain at the specified elevations. Provisions for protection and relocation of utilities that conflict with the drain as designed will be determined at the time of construction.
4. Access (Standard Specifications – 400.5)
- The Contractor shall have access to the drain along the routes shown on the plan. The access routes shall be along existing laneways or paths or where none exist, along a 6m wide (maximum) path. All specifications governing fences, livestock and crops during drain construction shall apply to access routes except where superseded by notes on the drawings. No other access routes shall be used unless first approved by the Engineer and affected landowner. The Contractor shall also contact each owner prior to using designated accesses.
- Telephone numbers for contact are:
- | | |
|--|--------------------|
| Two of East Zorra-Tavistock
(Connor Occleston, Drainage Superintendent) | 519-462-2697 |
| Engineer
(Curtis MacIntyre, P. Eng., K. Smart Associates Ltd.) | 519-748-1199 x 252 |
| One Call Centre | 1-800-400-2055 |
5. Geotextile Fabric
- To be non-woven fabric, rot proof, non-biodegradable, chemically resistant to acidic or alkaline soils, dimensionally stable under different hydraulic conditions. The filter fabric is to be a material whose primary function is a high permeable, non-clogging soil separator for fine soils (Terrafox 360R or equal). Contractor is to follow manufacturer’s recommendations for cutting, installation, and precautions necessary to avoid damage to fabric. Other approved equals will also be considered by the Engineer prior to construction.
6. Storm Sewer
- 6.1. Storm sewer to be reinforced concrete meeting requirements of OPSS 1820.

- 6.2. Storm sewers to be installed with minimum 1.0m cover. Where cover over storm sewer is deficient, the storm sewer is to be insulated.
- 6.3. Pipe bedding for rigid pipe to be Class “B” as per OPSD 802, and consist of at least 150mm thick Granular A compacted to at least 95% SPMD. Granular A shall be used to backfill around the pipe to at least 300mm above the top of pipe.
- 6.4. Pipe shall be laid within the alignment and grade tolerances specified in the contract documents.
- 6.5. When bell and spigot pipe is laid, the bell end of the pipe shall be laid upgrade.
- 6.6. Contractor to provide CCTV survey of the storm system (mainline, stubs, service laterals, leads, etc.) at the start of maintenance and prior to final acceptance of the system.
- 6.7. A removable water-tight bulkhead shall be installed daily at the open end of the last pipe laid.
- 6.8. Pipe shall not be laid until the preceding pipe joint has been completed and the pipe is bedded and secured in place.
- 6.9. All pipe ends shall be thoroughly cleaned prior to the installation of gaskets. All gaskets to be lubricated prior to the installation of pipe or as recommended by the pipe manufacturer.
- 6.10. All storm sewers to be tested in accordance with OPSS 410 and Oxford County guidelines.
- 6.11. Any subsurface drainage tile encountered from the west or north side of the proposed relocated drain is to be connected to new drain if intercepted. Connections are to be made by coring into the new drain and on Inserta Tee fitting or approved equivalent.
7. Maintenance Holes and Catchbasins
- 7.1. All maintenance holes are to be benched up to the spring line of the connecting pipe and contain minimum/maximum slopes of 8/4:1 as per OPSD 701.021.
- 7.2. Storm manholes (maintenance holes) to be:
- OPSD 701.013 for 2400mm dia. and OPSD 701-060, 701.061 and 704.010 for components
 - OPSD 701.014 for 3000mm dia. and OPSD 701.070, 701.071 & 704.010 for components.
 - Storm manhole lids to be per OPSD 401.010 – Type B. Manhole grates in roadway to be per DGSSMS E4-01.
- 7.3. All maintenance holes (manholes), basins, chambers, etc. to be installed level and plumb to the satisfaction of the Engineer.
- 7.4. All pipes to be installed flush with the inside walls of the structure and parged to a smooth finish.
- 7.5. Maintenance holes (manholes) shall be fitted with self-adjusting manhole frame and cover.
8. Restoration of Optimist Park & Canada Farm Distributors Ltd. Properties
- Disturbed lawn areas on the Optimist Park property shall be restored with sod. Immediately after laying sod, spread sufficient water to saturate the sod and the upper 50 mm of topsoil. After sod has sufficiently dried to prevent damage, roll the area with a roller providing 72 kPa pressure to ensure a good bond between the sod and soil and to remove minor irregularities. Water with sufficient amounts to ensure continued vigorous growth. Disturbed lawn may instead be seeded only at the agreement of the owner.
- Disturbed gravel laneway to be restored with granular “A” and compacted to 98% SPMD
- Disturbed areas on the Canada Farm Distributors Ltd. property to be restored to existing conditions and seeded.
9. Miscellaneous – Completion
- At the end of construction, the Contractor shall provide the Engineer and Township with a digital file of as-constructed drawings. The drawings must reflect the constructed state of the work. Submission of unaltered design drawings and contract changes will not be accepted.



