

**CORPORATION OF THE TOWNSHIP OF EAST ZORRA-TAVISTOCK COUNCIL  
2018 - 2022**

**AGENDA**

**for the Meeting to be held on Wednesday July 6, 2022 at the  
Innerkip Community Centre, 695566 17<sup>th</sup> Line, Innerkip, Ontario, at 9:00 a.m.**

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1. Call to order and opening remarks
2. Approve Agenda
3. Disclosure of Pecuniary Interest and General Nature Thereof
4. General Business:
  - a) Confirm May 18, 2022 Council Meeting Minutes
  - b) South-West Oxford – Energy Performance Tiers (Resolution)
  - c) UTRCA – June 2022 FYI
  - d) Oxford County – 2021 Curbside Waste Audit and ORRT Review
  - e) Xplornet – Proposed Telecommunications Tower (Site ON8341 Braemar North)
5. Delegations & Appointments:
  - a) 9:15 a.m. – Engineer's Report (Witzel Drain 2022)
  - b) 9:20 a.m. – MVA Application A-7-2022 (Phinney/Haesler)
  - c) 9:30 a.m. – Oxford County – Additional Residential Units (ARUs)
    - i. Oxford County – Report CP2022-287 (ARUs)
  - d) 10:00 a.m. – Stantec Consulting Inc. – Parks/Rec. Master Plan Presentation
    - i. Parks/Rec. Master Plan (full): [https://www.ezt.ca/en/recreation-and-leisure/resources/EZT-Parks-and-Recreation-Master-Plan\\_aoda.pdf](https://www.ezt.ca/en/recreation-and-leisure/resources/EZT-Parks-and-Recreation-Master-Plan_aoda.pdf)
6. Reports of Municipal Officers and Committees:
  - a) Conferences and Seminars
  - b) County Council – Updates & Questions
  - c) Staff Reports – Updates & Questions
  - d) Staff Report - #DT2022 – 01 re: Tangible Capital Assets (TCA) Policy Update
  - e) Staff Report - #CBO2022 – 11 re: Building, Development & Drainage Reporting
  - f) Staff Report - #CBO2022 – 12 re: Pool Fencing By-law Amendment
  - g) Staff Report - #PW2022 – 07 re: Public Works Reporting
  - h) Staff Report - #BCO2022 – 06 re: By-law Compliance Reporting
  - i) Staff Report - #CSM2022 – 08 re: Corporate Services Reporting
  - j) Staff Report - #CSM2022 – 09 re: Lane Duck & Delegation of Authority
  - k) Staff Report - #CAO2022 – 11 re: CAO-Treasury Reporting
7. By-laws:
  - a) By-law #2022-24 – Witzel Drain 2022 Provisional By-law (1<sup>st</sup> & 2<sup>nd</sup> Reading)
  - b) By-law #2022-25 – ZBA App. ZN2-21-05-06 (Brenneman/ DonRon Farms Ltd.)
  - c) By-law #2022-26 – Lane Duck Period (Delegation of Authority)
  - d) By-law #2022-27 – Pool Fencing By-law Amendment
8. Other and Unfinished Business:
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 7:00 p.m. on Wednesday June 15, 2022.

Members Present: Mayor Don MCKAY, Deputy Mayor Don EDMISTON and Councillors Matthew GILLESPIE, Margaret LUPTON, Scott RUDY, Phil SCHAEFER and Jeremy SMITH.

Members Absent: N/A.

Staff Present: CAO-Treasurer Karen DePrest, Clerk Will Jaques, CBO John Scherer, Public Works Manager Tom Lightfoot and Fire Chief Scott Alexander.

Mayor MCKAY welcomed everyone to the meeting. Councillor SMITH noted the upcoming Canada Day weekend festivities in Innerkip, hosted by the Innerkip Lions Club. Deputy Mayor EDMISTON noted the recent 'Breakfast in the Park' event in Hickson, hosted by the Hickson Lions Club.

Approve  
Agenda

1. Moved by: Jeremy SMITH  
Seconded by: Margaret LUPTON  
Resolved that Council approve the agenda for the June 15, 2022, meeting as printed and circulated.

*CARRIED.*

PECUNIARY INTERESTS:

- N/A

Confirm  
Minutes -  
Council

2. Moved by: Phil SCHAEFER  
Seconded by: Don EDMISTON  
Resolved that Council confirm the Minutes of the June 1, 2022 Council Meeting, as printed and circulated.

*CARRIED.*

Correspondence & Reports – No Resolutions:

- MMAH – 2022 AMO Conference (Request for Delegation)
- May 30, 2022 TDRFB Minutes
- Staff Report - #CAO2022-10 re: CAO-Treasury Reporting (Supplemental)

Correspondence & Reports – Resolutions  
Following:

MMAH –  
2022 AMO  
Conference  
(Request for  
Delegation)

Council reviewed the correspondence from the Ministry of Municipal Affairs and Housing (MMAH) regarding delegations for the 2022 AMO Conference.

Gigault – Trout  
Lake Noise  
Exemption  
Request

Council reviewed the correspondence from Pierre, Yvon and Marcel Gigault requesting a Noise Exemption under Township Noise By-law #2008-36 for an event to be held July 1, 2022 at Trout Lake Campground in Innerkip. Pierre Gigault was present and spoke to the exemption request, as well as the event itself.

3. Moved by: Don EDMISTON  
Seconded by: Scott RUDY  
Resolved that Council authorize the Noise Exemption request under By-law #2008-36 from Pierre, Yvon and Marcel Gigault for live music on Friday July 1, 2022, from 8:00 p.m. to 11:00 p.m., at Trout Lake Campground in Innerkip.

*CARRIED.*

At 7:15 p.m., Sadie Harrett and Linda Holst made a presentation to Council regarding the lack of available daycare spaces in Tavistock, as well as a request for continued dialogue with the Township regarding potential options for daycare facility location(s).

At 7:35 p.m., Marisa Williams from WSP made a presentation to Council regarding an overview of the Secondary Plan project, as well as the current status of the project.

May 30, 2022  
TDRFB Minutes

Council reviewed the May 30, 2022 TDRFB Minutes.

Staff Report  
#CAO2022-10  
re: CAO-  
Treasury  
Reporting  
(Supplemental)

CAO-Treasurer Karen DePrest reviewed her supplemental Monthly CAO-Treasury Report for June 2022, with Council.

By-law:

1st & 2nd  
Reading

4. Moved by: Don EDMISTON  
Seconded by: Matthew GILLESPIE  
Resolved that the following by-law be read a first and second time:
- 2022-22 – ZBA Application ZN2-22-02 (Wettlaufer)

*CARRIED.*

By-law:

3<sup>rd</sup> & Final  
Reading

5. Moved by: Margaret LUPTON  
Seconded by: Scott RUDY  
Resolved that the following by-law be read a third and final time:
- 2022-22 – ZBA Application ZN2-22-02 (Wettlaufer)

*CARRIED.*

Other and  
Unfinished  
Business:

Councillor RUDY brought forward discussion regarding the potential for hybrid Council meetings, as well as remote meeting attendance and participation for Council members. Staff are continuing to review audio-visual system capabilities for the new Township office.

Confirming  
By-law

6. Moved by: Don EDMISTON  
Seconded by: Phil SCHAEFER  
Resolved that By-law #2022-23 being a by-law to confirm the proceedings of Council held Wednesday June 15, 2022, be read a first, second and third time this 15<sup>th</sup> day of June, 2022;

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

*CARRIED.*

Adjourn

7. Moved by: Scott RUDY  
Seconded by: Margaret LUPTON  
Resolved that Council does now adjourn at 8:47 p.m.

*CARRIED.*



TOWNSHIP OF SOUTH-WEST OXFORD  
R. R. # 1, Mount Elgin, ON N0J 1N0  
312915 Dereham Line  
Phone: (519) 877-2702; (519) 485-0477  
Fax: (519) 485-2932

June 17<sup>th</sup>, 2022

Office of the Premier  
Legislative Building  
Queens Park  
Toronto, ON  
M7A 1A1

Dear Premier Ford:

**Re: Resolution – Energy Performance Tiers**

The Council of the Township of South-West Oxford passed a resolution of support for City of Kitchener Resolution regarding energy performance tiers, as follows:

WHEREAS the Province of Ontario adopted greenhouse gas reduction targets of 30% by 2030, and emissions from buildings represented 22% of the province's 2017 emissions;

WHEREAS all Waterloo Region municipalities, including the City of Kitchener, adopted greenhouse gas reduction targets of 80% below 2012 levels by 2050 and endorsed in principle a 50% reduction by 2030 interim target that requires the support of bold and immediate provincial and federal actions;

WHEREAS greenhouse gas emissions from buildings represent 45% of all emissions in Waterloo Region, and an important strategy in the TransformWR community climate action strategy, adopted by all Councils in Waterloo Region, targets new buildings to be net-zero carbon or able to transition to net-zero carbon using region-wide building standards and building capacity and expertise of building operators, property managers, and in the design and construction sector;

WHEREAS the City of Kitchener recently adopted a policy requiring new City buildings greater than 500m<sup>2</sup> to have an energy intensity-based target of 25% energy improvement above Ontario Building Code Regulation 388/18 or NetZero Ready/NetZero energy, where site conditions allow;

WHEREAS buildings with better energy performance provide owners and occupants with lower energy bills, improved building comfort, and resilience from power disruptions that are expected to be more common in a changing climate, tackling both inequality and energy poverty;

WHEREAS while expensive retrofits of the current building stock to achieve future net zero requirements could be aligned with end-of-life replacement cycles to be more cost-efficient, new buildings that are not constructed to be net zero





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ready will require substantial retrofits before end-of-life replacement cycles at significantly more cost, making it more cost-efficient to build it right the first time.

THEREFORE BE IT RESOLVED THAT Council request the Province of Ontario to include energy performance tiers and timelines for increasing minimum energy performance standards step-by-step to the highest energy performance tier in the next edition of the Ontario Building Code, consistent with the intent of the draft National Model Building Code and the necessity of bold and immediate provincial action on climate change;

THEREFORE BE IT RESOLVED THAT Council request the Province of Ontario to adopt a more ambitious energy performance tier of the draft National Model Building Code as the minimum requirement for the next edition of the Ontario Building Code than those currently proposed;

THEREFORE BE IT RESOLVED THAT Council request the Province of Ontario encourage and provide authority to municipalities to adopt higher energy performance tiers than the Ontario Building Code and Green Development Standards;

THEREFORE BE IT FURTHER RESOLVED THAT Council request the Province of Ontario to facilitate capacity, education and training in the implementation of the National Model Building Code for municipal planning and building inspection staff, developers, and homebuilders to help build capacity; and

THEREFORE BE IT FINALLY RESOLVED THAT this resolution be provided to the Minister of Municipal Affairs and Housing, to area MPPs, and to all Ontario Municipalities."

Thank you.

Yours truly,

A handwritten signature in blue ink, appearing to read "Julie Middleton", is written over a faint, larger blue ink signature.

Julie Middleton, Clerk  
Township of South-West Oxford

cc. Oxford MPP Hon. Ernie Hardeman  
Hon. Steve Clark, Ministry of Municipal Affairs and Housing  
Oxford County Councils

UPPER THAMES RIVER  
CONSERVATION AUTHORITY

*fyi*

June 2022



Red-tailed Hawk

[www.thamesriver.on.ca](http://www.thamesriver.on.ca) Twitter [@UTRCAMarketing](https://twitter.com/UTRCAMarketing)  
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### Bugs tell the Water Quality story

The spring benthic sampling season has come and gone, with many people not knowing it was happening or even what it is. Ontario's Conservation Authorities monitor the health of watercourses in our watersheds in a number of ways, and one program involves sampling benthic macroinvertebrates – the “bugs” that live along the bottom of streams, rivers, and ponds.



Collecting benthic invertebrates in a local stream.

There are three components to the UTRCA's benthic sampling program:

- collecting benthic invertebrates from the bottom of a watercourse,
- identifying those bugs (usually under a microscope), and

- calculating a water quality score for the watercourse based on the species of bugs that were found there.

Collecting the bugs is the fun part, usually, although it can get a little tiring by the end of a super hot day! For three minutes we walk in a zig zag pattern across the stream or river, moving upstream while kicking/scraping our feet along the bottom. This action dislodges aquatic bugs from the rocks and other substrate on the bottom. The bugs begin to float downstream and are caught in a net we hold in the water, just downstream of our feet. Once the three minutes are up, we transfer everything in the net into a sample jar and preserve it.



An unusual but useful find on a hot, humid day of sampling in the North Thames River.



Later in the year, we identify those samples in the laboratory at the Watershed Conservation Centre. The sample is washed to free it from preservative and any fine sediment. Then the bugs are picked out of the material that was collected in the net and identified under a microscope. These bugs are referred to as macroinvertebrates because they can typically be seen without the aid of magnification. To identify them, though, we need to look at key features such as mouth parts or gills, which requires the light and magnification of a microscope.