TAVISTOCK DRAIN 1985 RECONSTRUCTION 2023

Township of East Zorra-Tavistock

SPECIAL PROVISIONS

File No. 21-135 January 18, 2023

Drawing 9 of 9

#6.a

Placeholder page for Agenda Item 6.a –
Conferences & Seminars

#6.b

Placeholder page for Agenda Item 6.b - County
Council – Update & Questions

#6.c

Placeholder page for Agenda Item 6.c –
Staff Reports and Questions for Staff

STAFF REPORT

Report #CBO2023-02

To: His Worship the Mayor and Members of Council

From: John Scherer, Chief Building Official

Re: Municipal Drain Inspection – 2022 Results

Date: February 8, 2023

Background

Council approved the initiation of a Municipal Drain Inspection Program in 2021, for the 2022 budget. Township staff secured Badger Daylighting to complete the camera work, for a period of 3 years. The first set of municipal drains were inspected in September, 2022.

Discussion

In 2022, the following drains were inspected (see **Appendix 'A'** – Maps of subject Drains):

1. Tavistock 1979 Drain from William Street N., to the south end of Queen's Park;
2. Tavistock 1974 Drain from Woodstock Street N., to Hope Street E. (re-routed around the new Sunlight Homes Subdivision);
3. Gillespie Drain from the Innerkip Fire Hall ,to the end of Young Street (outlet);
4. Yeo Drain along Balsam Street from Queen Street, to the end of Balsam Street (outlet).

Badger was instructed to first spray the drains to clear out any sediment or small obstructions, and then to send their camera through and record. Once completed, staff reviewed the videos and only noted two items of concern.

The first item was at the upstream end of the Tavistock 1979 Drain. Badger was unable to camera the upstream end as there was a large amount of gravel preventing the inspection. To correct this issue, staff will be arranging to clean the drain and remove the debris, and then follow up with additional camera work.

The second item, and main area of concern, is the municipal drain running along Balsam Street (Yeo Drain). This is a dual concrete drain, as the drain splits at Queen Street and runs on both sides of Balsam Street. While both drains are in sub-optimal condition, the south drain is in worse condition as its slightly compressed and there are longitude cracks throughout a good portion of its length. Additionally, there is a section of the pipe where the drain crosses Queen Street that is corrugated steel and has rusted on the bottom 25% of the pipe.

The video of the pipe in question was also reviewed by our Municipal Drainage Engineer, Curtis MacIntyre from K. Smart and Assoc. Ltd. Staff originally estimated the lifespan of the pipe to be approximately 7-10 years, maximum. The Engineer agrees with this estimate, and suggests that the replacement take place in the next 5-10 years.

Staff have discussed and have come up with two options to deal with the future failure. The first option would be to spot fix the pipe where the pipe is in the worst shape and then monitor and fix as needed going forward. Since most of the pipe is out of the paved roadway, there would be little disruption to the road itself. The second option would be to rebuild the road, possibly to an urban standard with curb, gutter and a sidewalk, and replace the dual drain with a single drain to the outlet.

Staff feel the second option (rebuilding and upgrading) would be the preferred option as this drain's watershed is large and the portion needing attention is at the furthest downstream portion of the drain.