Each bug identified is then recorded in a spreadsheet or database. In the UTRCA watershed, each species of benthic invertebrates has a score, between 1 and 10, that indicates how tolerant it is to poor water quality. A high score indicates the species is very tolerant of poor water quality and can live in a wide range of water conditions. A low score indicates it is not tolerant of poor water quality and would typically be found in water that is cleaner, cooler, and more oxygenated.



This midge larva is an indicator of poor water quality.

For each type of bug identified, the number of individuals collected in a sample is multiplied by the tolerance score of that species. All the scores for all the bugs in that sample are added together and then divided by the total number of individual bugs

identified in the sample. The result is an overall water quality score, between 1 and 10, based on all the benthic macroinvertebrates that were identified.

Impacts to water quality can often be intense but short lived. For example, if a pollutant spills into a watercourse, it may clear from an area as the pollutant stops spilling and clean water from upstream flows through. Collecting a water sample in the hours or days after a spill might not reflect that a pollutant had been spilled. But the bugs that live on the bottom of the watercourse are there for months, as they develop through several life stages. They are impacted by the water quality experienced over that whole period of time and, as such, they are a good indicator of longer term water quality.

Benthic invertebrate sampling results, total phosphorus, and bacteria (*E. coli*) are the three indicators used to assess water quality for the [Upper Thames River Watershed Report Cards](#). These indicators are given equal weight in determining the overall surface water quality score for each of the 28 subwatersheds. UTRCA staff are currently working on the 2022 edition of the report cards, which are produced every five years. **Contact: Michelle Fletcher, Aquatic Biologist**

### UTRCA Forestry Staff Host Field Tour

On Saturday, June 4, UTRCA forestry staff had the opportunity to showcase two research projects. Both projects are being developed in partnership with Forest Gene Conservation Association (FGCA). Tour participants included members from the Otter Valley Field Naturalists, Woodstock Field Naturalists, and Elgin-Middlesex Woodlot Owners Association. All enjoyed a perfect day of sunshine and ideal temperatures.

The first stop was the Southern Ontario Butternut Seed Orchard, located just south of Innerkip on Pittock Conservation Area land. This site was developed in 2014 to assist in

the conservation of butternut, an endangered species in Ontario. Today, this 2 hectare (5 acre) site is home to 369 grafted butternut trees, representing 107 parent trees from across Ontario. These parent trees have been selected with the hope that they may have some genetic tolerance to butternut canker. It is hoped that within a few years these trees will be producing seed that can be collected and grown to produce butternut seedlings for private land reforestation.



Tour participants discuss butternut trees planted in 2015.

The second stop was the Red and White Oak Climate Change Trial planted in 2010 in East Zorra Tavistock. This site is one of two climate change trials that UTRCA manages in partnership with the [Forest Gene Conservation Association](#). The other site is a bur oak trial planted in 2011 on Oxford County property at the Salford Waste Management Facility.

Both trials have oaks grown from local, Pennsylvania, and Tennessee seed sources. The theory is that as our climate warms, the more southern seed sources may be better adapted. In the near future, these trials will be used as seed production areas for the UTRCA's private land tree planting program. The Salford bur oak site produced its first seed in 2021, only 10 years after planting.

**Contact: John Enright, Forester**

## And Then It Happened!

After more than two years, Wildwood Community Education staff were overjoyed to welcome thousands of students, staff, and parents back to on-site programming this spring! It was amazing to see the buses pass through the gatehouse, hear the students' excitement, and be told how happy school staff were to be able to share a Wildwood experience with their classes again.

In addition to regular school programming, several Specialist High Skills Major certifications were also offered to high school students, including a Safe Hiker course in partnership with Hike Ontario. A special thank you to the Wildwood Conservation Area staff who helped navigate the return of programming to different areas of the property and the use of shared spaces and resources.



Students and adults enjoy an education program in the woods at Wildwood CA. (Photo: Rachel Mahaffy)



Wildwood education staff had been busy during the on-site program hiatus, developing and expanding learning opportunities to include several off-site options. The suite of education offerings now available not only filled a need during COVID-19 but continues to provide accessible opportunities to classes who may not otherwise be able to attend on-site programming. Wildwood's Virtual Field Trips and Schoolyard Field Trips enabled more than 25 classes to connect with nature in their own school community this spring.

**Contact: Maranda MacKean, Community Education Specialist**

### Schoolyard Pollinator Gardens

Fanshawe Community Education staff and Integrated Watershed Management unit staff have been busy as bees helping five Thames Valley District School Board (TVDSB) schools plant schoolyard pollinator gardens. Heeman's, a local garden centre, grew and supplied a variety of beautiful native plants for the gardens including coneflowers, blanket flowers, bee balm, and stonecrop.

The gardens will provide needed habitat for local pollinator species that are experiencing steep population declines due to climate change, pesticide use, and invasive species. They will also be an ideal space for students to learn about plants, insects, soil health, and other ecological topics.



The students were eager to plant their pollinator garden!

In addition to the gardens, students also received outdoor programming centred on pollinators and their essential role in



A young gardener at work.

ecosystems. They learned how plants use colour and scent to attract different pollinators, played a matching game between pollinator and plant species, and raced each other in a pollinator relay in their schoolyard.

The participating schools this spring included Lord Nelson Public School, Princess Anne French Immersion Public School, Sir Isaac Brock Public School, Winchester Public School, and White Oaks Public School. Thank you to the TVDSB for their generous funding and support of this program.

**Contact: Heather Hawkins Jensen, Community Education Technician**

### Small Footsteps on a Path of Discovery

There is much joy in watching a forest awaken during the spring. And when you can share that joy with children as they awaken their interest in nature, it is even more special.

For six weeks during April and May, Fanshawe Nature School (FNS) took place within The Pines at Fanshawe Conservation Area. Owls (caregivers) and Owlets (children) aged two to four years were the participants. Fanshawe Community Education staff provided the opportunities for exploration and play, inquiry-based experiences, and place-based discoveries.

During the spring FNS session, we explored ways to bring nature into our lives, followed



what the children were interested in, and absorbed the newness of spring. A typical session included free play in pods with names like The Hive, The Scramble, The Studio, The Mess, and The Nest. It was always enlightening to watch where the children would gravitate to for their exploratory play. A time to wander allowed us to journey farther and increased opportunities for wonder about the natural world. We didn't forget to refuel our bodies with yummy snacks and listen to stories too. This was how we celebrated "all things nature."



It didn't take long before the children were hooked, eager to return to their special Pine Forest. As individuals, we tend to protect what we value. In the spring FNS sessions, the children experienced many opportunities to develop a deeper connection to nature. The landscape transformed the Owls and Owlets, nurturing nature connections and creating lasting memories of appreciation, understanding, and wonder. As Community Education Staff plan for future sessions of FNS, we will continue to create opportunities to celebrate nature.

**Contact: Karlee Flear, Community Education Supervisor (Fanshawe)**

## Primary Outreach Program

After months of delay due to COVID, in May and June, Fanshawe Community Education staff were happy to visit 80 Thames Valley District School Board (TVDSB) Kindergarten, Grade 1, 2, and 3 classes on their school grounds for our Primary Outreach program.

This program focuses on math and literacy in the schoolyard, empowering teachers to become more comfortable teaching these key areas of study in their own outdoor space.

The program establishes a set of nature routines and class expectations for learning and exploring in the outdoors. Staff read a story aloud to spark inquiry and introduce the lesson's theme. This is followed by games, exploration, and a math-connected activity. It concludes with a sensory awareness exercise that the teacher could develop further.

The students were excited to get out of the classroom to have some fun on their





schoolyard and the teachers were happy to be getting more tools to effectively teach math and literacy in the outdoors.

Many thanks go to the TVDSB for sponsoring this program.

**Contact: Kim Gilbert, Community Education Technician**

## GREENFest!

GREEN Leaders classes from across the Thames Valley District School Board (TVDSB) came to Fanshawe Conservation Area on May 24-27, to participate in [GREENFest!, a week-long event](#) hosted by UTRCA Community Education and Partnerships staff.

Over the course of the school year, UTRCA staff have been working with 16 Grade 7 and 8 GREEN classes to identify local environmental issues and implement sustainable solutions. GREENFest! is a new event offered to GREEN classes this year to celebrate their learning and the hard work they have put into the program.



Teaching students how to use a compass.

During the week, each class came out for a full day of programming which included screen printing bags and t-shirts, button making, a map and compass course, live animal shows from Sciensational Snakes, and interactive demos (e.g., augmented reality sand table, floodplain model, rainfall simulator, LID House, stream table). Secondary students from the TVDSB's H3ELP Course came out every day to help run the events and guide the classes throughout the festival.

A huge thank you goes to [Start.ca](#), who sponsored the event and provided volunteers each day. GREENFest! was a big hit with students and teachers alike and we look forward to running the event again in years to come.



Students and staff at the rainfall stimulator (above) and augmented reality sand table.



**Contact: Karlee Flear, Community Education Supervisor**

## Monitoring for Spongy Moth

In mid-June, UTRCA staff set up traps to monitor the population of Spongy Moth (formerly known as Gypsy Moth). Two traps were assembled in Fanshawe Conservation Area and four in Environmentally Significant Areas (ESAs) in London. The UTRCA is conducting the research in conjunction with the County of Middlesex and the Canadian Food Inspection Agency.

The larvae of this exotic forest pest feed on the foliage of oak, aspen, and many other

trees. During an outbreak, the density of caterpillars can become so high that some trees may be completely stripped of leaves by mid-summer. Few species of birds prey upon the caterpillars, due in part to the caterpillars' long hairs that can irritate the thin skin around birds' eyes. Some species, such as the Black-billed and Yellow-billed Cuckoos, have been observed eating the larvae but they do not consume enough to bring a population outbreak under control.



A Spongy Moth monitoring trap at FCA.

Spongy Moth caterpillars are vulnerable to a virus and a fungus, though. Nuclear Polyhedrosis virus (NPV) is a naturally-occurring virus that only infects this species and spreads quickly from infected to non-infected larvae. Once the virus builds up in a population, it can cause high levels of caterpillar mortality and outbreaks of Spongy Moth usually collapse after two to four years. Dead and dying caterpillars hanging limply from trunks or branches in an upside down “V” show NPV is at work.

*Entomophaga maimaiga* is a fungus native to Japan that was introduced into the United States to help control Spongy Moth. The caterpillars ingest the fungus while they are eating and can perish within weeks. This fungus appears to be influenced by rainfall and its natural spread will likely play a larger role during wet years.

The traps in Fanshawe CA and the ESAs are not intended to control the moth but rather are a monitoring tool to determine the abundance and magnitude of the populations in Middlesex County. Staff will check the traps in mid-July and mid-September to collect and count any moths present. This data will help determine if the virus and/or fungus are having any impact on the local Spongy Moth population.

**Contact: Brenda Gallagher, Forestry Technician**

## On the Board Agenda

The next Board of Directors meeting will be held virtually on June 28, 2022. The following items are on the draft agenda:

- Compensation Review – Referred Motion
- 20 Year Flood Control Capital Updates
- Planning and Regulations Fee Policy
- Provincial Offences Act Officer Designation for Brad Dryburgh
- Administration and Enforcement – Section 28 Status Report
- Quarterly Progress Report – Inventory of Programs and Services
- Asset Management and Multi-year Budget

Please visit the “Board Agendas and Minutes” page at [www.thamesriver.on.ca](http://www.thamesriver.on.ca) for agendas, reports, audio/video links and recordings, and approved minutes.

**Contact: Michelle Viglianti, Administrative Assistant**

**To:** Warden and Members of County Council

**From:** Director of Public Works

## 2021 Curbside Waste Audit and Organics Resource Recovery Technology Review

### RECOMMENDATION

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1. That County Council receive Report No. PW 2022-33, entitled “2021 Curbside Waste Audit and Organics Resource Recovery Technology Review”, as information.

### REPORT HIGHLIGHTS

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- This report summarizes the findings from the 2021 Curbside Waste (black bag) Audit that was undertaken as an update to the 2017 baseline waste audit. The composition of residential waste found in the black bag includes approximately 60% organic material (by weight) that could potentially be diverted for resource recovery and beneficial reuse for soil amendment and/or renewable gas and electricity to offset fossil fuels and associated greenhouse gas (GHG) emissions.
- The 2021 Curbside Waste findings are being used to fundamentally inform the Organics Resource Recovery Technology (ORRT) review which was initiated by staff in 2022 in order to identify the preferred approach for a County-wide food and organic waste diversion program to meet objectives established in the Provincial Food and Organic Waste Framework.
- The County currently operates successful waste diversion programs (blue box, scrap metal, e-waste, tires, household hazardous waste, construction and demolition materials, biosolids, film plastics, bulky Styrofoam, and yard waste); however, the overall landfill diversion rate has plateaued at around 40 to 43% since 2018. The potential diversion of food and organics from the waste stream will serve to further increase landfill waste diversion.

### Implementation Points

Staff will report to County Council in Q4 2022 on the draft findings of the ORRT Feasibility Study.

The 2021 curbside waste audit results will also be used to enhance public promotion and education on current waste diversion programs with greater focus on specific materials found in the residential garbage stream.



## Financial Impact







There are no financial impacts as a result of this report. Any required action that will result in expenditures has been accounted for in the 2022 Operating Budget for Waste Management.

## Communications

Findings from the 2021 Curbside Waste Audit and a summary of the ORRT feasibility study were presented to Zero Waste Oxford (ZWO) for discussion at the April 20, 2022 meeting.

Through the ORRT feasibility study, the Township of South-West Oxford and the City of Woodstock have been invited to participate on the project team to evaluate and comment on each project milestone. Further touchpoints with ZWO and County Council will occur throughout 2022 on the progress of the ORRT feasibility study for comment. Report No. PW 2022-33 will be circulated to area municipalities for information.

## Strategic Plan (2020-2022)

					
<b>WORKS WELL TOGETHER</b>	<b>WELL CONNECTED</b>	<b>SHAPES THE FUTURE</b>	<b>INFORMS &amp; ENGAGES</b>	<b>PERFORMS &amp; DELIVERS</b>	<b>POSITIVE IMPACT</b>
		3.iii.	4.ii.		

## DISCUSSION

### Background

In 2021, AET Group Inc. (AET) was retained to complete an audit of County residential curbside garbage (black bag) as an update to the comprehensive 2017 baseline waste audit that was undertaken to support the development of the Oxford County Zero Waste Plan (Report No. [PW 2017-42](#)). The findings of the 2021 residential waste characterization audit will be utilized to inform the Organics Resource Recovery Technology (ORRT) Feasibility study identified in the 2022 Business Plan and Budget. This study is being initiated to meet the Provincial Food and Organic Waste Framework objectives.

The objectives of the Provincial framework include waste prevention/reduction (e.g. rescue of surplus food), resource recovery, support of resource recovery infrastructure and beneficial uses of recovered organic resources such as soil amendments (composting), and production of renewable natural gas and electricity to offset fossil fuels and associated greenhouse gas emissions.

The Provincial framework also includes a policy statement that identifies municipal organic waste diversion targets based on population thresholds (Report No. [PW 2020-56](#)). The policy statement identifies curbside collection of source separated food and organic waste (SSO) as the preferred method of servicing single-family dwellings, although alternatives to curbside collection programs may be used if equivalent diversion targets can be achieved efficiently and effectively.

In Oxford County, the City of Woodstock is the only municipality that meets the population threshold and, therefore, will be required to achieve a 50% diversion of food and organic waste from single-family dwellings by 2025. The policy statement, however, encourages regional approaches (i.e. County-wide) to single family residential food and organics diversion along with complementary opportunities to capture organic waste generated by the multi-residential and Industrial, Commercial and Institutional (IC&I) sectors.

In addition to the Provincial Food and Organic Waste Framework, Environment and Climate Change Canada (ECCC) is developing a federal regulatory framework to reduce methane emissions from landfills (Report No. [PW 2022-23](#)) that is anticipated to compliment and increase the effectiveness of Provincial objectives through potential landfill bans of organic waste and further support of beneficial uses of recovered organic resources.

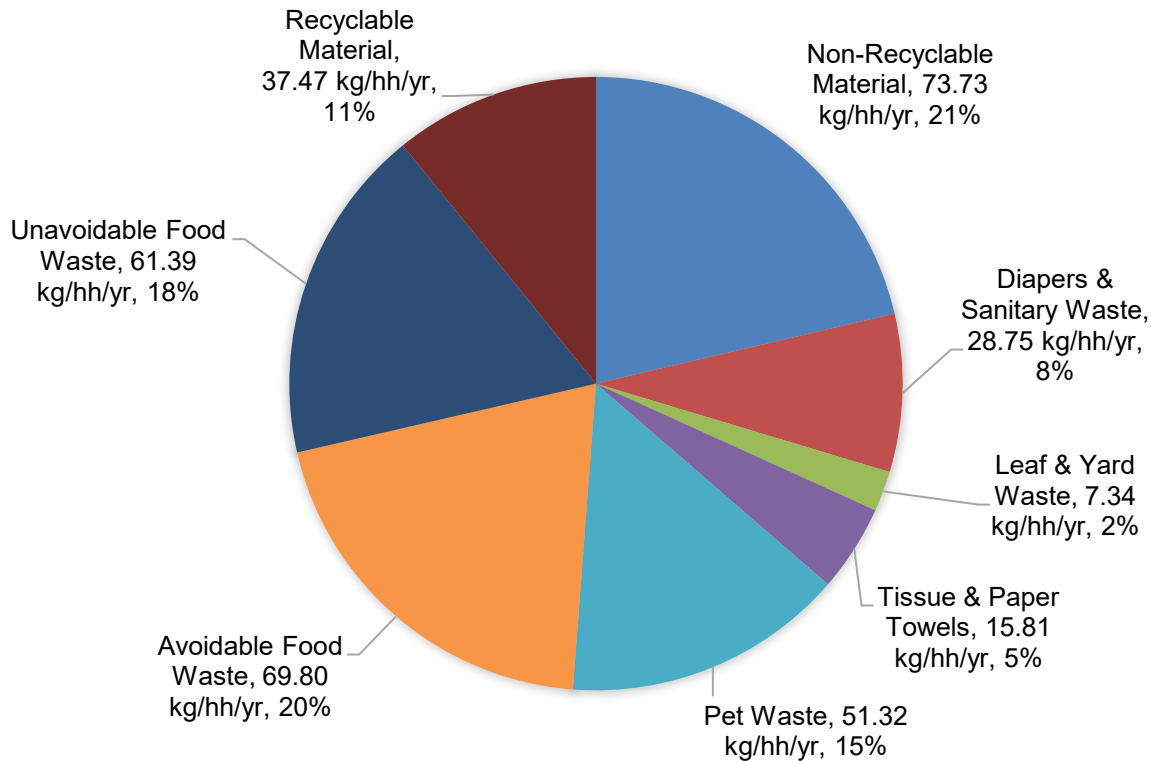
## **Comments**

### **2021 Curbside Waste (Black Bag) Characterization Audit**

AET completed a curbside residential garbage (black bag) audit in Q2 2021 (refer to Attachment No. 1) utilizing a similar sampling methodology as the 2017 baseline waste audit. The garbage from representative urban and rural curbside set-outs was collected over a two-week period from 24 sample areas of ten households each (240 households) throughout the County, including sample areas in each of the eight Area Municipalities.

Curbside set-out information (e.g. participation, number of bags/containers and fullness) within each sampling area was recorded. Garbage set-outs within the sample areas were collected and sorted into different categories to determine waste characterization by the percentage of total weight. Each sample area was distinguished as either urban/village or rural depending on surrounding land use and building density.

Residential garbage composition (rural/urban combined) based on the 2021 audit results are illustrated in Figure 1.



**Figure 1: 2021 Rural/Urban Residential Waste Composition (kg/household/year)**

Garbage composition is divided into several waste categories representing material types by the percentage of total weight that either must be landfilled, are part of current diversion programs (e.g. yard waste, recyclable material), or could be diverted through the future implementation of organics resource recovery technologies. Food and organic waste is further categorized by material types that pose different challenges and opportunities for organics waste reduction, collection and resource recovery programs.

Food and organic waste includes avoidable food waste or surplus food that would have potentially been consumable but may have spoiled, whereas, unavoidable food waste is not meant for consumption (such as peelings, bones, coffee grounds, etc.). Pet waste and diapers include organic material but could pose potential processing challenges associated with contamination from absorbent and synthetic material.

The composition of residential garbage based on the 2021 audit results was found to be generally consistent with the 2017 baseline audit. The key findings of the 2021 audit as summarized in Table 1 identified increases in the amount of garbage generated per single-family household compared to 2017. The percentage of organic material (approximately 60% by weight) found in the black bag was also higher in 2021 compared to the 2017 results.

Garbage generation per single-family household and participation in the curbside collection program is typically lower in rural areas than in urban areas. This can be attributed to agricultural operations that may utilize private waste management services and rural properties with onsite compost piles.



Table 1: Key Findings from the 2021 Waste Audit

<b>Residential Waste - Urban/Rural Combined</b>	<b>2021</b>	<b>2017</b>
Garbage Participation Rate Per Week <sup>1</sup>	50.52%	40.79%
Average Full Container Equivalents Per Household	1.42	1.46
Average Garbage Generation Rate Per Household	6.63 kg/hh/wk	5.54 kg/hh/wk
Organic Waste Component in the Black Bag (by weight)	57.40%	46.90%
<b>Residential Waste – Urban</b>	<b>2021</b>	<b>2017</b>
Garbage Participation Rate Per Week <sup>1</sup>	57.10%	42.74%
Average Full Container Equivalents Per Household	1.39	1.45
Average Garbage Generation Rate Per Household	7.63 kg/hh/wk	6.25 kg/hh/wk
Organic Waste Component in the Black Bag (by weight)	60.84%	47.88%
<b>Residential Waste – Rural</b>	<b>2021</b>	<b>2017</b>
Garbage Participation Rate Per Week <sup>1</sup>	30.83%	35.00%
Average Full Container Equivalents Per Household	1.58	1.48
Average Garbage Generation Rate Per Household	3.32 kg/hh/wk	3.07 kg/hh/wk
Organic Waste Component in the Black Bag (by weight)	49.54%	43.52%

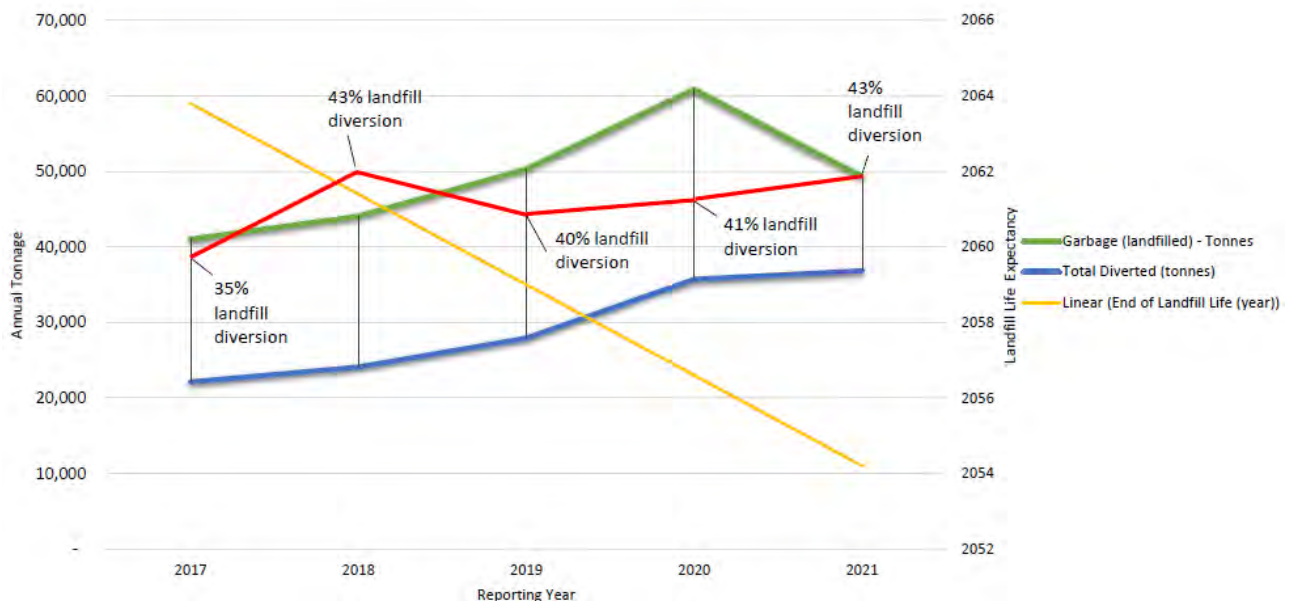
**NOTES:** <sup>1</sup> Garbage set out over two week sampling period

<sup>2</sup> Includes avoidable/unavoidable food waste, pet waste, tissues/paper towels

### Historical Waste Quantities - Landfilled vs Diverted

The County's ongoing waste diversion programs (e.g. blue box, scrap metal, e-waste, tires, household hazardous waste, construction and demolition materials, biosolids, film plastics, bulky Styrofoam, and yard waste) have effectively diverted material from landfilling for resource recovery and beneficial reuse. Organic waste reduction has also been promoted by the County through the implementation of backyard composters and green cone digesters, although this approach does not reduce greenhouse gas emissions associated with organics decomposition.