Attachments:

- Appendix 'A' – Maps of subject Drains

Recommendation:

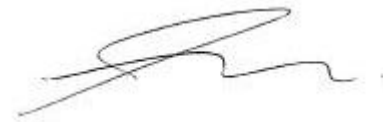
1. That the drain replacement be included in a future reconstruction project by Public Works.

Reviewed by C.A.O.:



Karen DePrest
Chief Administrative Officer

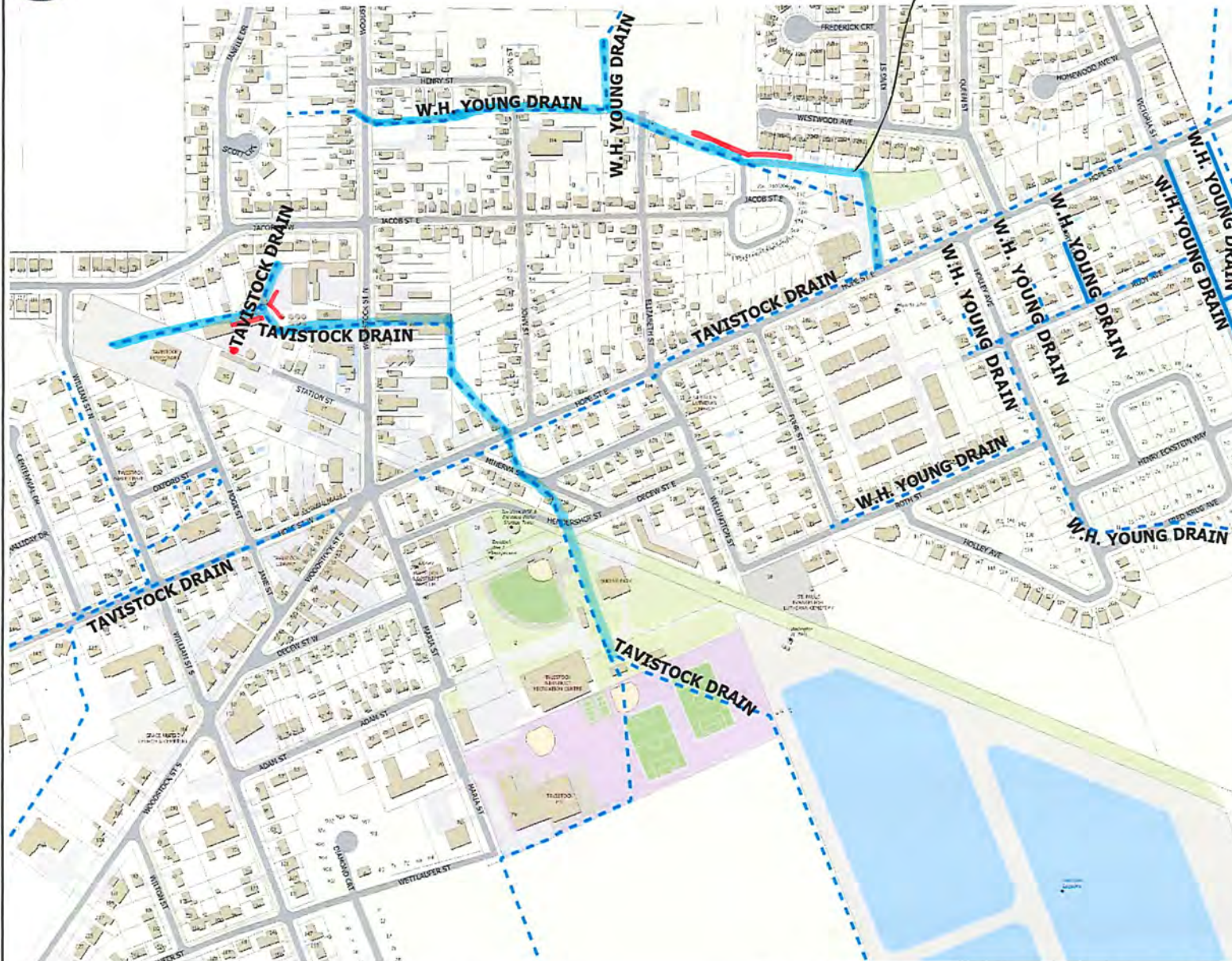
Report prepared and
submitted by:



John Scherer
Building, Drainage and
Development Manager
(Chief Building Official)

TAVISTOCK

NEW ROUTE.