Historical waste quantities (landfilled vs diverted) processed at the Oxford County Waste Management Facility from 2017 to 2021 as shown in Figure 2 have seen annual increases in diverted waste tonnages that are proportional to annual increases in landfilled waste tonnages; however, the overall landfill diversion rate since 2018 has plateaued at 40 to 43%. Based on current fill rates, the remaining capacity of the County's landfill site is estimated between 30 to 35 years.



**Figure 2: Historical Waste Quantities – Landfilled vs Diverted (2017 – 2021)**

In the absence of waste recovery and reduction technological intervention, it will be challenging for the County to further increase landfill diversion rates. Food and organic waste diversion and resource recovery for beneficial use is an opportunity to increase diversion rates and extend the remaining capacity of the County's landfill site. Curbside collection of organic waste has been implemented by many larger municipalities and organics resource recovery technologies are proven and have become well established locally.

### ORRT Feasibility Study

An ORRT Feasibility Study undertaking was identified in the 2022 Business Plan and Budget and was recently initiated following consultant selection through a competitive Request for Proposal (RFP) process. The ORRT study objective is to evaluate and identify a preferred technology for organic waste diversion and resource recovery for beneficial use to meet the Provincial Food and Organic Framework objectives by 2025.

Staff from the City of Woodstock (Woodstock) and Township of South-West Oxford (SWOX), as County service providers for curbside waste collection, have been invited to participate with County staff as part of the Project Team for this study. The ORRT study will consider the feasibility of a County-wide approach and the operational impacts on service providers. With the expected blue box program transition to full producer responsibility by 2025 and the potential for stranded assets, there may be opportunities for Woodstock and SWOX to utilize resources (e.g. staff and equipment) for curbside collection of food and organics.

Key ORRT study tasks and associated timelines are summarized in Table 2 below.

Table 2: ORRT Study Tasks/Timelines

<b>Project Tasks</b>	<b>Task Details</b>	<b>Target Date</b>
Task 1	Waste Management Background Review, Waste Generation Forecast, and ORRT Legislative Review	June 2022
Task 2	Identification of Integrated Waste Diversion Technology Concepts (ORRT Scenarios)	July 2022
Task 3	Full Lifecycle Costing and Integrated Waste Diversion Technology Concepts (ORRT Scenarios)	August 2022
Task 4	Identify Preferred Integrated Waste Diversion Technology Concept(s) (ORRT Scenarios)	September 2022
Task 5	Review of Potential Funding Streams to Support the Implementation of Preferred Diversion Technology	October 2022
Task 6	Integrated Waste Diversion Technology Concepts Report	October 2022

The Zero Waste Oxford (ZWO) Committee will be afforded opportunities to provide comments and feedback at various stages of this project and staff expect to report to County Council in Q4 2022 with draft findings and recommendations.

## Conclusions

The results of the 2021 curbside garbage audit demonstrate that 60% of the black bag (by weight) is composed of organic material which can be diverted from landfill and recovered for beneficial use.

The County is collaborating with its service providers to identify a County-wide preferred approach for the diversion of organic material from the waste stream. The benefits of doing so will extend the life of the County's landfill site and reduce associated greenhouse gas production which will position the County well to meet Provincial and Federal initiatives and advance forward in achieving the goals of the County's Zero Waste Plan.

## SIGNATURES

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### Approved for submission:

Original signed by

---

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## ATTACHMENT

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Attachment 1: 2021 Curbside Waste Audit (July, 2021)

# **Spring 2021 Oxford County Single Family Curbside Garbage Stream Composition Study**

## **Waste Composition Study Report**

Prepared for

Oxford County

Prepared by

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July 20, 2021

**Project No.** OXF\_WAC2021\_097



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## APPENDICES

- Appendix A. Waste Audit Results
- Appendix B. Waste Material Categories

## EXECUTIVE SUMMARY

Oxford County contracted AET Group Inc. (AET) to conduct a single family residential curbside garbage stream audit over the course of two weeks from May 31 – June 11, 2021.

The audit included the collection and sorting of garbage from 24 sample areas of ten households each (240 households). Each sample area was distinguished as either urban/village or rural depending on the dispersal of homes and use of land within the immediate sampling area. Curbside set-out data (e.g. participation, number & fullness of items set out) and garbage stream composition data was analyzed for each sample area.

### Key Findings

#### Set out & Participation Results:

- Garbage (combined urban/village & rural) – Participation rate of 50.52% (proportion of households that have garbage set out on any given week) for the garbage stream. The average number of full container equivalents per household with a set out was 1.42.
- *Garbage (Rural areas)* – Participation rate of 30.83% for the garbage stream. The average number of full container equivalents per household with a set out was 1.58.
- *Garbage (Urban/Village) areas* – Participation rate of 57.10% for the garbage stream. The average number of full container equivalents per household with a set out was 1.39.
- Recycling (combined urban/village & rural) – Participation rate of 64.68% (proportion of households that have recycling set out on any given week) for the recycling stream. The average number of full container equivalents per household with a set out was 2.06.
- *Recycling (Rural)* – Participation rate of 39.08% for the recycling stream. The average number of full container equivalents per household with a set out was 1.80.
- *Recycling (Urban/Village)* – Participation rate of 73.91% for the recycling stream. The average number of full container equivalents per household with a set out was 2.12.

#### Garbage Stream Composition:

- Estimated average curbside garbage stream generation rate of a single family household is 6.63 kg/hh/wk (kilograms/household/week). The average for rural households was 3.32 kg/hh/wk, while urban/village areas was 7.63 kg/hh/wk.

- Organics was the largest component of the garbage stream at 3.80 kg/hh/wk or 57.40%. This category consisted of avoidable food waste, unavoidable food waste, fats, oils, & greases, tissue & paper towels, and pet waste (excludes leaf/yard waste). Avoidable food waste contributes 1.34 kg/hh/wk or 20.20% of the total combined garbage stream.
- Curbside Recyclable materials contribute to 0.72 kg/hh/wk or 10.84% of the garbage stream.



## 1.0 INTRODUCTION

### 1.1 Definitions

**Avoidable/Unavoidable Food Waste:**

Food waste found throughout the audit was either classified as Avoidable or Unavoidable. Avoidable food waste consists of food that is or was edible (e.g. leftovers, moldy bread, etc.). Unavoidable food waste consists of food that is inedible (e.g., bones, eggshells, fruits/vegetable peels/scraps, etc.).

**Garbage Stream:**

Material that is collected for disposal rather than diversion. It will include divertible material (recyclable/compostable materials) where the diversion programs are not operating at 100% capture. This material is sometimes referred to as residual waste or landfilled.

**HSW/HHW:**

Household Special Waste/Household Hazardous Waste is material that is potentially harmful to the environment (hazardous) and should be disposed of through special handlers (e.g. motor oil, batteries, chemicals, paint, etc.).

**Participation Rate:**

The percentage of the total households sampled that placed a bag, box, cart, or container of material out for curbside collection on a given week.

**Recycling Stream:**

Material that is diverted from the garbage stream in a recycling program such as Blue Box recycling. May also be referred to as “Recyclables”. Within this report common recyclables are referred to as the items accepted in Oxford County’s curbside recycling program.

### 1.2 Background

Oxford County contracted AET Group Inc (AET) to conduct a curbside residential garbage composition audit. The study will help improve understanding of current program use, identify areas for program improvement and build public communication campaigns.

### 1.3 Audit Scope

**Single family Residential Curbside Audit**

The scope of this portion of the study involved a physical audit of garbage generated curbside in the garbage stream during a two-week sample collection period from 240 single family households across the County. Two teams were deployed to complete the study from Monday May 31<sup>st</sup>- Friday June 11<sup>th</sup>, 2021, during which the garbage stream material generated and sampled during the auditing period was subject to waste composition analysis. The auditors also

Curbside Garbage Composition Study Report – Oxford County  
July 2021

carried out full curbside participation and set-out surveying, including curbside recycling, to determine the types and amounts of materials set out for collection. The auditing schedule is displayed in Table 1.1.

**Table 1.1 Spring Audit Schedule**

Oxford County - Curbside Team Schedules					
Week 1					
	Monday, May 31	Tuesday, June 1	Wednesday, June 2	Thursday, June 3	Friday, June 4
Team A	119 Carnegie Street (Ingersoll) 8:15am	200 Three Wood Dr (Woodstock) 10:30am	5 Lindsay St. (Tillsonburg) 9:15am	1165 Iroquois Cres. (Woodstock) 8:00am	35 River Rd/Young/Fennel (Blandford-Blenheim) 8:50am
	John Street (Zorra) - 2:00pm	22 Gibson Dr. (Tillsonburg) 3pm	13 Thistle Ct (Tillsonburg) - 11:20am	830 Springbank Ave (Woodstock) 10:30am	926862 Oxford Road 8 (Blandford-Blenheim) 10:00am
	355625 - 35th Line (Zorra) 2:30pm	Could check Greenwood Rd on the way to/from Three Wood Dr		583398 Hamilton Rd (South-West Oxford) 10:30 - 12:00	
			**Wed Route clustered-> divvy up		**Fri Route clustered/far
Team B	King Street (Woodstock) - 7:30am*	273 Tunis St. (Ingersoll) - 7:30am	283465 Daniel Rd. (South-West Oxford) 12:30 - 2:00pm	4 Clyde St. (Norwich) 9:00am	51 Liebler Street (East Zorra-Travistock) 9:20am
	Cross Place (Woodstock) - 7:30am	30 Laurel Crescent (Ingersoll) 9:30am	8 King St (Tillsonburg) - 2:00pm	Quaker St. (Norwich) 9:00am	677181 16th Line (East Zorra-Travistock) 12:00pm
	Totten Place (Woodstock) - 8:30am	10 Greenwood Rd. (Ingersoll) 1:40pm			
Week 2					
	Monday, June 7	Tuesday, June 8	Wednesday, June 9	Thursday, June 10	Friday, June 11
Team A	119 Carnegie Street (Ingersoll) 8:15am	200 Three Wood Dr (Woodstock) 10:30am	5 Lindsay St. (Tillsonburg) 9:15am	830 Springbank Ave (Woodstock) 7:30am	35 River Rd/Young/Fennel (Blandford-Blenheim) 8:50am
	John Street (Zorra) - 2:00pm	10 Greenwood Rd. (Ingersoll) 1:40pm	13 Thistle Ct (Tillsonburg) - 11:20am	1165 Iroquois Cres. (Woodstock) 10:30am	926862 Oxford Road 8 (Blandford-Blenheim) 10:00am
	355625 - 35th Line (Zorra) 2:30pm	22 Gibson Dr. (Tillsonburg) 3pm			
			**Wed Route clustered-> divvy up		**Fri Route clustered/far
Team B	King Street (Woodstock) - 7:30am*	273 Tunis St. (Ingersoll) - 7:30am	8 King St (Tillsonburg) - 2:00pm	4 Clyde St. (Norwich) 9:00am	51 Liebler Street (East Zorra-Travistock) 9:20am
	Cross Place (Woodstock) - 9:00am	30 Laurel Crescent (Ingersoll) 9:30am		Quaker St. (Norwich) 9:00am	677181 16th Line (East Zorra-Travistock) 12:00pm
	Totten Place (Woodstock) - 11:00am	Could check Greenwood Rd on the way to/from Ingersol		283465 Daniel Rd. (South-West Oxford) 12:30 - 2:00pm	583398 Hamilton Rd (South-West Oxford) 10:30 - 12:00
Daniel Rd. and Hamilton Rd have 6-day collection schedules, different collection day week 1 vs week 2					
Different times given for week 1 vs 2 based on Garbage vs. Garbage/Recycling					
*King street under construction, must be picked up before 7:30am					
**On Wed & Fri : choose route that best suits the teams, possible options: collect together, send one team only, one team early pass/one later, etc.					

## 2.0 APPROACH AND METHODOLOGY

### 2.1 Single Family Residential Curbside

#### Waste Sampling Process

AET Group Inc. collected garbage material from 240 single family residential curbside households over a two week sampling period. The residential areas were selected in consultation with the County to represent the various collection zones and demographics across the service area. When possible, the areas and households selected were the same as sampled in a similar 2017 curbside audit. All garbage material was collected from the selected households and brought back to a central location with each sample area sorted separately. The 240 households were segregated into 24 sample areas of 10 households each, as summarized in table 2.1 below. Note that each sample area was classified as either rural or urban, to assist with data analysis.