Legend

- Open Constructed Drains
- Closed Constructed Drains
- Natural Watercourse

- PROBLEM AREA

Notes



This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. This is not a plan of survey



0 177 354 Meters
NAD_1983_UTM_Zone_17N



February 9, 2023

INNERKIP



Legend

- Open Constructed Drains
- - - Closed Constructed Drains
- Natural Watercourse

— PROBLEM AREA

Notes

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. This is not a plan of survey



0 88 177 Meters
NAD_1983_UTM_Zone_17N



February 9, 2023

STAFF REPORT

Report #HRSC2023-02

To: His Worship the Mayor and Members of Council

From: Jennifer Albrecht, Human Resources and Safety Coordinator

Subject: Recreation Advisory Committee Appointments

Date: February 8, 2023

Background:

As part of **the Township's** newly created Parks and Recreation Department, and in keeping with the recommendations of the Parks and Recreation Master Plan, the Township of East Zorra-Tavistock sought applications from members of the community to sit on the Recreation Advisory Committee (RAC).

This Committee will help to provide a voice and forum for recreational organizations and community groups in the Township, as well as help to identify recommendations regarding community parks, green spaces, trails, recreational facilities, and programming.

Discussion:

In early February, the appointed members of Council that sit on this Committee reviewed the eighteen (18) applications that were received from Township residents who had expressed an interest on sitting on the RAC.

After reviewing all of the applicants, the Council members sitting on the Committee recommend the appointment of the following community members to the Committee:

- Neil Butler
- Kristen Cook
- Erica Hawkins
- Meagan Lichti
- Holly Powell
- Kyle Smith

This list represents a range of demographics, recreational interests and professional backgrounds that will be of great benefit to the Committee.

These residents would serve for a term that would expire at the end of the current Council term (November, 2026).

Recommendations:

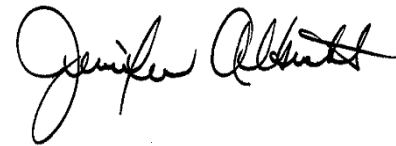
1. That Council appoint the six (6) above mentioned residents to sit on the Recreation Advisory Committee for the Township of East Zorra-Tavistock's Park and Recreation program.

Reviewed by:



Karen DePrest
Chief Administrative Officer

Report Prepared and Submitted by:



Jennifer Albrecht
Human Resources and Safety Coordinator

**THE CORPORATION OF THE
TOWNSHIP OF EAST ZORRA-TAVISTOCK
COUNTY OF OXFORD
TAVISTOCK DRAIN 1985 – RECONSTRUCTION 2023
BY-LAW #2023 - 04**

BEING a by-law to provide for drainage works in the Township of East Zorra-Tavistock, in the County of Oxford.

WHEREAS in accordance with the provisions of The Drainage Act, R.S.O. 1990, certain drainage works has been requested on the following lands:

Pt. Lots 126 to 128, Registered Plan 307, Part 2 Plan 41R-1977,
in the former Village of Tavistock.

AND WHEREAS the Council of the Township of East Zorra-Tavistock in the County of Oxford has procured a report by Mr. Curtis MacIntyre of the firm of K. Smart & Associates Ltd. of Kitchener, Ontario and the report shall be attached hereto and form part of this by-law;

AND WHEREAS the estimated total cost of constructing the drainage works is \$1,011,900;

AND WHEREAS the Council is of the opinion that drainage of the area is desirable;

THEREFORE the Council of the Township of East Zorra-Tavistock, pursuant to The Drainage Act, R.S.O. 1990 ENACTS AS FOLLOWS:

1. The report dated January 18, 2023, is hereby adopted and the drainage works as therein set forth is hereby authorized, and shall be completed in accordance therewith.
2. (1) The Corporation of the Township of East Zorra-Tavistock may borrow on the credit of the Corporation the amount of \$88,100.00 being the amount necessary for the Engineering of the drainage works.