**Table 2.1 Single Family Residential Curbside Sample Areas**

Sample Areas		
Street	Municipality	Sample Area Classification
35th Line	Zorra	Rural*
John Street	Zorra	Urban/Village
Totten Place	Woodstock	Urban/Village
Cross Place	Woodstock	Urban/Village
King Street (Woodstock)	Woodstock	Urban/Village
Tunis Street	Ingersoll	Urban/Village
Laurel Crescent	Ingersoll	Urban/Village
Greenwood Road	Ingersoll	Urban/Village
Carnegie Street	Ingersoll	Urban/Village
Three Wood Drive	Woodstock	Urban/Village
Daniel Road	South-West Oxford	Rural
Gibson Drive	Tillsonburg	Urban/Village
Lindsay Street	Tillsonburg	Urban/Village
King Street (Tillsonburg)	Tillsonburg	Urban/Village
Hamilton Road	Ingersoll/South-West Oxford	Rural
Thistle Court	Tillsonburg	Urban/Village
Iroquois Crescent	Woodstock	Urban/Village
Springbank Avenue	Woodstock	Urban/Village
Clyde Street	Norwich	Urban/Village
Quaker Street	Norwich	Rural*
River Road/Young Street West/Fennel Street	Blandford-Blenheim	Urban/Village
Oxford Road 8	Blandford-Blenheim	Rural*
16th Line	East Zorra-Travistock	Rural*
Liebler Street	East Zorra-Travistock	Urban/Village

\*Adjacent or attached farmland on properties

### **Collection Logs**

Collection logs were maintained during the single family residential curbside collection for each of the 240 households. Information recorded in the log for included: the number and size of garbage and recycling cart/bin/container/bag items, combined fullness equivalent of items in each stream, time of AET team arrivals and if any haulers were observed in the area.

Upon analysis, collection log data provides an understanding of the total number of households with or without setouts, number of items each resident set out, average full container equivalents, and participation rates. Analysis was completed for rural and urban/village areas separately and combined.

### **Material Sorting Process**

All collected materials were physically sorted and weighed separately (in individually tared bins) into approximately 6 primary (Paper, Plastic, Metal, Glass, Organics, and Other) and 37 secondary categories (e.g., Newsprint, Recyclable Glass Containers, Clean Wood, Textiles, etc.) at the Oxford County Waste Management Facility located at 384060 Salford Road in Oxford County. The full list of sort categories can be found in Appendix B 1. AET made every reasonable effort to separate multi-material items and to separate food waste from their packaging.

Prior to weighing the sorted material, AET photographed any substantial or unusual material categories and items found. All sorted material was weighed for each sample using a digital scale (0.01 kg precision up to 40kg +/- 1% of true weight). Tare weights of the bins used for sorting were verified prior to the audit and checked regularly throughout the study to maintain accuracy. Light materials were weighed directly on the scale. The weight of each individual material category was recorded on a waste sort worksheet. Any unusual materials/items which may have not been representative, or which may have significantly affected the overall composition of the sample were also noted on the worksheet. Additional notes were made on the worksheet describing the contents of categories labeled “other” (e.g. other plastic would be identified – blister packaging, toothpaste tubes, etc.).

Once all waste material was classified and weighed, non-divertible material was placed in a large roll-off bin that was emptied by Oxford County Facility staff when needed. Likewise, post-audited recyclable material was placed in designated recycling totes in which Oxford County staff transferred to the appropriate facility area. Organic material disposal was not provided and therefore placed with garbage waste.

## 2.2 Assumptions, Limitations & Calculations

This audit assumes that the selected households are representative of the composition of waste generated by single family households in Oxford County. Sampling areas were defined as either urban/village or rural based on the spread or density of the households within the area and any attached/adjacent land use such as agricultural farming.

This audit assumes setout behaviour in rural areas was reflective of normal conditions for residents. Many rural areas had minimal setouts and it is assumed waste generated by these households may be collected by private haulers.

The audit occurred over a 2-week period in May and June, which best represents waste generation and composition for that time of year. Further seasonal audits would be recommended for a more accurate depiction of waste generation and composition over time.

Annual household generation rates were estimated by extrapolating the kg/household/week audit results to a full year equivalent. Overall estimated annual waste generation was calculated by multiplying the kg/household/year weight by the number of single family residential households in the County (proportionally weighted urban/village and rural), excluding multi-family residences.

This audit assumes that number of households statistics provided by Oxford County are accurate. The number of households per township was determined by the 2016 Municipal Property Assessment Corporation (MPAC) dataset.

The following calculations were used to calculate the overall generation of waste. The results were averaged to calculate the overall results displayed in this report.

### Weekly Waste Generation (kg/hh/wk):

$$\left( \frac{\text{weight of material generated over two week audit period}}{\# \text{ of hhlds sampled}} \right) \times (7 \text{ days})$$

14 days

### Yearly Waste Generation (kg/hh/yr):

$$\left( \frac{\text{weight of material generated over two week audit period}}{14 \text{ days}} \right) \times (365 \text{ days/year})$$

It should be noted that calculations for samples collected from Southwest Oxford were adjusted to account for the 6-day collection cycle there, representing 8 days of waste generation.

## 3.0 RESULTS AND DISCUSSION

Results shown in this section are summarized into primary and secondary categories. Detailed tables by material sub-category are available in Appendix A1. Please note for the purposes of this study, materials have been classified as ‘recyclable’, ‘organic’ or ‘non-divertible’ based on their acceptance into the curbside diversion programs (Blue Box, Leaf/Yard or Garbage).

For illustrative purposes, some of the results have been extrapolated to estimated generation rates of kilograms per household per week (kg/hh/wk) and kilograms per household per year (kg/hh/yr).

### 3.1 Collection Results

As mentioned in the assumptions section of this report, some rural/farmland areas had little to no setouts, resulting in lower average participation and setout results. To better understand the trends seen during collection, sample areas have been classified as either “urban/village” or “rural”. Collection survey results for both garbage and recycling streams were recorded, though only the garbage stream was collected for further auditing.

The average number of garbage and recycling items set out per single family household per week in Oxford County is 0.36 and 1.22, respectively. An item is defined as a bag, blue box or garbage can (a garbage can which contained multiple bags would only count a 1 item). The average full container equivalent per setout per week for garbage and recycling is 0.36 and 1.16, respectively. Finally, participation rates for the garbage and recycling streams are 50.52% and 64.68%, respectively. For the purposes of this study, the participation rate is the proportion of households that have an item set out in a particular stream on any given week (e.g., if a household had garbage set out in week 1, but not week 2, the participation rate is calculated as  $\frac{1}{2}$  or 50%). Urban/village sample areas had higher recycling participation rates vs. rural areas (73.91% vs. 39.08%) and higher garbage participation rates vs. rural areas (57.10% vs. 30.83%).

The curbside collection surveying results can be found in Table 3.1. The results show averages for recycling and garbage for all households sampled, urban/village areas only, and rural areas only. It should be noted that Woodstock’s recycling collection schedule allows for residents to set out recycling only once every two weeks. The calculations in the table below account for the 60 households sampled in Woodstock on this schedule.

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July 2021

**Table 3.1 Collection Survey Results**

Oxford County Single Family Waste Curbside Collection Survey Results						
Week #1	Recycling (Combined)	Garbage (Combined)	Recycling (Urban/Village)	Garbage (Urban/Village)	Recycling (Rural)	Garbage (Rural)
Number of households sampled <sup>1</sup>	210	240	150	180	60	60
Number of households with set-outs	136	122	111	102	25	20
Number of items	281	179	237	145	44	34
Number of full container equivalents	274	177	232	143	43	34
Participation Rate	64.76%	50.83%	74.00%	56.67%	41.67%	33.33%
Week #2	Recycling (Combined)	Garbage (Combined)	Recycling (Urban/Village)	Garbage (Urban/Village)	Recycling (Rural)	Garbage (Rural)
Number of households sampled <sup>1</sup>	209	239	149	179	60	60
Number of households with set-outs	135	120	110	103	22	17
Number of items	302	169	253	144	49	25
Number of full container equivalents	284	166	238	141	42	25
Participation Rate	64.59%	50.21%	73.83%	57.54%	36.50%	28.33%
Total (Two Week Period)	Recycling (Combined)	Garbage (Combined)	Recycling (Urban/Village)	Garbage (Urban/Village)	Recycling (Rural)	Garbage (Rural)
Total number of households sampled <sup>1</sup>	419	479	299	359	120	120
Total number of household set-outs	271	242	221	205	47	37
Total number of items	583	348	490	289	93	59
Total number of full container equivalents	558.00	342.50	469.00	284.00	84.50	58.50
Average number of items/hh/wk <sup>2</sup>	1.22	0.36	1.36	0.40	0.77	0.25
Average number of full container equivalents/hh/wk <sup>2</sup>	1.16	0.36	1.31	0.40	0.70	0.24
Average number of full container equivalents/set out <sup>3</sup>	2.06	1.42	2.12	1.39	1.80	1.58
Participation Rate	64.68%	50.52%	73.91%	57.10%	39.08%	30.83%

<sup>1</sup> Number of households sampled is adjusted to omit those households that were picked up by hauler prior to the audit team's arrival or households opting out of study.

<sup>2</sup> Averaged across all sampled households (including those with no setouts, but not those collected by hauler). This does not represent the average per household with a setout.

<sup>3</sup> Averaged total number of full container equivalents per household setouts with consideration of heavier set-outs from 3 streets with bi-weekly setout schedules

### 3.2 Garbage Stream Composition Results

An estimated 345.62 kg/hh/yr of material placed in the garbage stream, largely consisting of Non-Recyclable Material (29.63%), Avoidable Food Waste (27.34%), and Unavoidable Food Waste (17.76%). However, 10.84% of Oxford County's single family household garbage stream consists of divertible material. See Figure 3.1 for a more detailed breakdown.

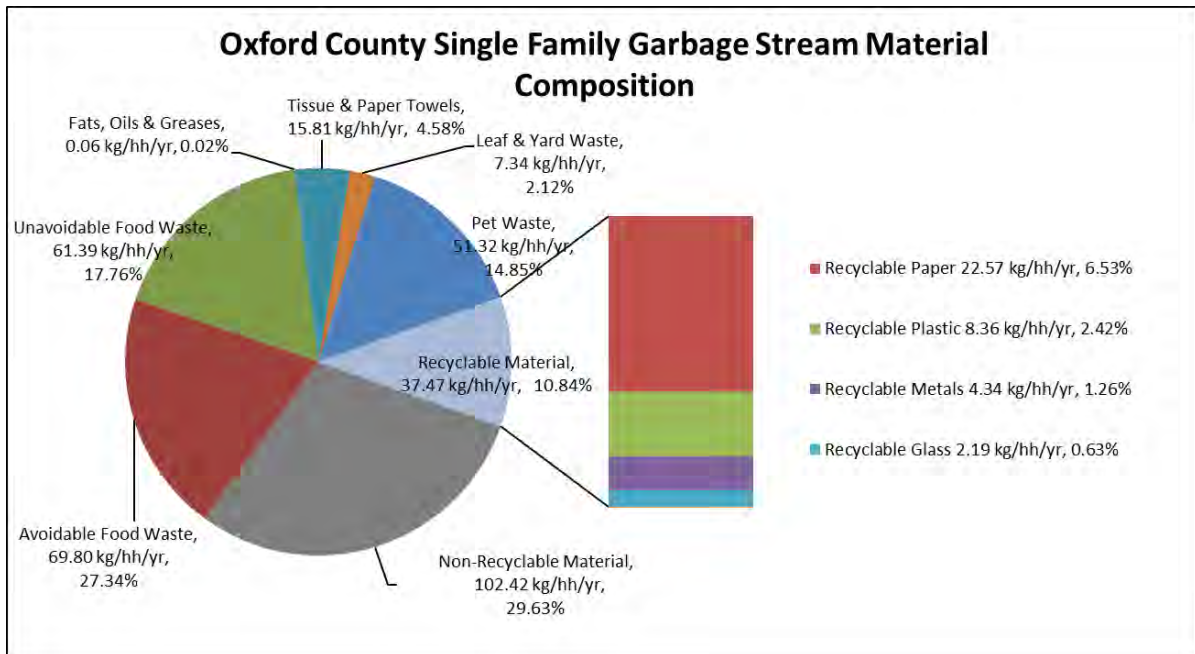


Figure 3.1 Garbage Composition

### 3.3 Garbage Stream Results by Municipality

Table 3.2 shows a general summary of the curbside audit results by municipality. It should be noted that the audit sampling methodology was designed to provide a picture of Oxford County as a whole (i.e., 240 households from 24 sampling areas representing overall mix of housing types and demographics across County). Although samples were collected from each municipality within the County, caution should be exercised when looking at any municipality's results on their own, as the number of households sampled in any given municipality are not necessarily representative of the whole municipality.