- (2) The Corporation may arrange for the issue of debentures in the name of the County of Oxford for the amount borrowed less the total amount of
- (a) grants received under Section 85 of The Act;
 - (b) commuted payments made in respect of lands and roads assessed within the municipality;
 - (c) moneys paid under Subsection 61(3) of The Act; and
 - (d) moneys assessed in and payable by another municipality

and such debentures shall be made payable within five (5) or ten (10) years from the date of the debenture and shall bear interest at the prevailing rates at the time the said debenture is sold by the County of Oxford.

3. For paying the amount of \$1,100,000.00 being
- (a) the amount assessed upon the lands and roads in the Township of East Zorra-Tavistock, except the lands and roads belonging to or controlled by the Municipality and
 - (b) the amount required to pay interest on the portion of the amount borrowed represented by the amount in Clause (a)

Less the total amount of

- (c) grants under Section 85 of The Act
- (d) commuted payments made in respect of the lands and roads assessed

4. For paying the amount of \$0.00 being
- a) the amount assessed upon the lands and roads belonging to or controlled by the Municipality
 - b) the amount required to pay interest on the portion of the amount borrowed represented by the amount in Clause (a)

A special rate shall be levied upon lands and roads as set forth in "Schedule of Assessments" to be collected in the same manner and at the same time as other taxes are collected.

The amount of the special rate levied upon each parcel of land or part thereof shall be divided into five (5) or ten (10) equal amounts and one such amount shall be collected in each year for five (5) or ten (10) years after the passing of this by-law.

5. This by-law shall come into force on the passing thereof, and may be cited as the TAVISTOCK DRAIN 1985 – RECONSTRUCTION 2023.

READ A FIRST AND SECOND TIME THIS 15th DAY OF FEBRUARY, 2023.

Will Jaques, Clerk

Phil Schaefer, Mayor

**READ A THIRD TIME AND FINALLY PASSED THIS ____ DAY OF _____,
2023.**

Will Jaques, Clerk

Phil Schaefer, Mayor

**NOTICE OF COURT OF REVISION
TAVISTOCK DRAIN 1985 – RECONSTRUCTION 2023**

You are hereby advised that the Drainage Court of Revision for the TAVISTOCK DRAIN 1985 – RECONSTRUCTION 2023 will be held on Wednesday, March 15, 2023, at the Innerkip Community Centre, 695566 17th Line, Innerkip, Ontario at 9:15 a.m. Any owner may appeal his/her assessment to the Court of Revision by giving written notice to the undersigned on or before Monday March 6, 2023, at 4:30 p.m.

Will Jaques, Clerk
Township of East Zorra-Tavistock
Hickson, Ontario N0J 1L0

Also take notice that in accordance with The Drainage Act any owner or public utility affected by the drainage works, if dissatisfied with the report of the Engineer on the grounds that:

- (a) the benefits to be derived from the drainage work are not commensurate with the estimated cost thereof;
- (b) the drainage works should be modified on the grounds to be stated;
- (c) the compensation or allowances as provided by the Engineer are inadequate or excessive;

may appeal to the Tribunal. In every case, a written notice of appeal shall be served upon the Council of the initiating municipality within forty (40) days after the mailing of this notice.

DATED: February 15, 2023

**THE CORPORATION OF THE
TOWNSHIP OF EAST ZORRA-TAVISTOCK
COUNTY OF OXFORD
BY-LAW # 2023 - 05**

Being a by-law to confirm all actions and proceedings of the Council.

NOW THEREFORE THE COUNCIL OF THE TOWNSHIP OF EAST ZORRA-TAVISTOCK ENACTS AS FOLLOWS:

All actions and proceedings of the Council taken at its meeting held on the 15th day of February, 2023 except those taken by By-law and those required by law to be done by resolution are hereby sanctioned, ratified and confirmed as though set out herein provided, however, that any member of this Council who has dissented from any action or proceeding or has abstained from discussion and voting thereon shall be deemed to have dissented or abstained, as the case may be, in respect of this By-law as it applies to such action or proceeding.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 15th DAY OF FEBRUARY, 2023.

Phil Schaefer, Mayor

seal

Will Jaques, Clerk