Table 3.2 Garbage Stream Results by Municipality

	Woodstock	Zorra	South-West Oxford	Ingersoll	Tilsonburg	Norwich	East Zorra-Travistock	Blandford-Blenheim
Participation Rate	54.17%	30.00%	17.50%	60.00%	59.49%	47.50%	30.00%	80.00%
Generation (kg/HH/wk)	9.16	4.43	2.18	14.76	6.58	4.96	1.86	7.72
Leaf & Yard Waste (%)	1.55%	1.57%	2.01%	1.88%	2.97%	0.34%	2.02%	2.21%
Leaf & Yard Waste (kg/HH/wk)	0.14	0.07	0.04	0.28	0.20	0.02	0.04	0.17
Avoidable Food Waste (%)	22.99%	17.57%	5.45%	20.91%	20.93%	18.43%	14.02%	14.70%
Avoidable Food Waste (kg/HH/wk)	2.11	0.78	0.12	3.09	1.38	0.91	0.26	1.14
Unavoidable Food Waste (%)	19.77%	17.21%	10.25%	11.56%	19.01%	12.36%	36.19%	22.76%
Unavoidable Food Waste (kg/HH/wk)	1.81	0.76	0.22	1.71	1.25	0.61	0.67	1.76
Pet Waste (%)	9.82%	21.74%	21.74%	21.40%	18.60%	3.63%	1.59%	20.18%
Pet Waste (kg/HH/wk)	0.90	0.96	0.47	3.16	1.22	0.18	0.03	1.56
Fats, Oils & Greases (%)	0.00%	0.01%	0.00%	0.03%	0.07%	0.00%	0.00%	0.00%
Fats, Oils & Greases (kg/HH/wk)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Tissue & Paper Towels (%)	4.35%	7.09%	3.09%	3.65%	4.72%	3.81%	6.11%	5.25%
Tissue & Paper Towels (kg/HH/wk)	0.40	0.31	0.07	0.54	0.31	0.19	0.11	0.41
Recyclables (%)	12.00%	6.93%	10.75%	9.22%	12.62%	15.69%	8.90%	7.93%
Recyclables (kg/HH/wk)	1.10	0.31	0.23	1.36	0.83	0.78	0.17	0.61
Other Materials (%)	29.51%	27.89%	46.71%	31.34%	21.08%	45.75%	31.17%	26.97%
Other Materials (kg/HH/wk)	2.70	1.24	1.02	4.63	1.39	2.27	0.58	2.08



### 3.4 Waste Diversion Opportunities

Based on the results gathered, there are potential waste diversion opportunities that should be considered. The following summarizes the materials currently found in the garbage stream, which are either divertible or causing contamination.

#### Source Separated Organics Program

Oxford County currently does not have a source separated organics program to divert organic material from the waste stream. Avoidable food waste (20.20%), unavoidable food waste (17.76%), and paper tissue/towelling (4.58%), comprise a cumulative 42.53% of all garbage generated. Even excluding sometimes non-accepted green bin materials from these categories (e.g., cooking oils, bones etc.), the implementation of a source separated organics program would have an immediate and significant impact on the amount of landfilled material.

#### Increase Diversion of Blue Box Material

Divertible material (material accepted in the existing blue box program) composes 10.84% of all garbage material in Oxford County. The top divertible material found in the garbage stream is mixed recyclable paper. Mixed recyclable paper includes items such as: mixed fine paper, kraft paper, boxboard, moulded pulp, magazines and catalogues, telephone books, non-foil gift wrap, and unsoiled paper plates.

Other notable divertible materials found in the garbage stream are other recyclable plastics and recyclable metal containers, contributing 6.14 kg/hh/yr (1.78%) and 4.34 kg/hh/yr (1.26%), respectively. Other recyclable plastics include #1 PET thermoform, #2 HDPE bottles, jars, and jugs, wide mouth containers, #5 polypropylene tubs and lids, rigid plastics (#3, #4, #6, #7) yogurt tubs, sour cream containers, clamshell containers. Recyclable metal containers commonly found include steel and aluminum food and beverage cans, aluminum foil, empty steel paint cans, and empty aerosol containers. Table 3.2 has a detailed breakdown of divertible material found in the garbage stream.

**Table 3.3 Divertible Material in Garbage**

Material Category	Per Household Per Year kg/hh/yr	Percent of Total Material Generated
Mixed Recyclable Paper	16.44	4.76%
Other Recyclable Plastics	6.14	1.78%
Recyclable Metal Containers	4.34	1.26%
Paper Cups	2.27	0.66%
#1 PET Bottles & Jars	2.23	0.64%
Recyclable Glass Containers	2.19	0.63%
Corrugated Cardboard	1.83	0.53%
Polycoat/Composite Containers	1.49	0.43%
Newsprint	0.54	0.16%
<b>Total</b>	<b>37.47</b>	<b>10.84%</b>

**Alternative Disposal Methods**

Sampling areas noted as rural areas appeared to be houses attached/adjacent to farmland/agricultural property. Sixty households were classified to be rural sampling areas. As previously noted, curbside participation rates for rural household are considerably lower than for urban/village. Many rural households (farms) are known to have private collection service providers collect waste from their properties. Although the audit results have been weighted proportionally between urban/village and rural households, the fact that many rural farm properties do not use the curbside program(s) reduces the County's overall curbside generation rates.

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**Disclaimer**

AET Group Inc. makes no warranty and assumes no liability for the information contained in this report outlining the waste audit study results. These results reflect measurements made over the two-week study period as described in the methodology. As such, waste generation measurements should be considered snapshots and may not reflect accurately conditions across Oxford County over time. These reported generation, capture, diversion, and contamination rates more accurately reflect the quantity of each material generated over the study period and have been extrapolated to calculate annual rates based on 365 days a year as outlined in the calculations.

## Oxford County Single Family Waste Composition Study: Spring 2021

	Municipality:	Zorra	Zorra	Zorra	Zorra	Woodstock	Woodstock	Woodstock	Woodstock	Woodstock
	Sample Area:	35th Line	35th Line	John Street	John Street	Totten Place	Totten Place	Cross Place	Cross Place	King Street
	Waste Stream:	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage
	Community Type:	Rural	Rural	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village
	Date Collected (month/day/year):	05/31/2021	06/07/2021	05/31/2021	06/07/2021	05/31/2021	06/07/2021	05/31/2021	06/04/2021	05/31/2021
	Waste Generation Period (number of days):	7 days	7 days	7 days	7 days	7 days	7 days	7 days	7 days	7 days
	Notes:									
	Week:	Week 1	Week 1	Week 1	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1
Material Category	Accepted? ("R" if accepted in recycling, "O" in organics program, "W" if garbage)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)
<b>1. PAPER</b>										
Newsprint	R	0.00	0.00	0.06	0.00	0.00	0.66	0.43	0.00	0.14
Corrugated Cardboard	R	0.04	0.00	0.06	0.00	0.06	0.00	1.39	0.73	0.39
Mixed Recyclable Paper	R	0.78	0.14	2.36	2.76	1.49	2.02	6.37	11.47	2.34
Non-Recyclable Paper	W	0.18	0.47	0.60	0.97	0.55	0.66	1.39	0.27	0.41
Polycoat/Composite Containers	R	0.00	0.05	0.03	0.31	0.33	0.59	1.03	0.65	2.34
Paper Cups	R	0.02	0.00	0.13	0.21	0.37	0.67	1.83	2.40	0.63
<b>Total Recyclable Paper</b>	<b>TR</b>	<b>0.84</b>	<b>0.19</b>	<b>2.64</b>	<b>3.28</b>	<b>2.25</b>	<b>3.94</b>	<b>11.05</b>	<b>15.25</b>	<b>5.84</b>
<b>Total Non-Recyclable Paper</b>	<b>TND</b>	<b>0.18</b>	<b>0.47</b>	<b>0.60</b>	<b>0.97</b>	<b>0.55</b>	<b>0.66</b>	<b>1.39</b>	<b>0.27</b>	<b>0.41</b>
<b>Total Paper</b>		<b>1.02</b>	<b>0.66</b>	<b>3.24</b>	<b>4.25</b>	<b>2.80</b>	<b>4.60</b>	<b>12.44</b>	<b>15.52</b>	<b>6.25</b>
<b>2. PLASTIC</b>										
#1 PET Bottles & Jars	R	0.02	0.00	0.43	0.37	0.61	0.05	1.55	2.22	0.48
Other Recyclable Plastics	R	0.78	0.18	0.82	1.05	1.09	1.06	3.30	4.86	0.89
Stand-up Pouches	W	0.00	0.00	0.00	0.02	0.00	0.05	0.31	0.18	0.02
Plastic Film or Sheet Film	W	0.29	0.67	2.63	1.62	0.78	1.49	2.56	3.51	1.26
Non-Recyclable Plastic Packaging	W	0.81	0.56	2.13	3.00	1.43	3.07	3.69	8.36	3.94
Non-Recyclable (non-packaging) plastic films	W	0.55	0.40	1.09	1.21	1.20	2.37	2.43	3.25	1.28
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	0.15	1.73	1.59	0.45	7.15	4.65	0.46	1.58	0.27
<b>Total Recyclable Plastic</b>	<b>TR</b>	<b>0.80</b>	<b>0.18</b>	<b>1.25</b>	<b>1.42</b>	<b>1.70</b>	<b>1.11</b>	<b>4.85</b>	<b>7.08</b>	<b>1.37</b>
<b>Total Non-Recyclable Plastic</b>	<b>TND</b>	<b>1.80</b>	<b>3.36</b>	<b>7.44</b>	<b>6.30</b>	<b>10.56</b>	<b>11.63</b>	<b>9.45</b>	<b>16.88</b>	<b>6.77</b>
<b>Total Plastic</b>		<b>2.60</b>	<b>3.54</b>	<b>8.69</b>	<b>7.72</b>	<b>12.26</b>	<b>12.74</b>	<b>14.30</b>	<b>23.96</b>	<b>8.14</b>
<b>3. METALS</b>										
Recyclable Metal Containers	R	0.24	0.06	0.45	0.95	0.44	0.44	1.21	2.59	0.60
Ferrous Metal	W	0.39	0.00	1.06	0.02	0.54	0.06	0.03	0.16	0.07
Non-Ferrous Metal	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixed Metals	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Recyclable Metals</b>	<b>TR</b>	<b>0.24</b>	<b>0.06</b>	<b>0.45</b>	<b>0.95</b>	<b>0.44</b>	<b>0.44</b>	<b>1.21</b>	<b>2.59</b>	<b>0.60</b>
<b>Total Non-Recyclable Metals</b>	<b>TND</b>	<b>0.39</b>	<b>0.00</b>	<b>1.06</b>	<b>0.02</b>	<b>0.54</b>	<b>0.06</b>	<b>0.03</b>	<b>0.16</b>	<b>0.07</b>
<b>Total Metals</b>		<b>0.63</b>	<b>0.06</b>	<b>1.51</b>	<b>0.97</b>	<b>0.98</b>	<b>0.50</b>	<b>1.24</b>	<b>2.75</b>	<b>0.67</b>
<b>4. GLASS</b>										
Recyclable Glass Containers	R	0.00	0.00	0.20	0.41	0.00	0.30	0.94	0.99	0.81
Other Non-Recyclable Glass	W	0.00	0.00	0.03	0.08	0.00	2.30	0.34	0.26	0.16
<b>Total Recyclable Glass</b>	<b>TR</b>	<b>0.00</b>	<b>0.00</b>	<b>0.20</b>	<b>0.41</b>	<b>0.00</b>	<b>0.30</b>	<b>0.94</b>	<b>0.99</b>	<b>0.81</b>
<b>Total Non-Recyclable Glass</b>	<b>TND</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>0.08</b>	<b>0.00</b>	<b>2.30</b>	<b>0.34</b>	<b>0.26</b>	<b>0.16</b>
<b>Total Glass</b>		<b>0.00</b>	<b>0.00</b>	<b>0.23</b>	<b>0.49</b>	<b>0.00</b>	<b>2.60</b>	<b>1.28</b>	<b>1.25</b>	<b>0.97</b>
<b>5. ORGANICS</b>										
Avoidable Food Waste	W	7.15	5.17	9.71	9.64	4.61	23.32	45.49	40.10	26.91
Unavoidable Food Waste	W	4.36	1.33	10.36	16.00	3.45	14.03	19.53	16.31	13.95
Fats, Oils & Greases	W	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Tissue & Paper Towels	W	1.46	1.27	3.49	6.92	2.15	4.13	4.59	6.10	3.92
Leaf & Yard Waste	O	0.33	0.00	0.53	2.10	0.06	0.89	0.28	1.82	0.00
Pet Waste	W	0.06	0.00	32.54	9.05	0.00	4.00	2.41	15.91	1.42
<b>Total Acceptable Organics</b>	<b>TAO</b>	<b>0.33</b>	<b>0.00</b>	<b>0.53</b>	<b>2.10</b>	<b>0.06</b>	<b>0.89</b>	<b>0.28</b>	<b>1.82</b>	<b>0.00</b>
<b>Total Non-Acceptable Organics</b>	<b>TND</b>	<b>13.03</b>	<b>7.77</b>	<b>56.10</b>	<b>41.63</b>	<b>10.21</b>	<b>45.48</b>	<b>72.02</b>	<b>78.42</b>	<b>46.20</b>
<b>Total Organics</b>		<b>13.36</b>	<b>7.77</b>	<b>56.63</b>	<b>43.73</b>	<b>10.27</b>	<b>46.37</b>	<b>72.30</b>	<b>80.24</b>	<b>46.20</b>
<b>6. OTHER</b>										
Concrete	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clean Wood	W	0.00	0.00	0.00	0.11	1.38	0.00	0.05	0.10	3.01
Treated Wood	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00
Rubber	W	0.00	0.00	0.00	0.00	0.54	0.17	0.00	0.17	0.00
Ceramics & Porcelain	W	0.00	0.00	1.89	0.00	0.00	0.09	0.00	1.61	0.00
Textiles	W	0.61	0.66	0.56	0.67	1.04	2.47	1.04	4.37	3.51
Household Hazardous Waste (HHW)	W	0.00	0.00	3.25	0.02	4.72	0.00	0.07	0.00	0.00
Electronics	W	0.00	0.00	0.85	0.06	0.13	0.01	0.00	0.30	0.00
Rubble/Soil	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulky Items	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diapers & Sanitary Waste	W	0.00	5.61	0.99	1.76	3.70	4.23	18.46	27.62	2.99
Other Waste	W	1.84	0.08	4.95	4.40	5.10	12.94	3.77	9.30	8.59
<b>Total Recyclable Other</b>	<b>TR</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total Non-Recyclable Other</b>	<b>TND</b>	<b>2.45</b>	<b>6.35</b>	<b>12.49</b>	<b>7.02</b>	<b>16.61</b>	<b>19.91</b>	<b>23.39</b>	<b>43.62</b>	<b>18.10</b>
<b>Total Other</b>		<b>2.45</b>	<b>6.35</b>	<b>12.49</b>	<b>7.02</b>	<b>16.61</b>	<b>19.91</b>	<b>23.39</b>	<b>43.62</b>	<b>18.10</b>
<b>Overall Total Recyclable</b>	<b>TR</b>	<b>1.88</b>	<b>0.43</b>	<b>4.54</b>	<b>6.06</b>	<b>4.39</b>	<b>5.79</b>	<b>18.05</b>	<b>25.91</b>	<b>8.62</b>
<b>Overall Total Acceptable Organics</b>	<b>TAO</b>	<b>0.33</b>	<b>0.00</b>	<b>0.53</b>	<b>2.10</b>	<b>0.06</b>	<b>0.89</b>	<b>0.28</b>	<b>1.82</b>	<b>0.00</b>
<b>Overall Total Non-Recyclable/Non-Acceptable Materials</b>	<b>TND</b>	<b>17.85</b>	<b>17.95</b>	<b>77.72</b>	<b>56.02</b>	<b>38.47</b>	<b>80.04</b>	<b>106.62</b>	<b>139.61</b>	<b>71.71</b>
<b>Grand Total</b>		<b>20.06</b>	<b>18.38</b>	<b>82.79</b>	<b>64.18</b>	<b>42.92</b>	<b>86.72</b>	<b>124.95</b>	<b>167.34</b>	<b>80.33</b>

## Oxford County Single Family Waste Con

Municipality:	Woodstock	Ingersoll	Ingersoll	Ingersoll	Ingersoll	Ingersoll	Ingersoll	Ingersoll	Ingersoll	Ingersoll
	King Street	Tunis Street	Tunis Street	Laurel Crescent	Laurel Crescent	Carnegie Street	Carnegie Street	Greenwood Rd	Greenwood Rd	Greenwood Rd
	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage
	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village
	06/07/2021	06/01/2021	06/08/2021	06/01/2021	06/08/2021	05/31/2021	06/07/2021	06/01/2021	06/08/2021	06/08/2021
	7 days	7 days	7 days	7 days	7 days	7 days	7 days	7 days	7 days	7 days
	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1
Material Category	Accepted? ("R" if accepted in recycling, "O" in organics program, "W" if garbage)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)
<b>1. PAPER</b>										
Newsprint	R	0.16	0.00	0.00	0.00	0.00	0.06	0.00	0.08	0.00
Corrugated Cardboard	R	0.27	0.17	0.00	0.14	0.54	0.10	0.98	0.14	0.00
Mixed Recyclable Paper	R	2.21	1.78	4.05	3.45	2.21	3.55	2.81	5.95	1.53
Non-Recyclable Paper	W	0.52	0.75	1.55	1.37	0.33	0.54	0.36	0.50	0.63
Polycoat/Composite Containers	R	0.14	0.31	0.42	0.41	0.10	0.23	0.35	0.00	0.10
Paper Cups	R	0.55	0.18	0.09	0.48	0.12	0.18	0.42	0.37	0.23
<b>Total Recyclable Paper</b>	<b>TR</b>	<b>3.33</b>	<b>2.44</b>	<b>4.56</b>	<b>4.48</b>	<b>2.97</b>	<b>4.12</b>	<b>4.56</b>	<b>6.54</b>	<b>1.86</b>
<b>Total Non-Recyclable Paper</b>	<b>TND</b>	<b>0.52</b>	<b>0.75</b>	<b>1.55</b>	<b>1.37</b>	<b>0.33</b>	<b>0.54</b>	<b>0.36</b>	<b>0.50</b>	<b>0.63</b>
<b>Total Paper</b>		<b>3.85</b>	<b>3.19</b>	<b>6.11</b>	<b>5.85</b>	<b>3.30</b>	<b>4.66</b>	<b>4.92</b>	<b>7.04</b>	<b>2.49</b>
<b>2. PLASTIC</b>										
#1 PET Bottles & Jars	R	0.20	0.06	0.76	0.17	0.18	0.08	0.75	0.32	0.08
Other Recyclable Plastics	R	0.66	0.78	1.24	1.96	0.59	0.71	0.72	0.77	0.09
Stand-up Pouches	W	0.00	0.17	0.03	0.39	0.14	0.00	0.01	0.00	0.00
Plastic Film or Sheet Film	W	1.60	1.84	2.14	2.37	1.51	0.74	2.35	1.21	1.29
Non-Recyclable Plastic Packaging	W	2.08	4.31	4.92	6.22	1.61	1.18	2.17	1.42	1.77
Non-Recyclable (non-packaging) plastic films	W	0.75	0.82	1.91	1.48	0.72	0.93	1.00	0.78	0.43
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	1.15	0.26	2.72	2.42	0.36	0.52	0.52	2.71	0.43
<b>Total Recyclable Plastic</b>	<b>TR</b>	<b>0.86</b>	<b>0.84</b>	<b>2.00</b>	<b>2.13</b>	<b>0.77</b>	<b>0.79</b>	<b>1.47</b>	<b>1.09</b>	<b>0.17</b>
<b>Total Non-Recyclable Plastic</b>	<b>TND</b>	<b>5.58</b>	<b>7.40</b>	<b>11.72</b>	<b>12.88</b>	<b>4.34</b>	<b>3.37</b>	<b>6.05</b>	<b>6.12</b>	<b>3.92</b>
<b>Total Plastic</b>		<b>6.44</b>	<b>8.24</b>	<b>13.72</b>	<b>15.01</b>	<b>5.11</b>	<b>4.16</b>	<b>7.52</b>	<b>7.21</b>	<b>4.09</b>
<b>3. METALS</b>										
Recyclable Metal Containers	R	1.18	0.60	2.17	1.47	0.69	0.28	1.68	0.47	0.48
Ferrous Metal	W	0.00	0.16	0.00	0.93	0.00	0.00	0.00	0.40	0.82
Non-Ferrous Metal	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixed Metals	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Recyclable Metals</b>	<b>TR</b>	<b>1.18</b>	<b>0.60</b>	<b>2.17</b>	<b>1.47</b>	<b>0.69</b>	<b>0.28</b>	<b>1.68</b>	<b>0.47</b>	<b>0.48</b>
<b>Total Non-Recyclable Metals</b>	<b>TND</b>	<b>0.00</b>	<b>0.16</b>	<b>0.00</b>	<b>0.93</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.40</b>	<b>0.82</b>
<b>Total Metals</b>		<b>1.18</b>	<b>0.76</b>	<b>2.17</b>	<b>2.40</b>	<b>0.69</b>	<b>0.28</b>	<b>1.68</b>	<b>0.87</b>	<b>1.30</b>
<b>4. GLASS</b>										
Recyclable Glass Containers	R	0.11	0.29	0.43	0.63	0.19	0.28	0.00	4.00	0.00
Other Non-Recyclable Glass	W	0.00	0.00	0.00	0.51	0.00	0.00	0.25	0.00	0.27
<b>Total Recyclable Glass</b>	<b>TR</b>	<b>0.11</b>	<b>0.29</b>	<b>0.43</b>	<b>0.63</b>	<b>0.19</b>	<b>0.28</b>	<b>0.00</b>	<b>4.00</b>	<b>0.00</b>
<b>Total Non-Recyclable Glass</b>	<b>TND</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.51</b>	<b>0.00</b>	<b>0.00</b>	<b>0.25</b>	<b>0.00</b>	<b>0.27</b>
<b>Total Glass</b>		<b>0.11</b>	<b>0.29</b>	<b>0.43</b>	<b>1.14</b>	<b>0.19</b>	<b>0.28</b>	<b>0.25</b>	<b>4.00</b>	<b>0.27</b>
<b>5. ORGANICS</b>										
Avoidable Food Waste	W	15.55	17.61	38.18	18.36	8.18	6.25	8.11	19.18	7.64
Unavoidable Food Waste	W	11.55	9.74	6.45	14.35	7.27	6.42	5.89	15.72	2.43
Fats, Oils & Greases	W	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00
Tissue & Paper Towels	W	0.00	4.90	2.86	0.00	3.10	2.79	3.56	3.41	0.93
Leaf & Yard Waste	O	5.37	0.14	0.45	4.45	4.42	1.52	0.03	0.07	0.01
Pet Waste	W	8.40	16.02	23.53	14.28	4.50	6.22	24.05	5.92	31.88
<b>Total Acceptable Organics</b>	<b>TAO</b>	<b>5.37</b>	<b>0.14</b>	<b>0.45</b>	<b>4.45</b>	<b>4.42</b>	<b>1.52</b>	<b>0.03</b>	<b>0.07</b>	<b>0.01</b>
<b>Total Non-Acceptable Organics</b>	<b>TND</b>	<b>35.50</b>	<b>48.27</b>	<b>71.02</b>	<b>47.19</b>	<b>23.05</b>	<b>21.68</b>	<b>41.61</b>	<b>44.23</b>	<b>42.88</b>
<b>Total Organics</b>		<b>40.87</b>	<b>48.41</b>	<b>71.47</b>	<b>51.64</b>	<b>27.47</b>	<b>23.20</b>	<b>41.64</b>	<b>44.30</b>	<b>42.89</b>
<b>6. OTHER</b>										
Concrete	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clean Wood	W	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.42	0.00
Treated Wood	W	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.10	0.00
Rubber	W	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
Ceramics & Porcelain	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00
Textiles	W	0.10	0.58	3.21	1.90	0.00	0.49	2.10	3.41	5.35
Household Hazardous Waste (HHW)	W	0.00	0.11	0.00	0.01	0.00	0.00	0.10	0.24	0.34
Electronics	W	0.00	0.04	0.09	0.06	0.76	0.00	0.00	1.00	0.10
Rubble/Soil	W	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulky Items	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diapers & Sanitary Waste	W	0.98	16.88	1.93	8.52	6.57	11.49	7.02	6.01	3.37
Other Waste	W	0.99	1.50	4.32	9.12	4.80	0.93	3.18	7.05	4.94
<b>Total Recyclable Other</b>	<b>TR</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total Non-Recyclable Other</b>	<b>TND</b>	<b>2.08</b>	<b>19.55</b>	<b>9.68</b>	<b>20.43</b>	<b>12.13</b>	<b>12.91</b>	<b>12.45</b>	<b>18.70</b>	<b>14.10</b>
<b>Total Other</b>		<b>2.08</b>	<b>19.55</b>	<b>9.68</b>	<b>20.43</b>	<b>12.13</b>	<b>12.91</b>	<b>12.45</b>	<b>18.70</b>	<b>14.10</b>
<b>Overall Total Recyclable</b>	<b>TR</b>	<b>5.48</b>	<b>4.17</b>	<b>9.16</b>	<b>8.71</b>	<b>4.62</b>	<b>5.47</b>	<b>7.71</b>	<b>12.10</b>	<b>2.51</b>
<b>Overall Total Acceptable Organics</b>	<b>TAO</b>	<b>5.37</b>	<b>0.14</b>	<b>0.45</b>	<b>4.45</b>	<b>4.42</b>	<b>1.52</b>	<b>0.03</b>	<b>0.07</b>	<b>0.01</b>
<b>Overall Total Non-Recyclable/Non-Acceptable Materials</b>	<b>TND</b>	<b>43.68</b>	<b>76.13</b>	<b>93.97</b>	<b>83.31</b>	<b>39.85</b>	<b>38.50</b>	<b>60.72</b>	<b>69.95</b>	<b>62.62</b>
<b>Grand Total</b>		<b>54.53</b>	<b>80.44</b>	<b>103.58</b>	<b>96.47</b>	<b>48.89</b>	<b>45.49</b>	<b>68.46</b>	<b>82.12</b>	<b>65.14</b>

## Oxford County Single Family Waste Con

	Municipality:	Woodstock	Woodstock	South-West Oxford	South-West Oxford	Tillsonburg	Tillsonburg	Tillsonburg	Tillsonburg	Tillsonburg
		Three Wood Drive	Three Wood Drive	Daniel Road	Daniel Road	Gibson Drive	Gibson Drive	Lindsay Street	Lindsay Street	King Street
		Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage
		Urban/Village	Urban/Village	Rural	Rural	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village
		Date Collected (month/day/year): Waste Generation Period (number of days):	06/01/2021 7 days	06/08/2021 7 days	06/03/2021 8 days	06/10/2021 8 days	06/01/2021 7 days	06/08/2021 7 days	06/02/2021 7 days	06/09/2021 7 days
Notes:	Week:			8 Day Generation / No material set out by residents	8 Day Generation			#14 Gibson Dr opted-out in week 2. Sample size adjusted to 9		
		Week 1	Week 2	Week 2	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1
Material Category	Accepted? ("R" if accepted in recycling, "O" in organics program, "W" if garbage)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)
<b>1. PAPER</b>										
Newsprint	R	0.36	0.62	0.00	0.00	0.10	0.00	0.00	0.00	0.02
Corrugated Cardboard	R	1.04	0.41	0.00	0.00	0.27	0.33	0.23	0.00	1.12
Mixed Recyclable Paper	R	6.48	6.83	0.00	0.03	1.83	1.08	1.90	3.95	4.48
Non-Recyclable Paper	W	1.04	1.06	0.00	0.00	0.32	0.42	0.59	0.52	0.68
Polycoat/Composite Containers	R	0.85	0.50	0.00	0.00	0.11	0.15	0.24	0.13	0.55
Paper Cups	R	0.97	0.68	0.00	0.02	0.08	0.02	0.17	0.45	2.72
Total Recyclable Paper	TR	9.70	9.04	0.00	0.05	2.39	1.58	2.54	4.53	8.89
Total Non-Recyclable Paper	TND	1.04	1.06	0.00	0.00	0.32	0.42	0.59	0.52	0.68
Total Paper		10.74	10.10	0.00	0.05	2.71	2.00	3.13	5.05	9.57
<b>2. PLASTIC</b>										
#1 PET Bottles & Jars	R	1.04	0.53	0.00	0.02	0.07	0.00	0.26	0.65	0.69
Other Recyclable Plastics	R	3.74	2.18	0.00	0.08	0.45	0.15	1.77	1.75	1.55
Stand-up Pouches	W	0.08	0.24	0.00	0.03	0.00	0.03	0.00	0.00	0.17
Plastic Film or Sheet Film	W	3.66	1.68	0.00	0.19	1.17	1.21	1.50	1.10	2.41
Non-Recyclable Plastic Packaging	W	4.35	2.47	0.00	0.10	1.00	1.61	1.69	2.08	2.14
Non-Recyclable (non-packaging) plastic films	W	2.14	1.52	0.00	0.31	0.79	0.63	1.04	0.63	1.80
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	3.84	1.65	0.00	0.00	0.48	0.00	0.27	0.26	0.49
Total Recyclable Plastic	TR	4.78	2.71	0.00	0.10	0.52	0.15	2.03	2.40	2.24
Total Non-Recyclable Plastic	TND	14.07	7.56	0.00	0.63	3.44	3.48	4.50	4.07	7.01
Total Plastic		18.85	10.27	0.00	0.73	3.96	3.63	6.53	6.47	9.25
<b>3. METALS</b>										
Recyclable Metal Containers	R	1.90	0.72	0.00	0.00	0.43	0.16	0.56	0.80	0.69
Ferrous Metal	W	0.10	0.29	0.00	0.00	0.00	0.01	0.03	0.00	0.75
Non-Ferrous Metal	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mixed Metals	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Recyclable Metals	TR	1.90	0.72	0.00	0.00	0.43	0.16	0.56	0.80	0.69
Total Non-Recyclable Metals	TND	0.10	0.29	0.00	0.00	0.00	0.01	0.03	0.00	0.75
Total Metals		2.00	1.01	0.00	0.00	0.43	0.17	0.59	0.80	1.44
<b>4. GLASS</b>										
Recyclable Glass Containers	R	5.23	0.00	0.00	0.06	0.00	0.00	0.27	0.39	0.70
Other Non-Recyclable Glass	W	0.41	0.78	0.00	0.00	0.00	0.00	0.03	0.00	0.63
Total Recyclable Glass	TR	5.23	0.00	0.00	0.06	0.00	0.00	0.27	0.39	0.70
Total Non-Recyclable Glass	TND	0.41	0.78	0.00	0.00	0.00	0.00	0.03	0.00	0.63
Total Glass		5.64	0.78	0.00	0.06	0.00	0.00	0.30	0.39	1.33
<b>5. ORGANICS</b>										
Avoidable Food Waste	W	22.14	19.61	0.00	0.59	5.14	3.09	9.57	12.10	14.61
Unavoidable Food Waste	W	25.78	19.15	0.00	0.38	11.25	10.64	11.22	9.19	10.56
Fats, Oils & Greases	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
Tissue & Paper Towels	W	7.24	6.20	0.00	0.00	2.71	2.88	3.14	2.27	2.84
Leaf & Yard Waste	O	3.08	0.95	0.00	0.68	7.81	2.51	1.20	3.07	0.20
Pet Waste	W	35.20	6.40	0.00	0.00	0.17	0.42	14.17	12.76	11.52
Total Acceptable Organics	TAO	3.08	0.95	0.00	0.68	7.81	2.51	1.20	3.07	0.20
Total Non-Acceptable Organics	TND	90.36	51.36	0.00	0.97	19.27	17.03	38.10	36.32	39.88
Total Organics		93.44	52.31	0.00	1.65	27.08	19.54	39.30	39.39	40.08
<b>6. OTHER</b>										
Concrete	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clean Wood	W	0.01	0.11	0.00	0.00	0.01	0.04	0.00	0.00	0.00
Treated Wood	W	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Rubber	W	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Ceramics & Porcelain	W	1.10	0.00	0.00	0.00	1.64	0.59	0.00	0.00	0.00
Textiles	W	3.88	3.29	0.00	0.00	1.67	0.65	0.71	0.21	1.95
Household Hazardous Waste (HHW)	W	0.03	0.00	0.00	0.00	0.00	0.00	0.43	0.37	0.10
Electronics	W	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.42	0.00
Rubble/Soil	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
Bulky Items	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diapers & Sanitary Waste	W	5.70	7.31	0.00	4.20	1.46	0.68	0.42	1.78	6.76
Other Waste	W	4.52	3.87	0.00	5.88	0.47	0.93	1.70	1.36	4.62
Total Recyclable Other	TR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Recyclable Other	TND	15.24	14.58	0.00	10.08	5.28	2.99	3.26	4.14	13.80
Total Other		15.24	14.58	0.00	10.08	5.28	2.99	3.26	4.14	13.80
Overall Total Recyclable	TR	21.61	12.47	0.00	0.21	3.34	1.89	5.40	7.32	12.52
Overall Total Acceptable Organics	TAO	3.08	0.95	0.00	0.68	7.81	2.51	1.20	3.07	0.20
Overall Total Non-Recyclable/Non-Acceptable Materials	TND	121.22	75.63	0.00	11.68	28.31	23.93	46.51	45.05	62.75
Grand Total		145.91	89.05	0.00	12.57	39.46	28.33	53.11	55.44	75.47

## Oxford County Single Family Waste Con

		Municipality:	Tillsonburg	South-West Oxford	South-West Oxford	Tillsonburg	Tillsonburg	Woodstock	Woodstock	Woodstock	Woodstock
		Sample Area:	King Street	Hamilton Road	Hamilton Road	Thistle Court	Thistle Court	Iroquois Crescent	Iroquois Crescent	Springbank Avenue	Springbank Avenue
		Waste Stream:	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage
		Community Type	Urban/Village	Rural	Rural	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village	Urban/Village
		Date Collected (month/day/year):	06/09/2021	06/03/2021	06/11/2021	06/02/2021	06/09/2021	06/03/2021	06/10/2021	06/03/2021	06/10/2021
		Waste Generation Period (number of days):	7 days	8 days	8 days	7 days	7 days	7 days	7 days	7 days	7 days
		Notes:		8 Day Generation	8 Day Generation						
		Week:	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1	Week 2
Material Category		Accepted? ("R" if accepted in recycling, "O" in organics program, "W" if garbage)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)
1. PAPER											
Newsprint	R	0.00	0.15	0.00	0.13	0.00	0.16	0.00	0.00	0.20	
Corrugated Cardboard	R	1.17	0.49	0.26	1.36	0.94	0.48	0.02	0.15	0.25	
Mixed Recyclable Paper	R	6.26	0.83	4.88	3.20	3.32	5.50	3.17	7.82	3.27	
Non-Recyclable Paper	W	0.44	0.32	0.69	0.38	0.91	0.59	0.63	0.55	0.93	
Polycoat/Composite Containers	R	0.25	0.08	0.28	0.22	0.50	0.00	0.09	0.11	0.08	
Paper Cups	R	2.02	0.13	0.11	0.35	0.48	0.52	0.03	0.11	0.08	
Total Recyclable Paper	TR	9.70	1.68	5.53	5.26	5.24	6.66	3.31	8.19	3.88	
Total Non-Recyclable Paper	TND	0.44	0.32	0.69	0.38	0.91	0.59	0.63	0.55	0.93	
Total Paper		10.14	2.00	6.22	5.64	6.15	7.25	3.94	8.74	4.81	
2. PLASTIC											
#1 PET Bottles & Jars	R	2.01	0.00	0.18	0.44	0.46	0.44	0.03	0.26	0.52	
Other Recyclable Plastics	R	2.13	0.63	0.85	1.83	1.93	0.76	0.64	1.56	0.54	
Stand-up Pouches	W	0.21	0.00	0.00	0.02	0.25	0.00	0.04	0.00	0.15	
Plastic Film or Sheet Film	W	1.38	0.95	1.51	2.84	0.54	0.72	0.71	2.72	1.58	
Non-Recyclable Plastic Packaging	W	2.32	2.03	2.24	2.71	1.69	1.18	0.65	3.80	2.51	
Non-Recyclable (non-packaging) plastic films	W	2.03	0.72	0.80	1.45	1.10	0.66	0.48	1.62	1.43	
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	2.53	0.49	0.89	0.76	0.26	3.02	0.13	0.92	0.29	
Total Recyclable Plastic	TR	4.14	0.63	1.03	2.27	2.39	1.20	0.67	1.82	1.06	
Total Non-Recyclable Plastic	TND	8.47	4.19	5.44	7.78	3.84	5.58	2.01	9.06	5.96	
Total Plastic		12.61	4.82	6.47	10.05	6.23	6.78	2.68	10.88	7.02	
3. METALS											
Recyclable Metal Containers	R	3.40	0.47	0.90	0.97	0.81	0.60	0.14	0.71	0.99	
Ferrous Metal	W	0.47	0.16	0.32	0.27	0.16	0.11	0.01	0.56	0.00	
Non-Ferrous Metal	W	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
Mixed Metals	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Recyclable Metals	TR	3.40	0.47	0.90	0.97	0.81	0.60	0.14	0.71	0.99	
Total Non-Recyclable Metals	TND	0.47	0.16	0.32	0.27	0.16	0.11	0.05	0.56	0.00	
Total Metals		3.87	0.63	1.22	1.24	0.97	0.71	0.19	1.27	0.99	
4. GLASS											
Recyclable Glass Containers	R	0.20	0.00	0.28	0.00	0.00	0.00	0.00	0.27	0.10	
Other Non-Recyclable Glass	W	0.00	0.51	0.70	0.18	0.00	0.38	0.40	0.21	0.00	
Total Recyclable Glass	TR	0.20	0.00	0.28	0.00	0.00	0.00	0.00	0.27	0.10	
Total Non-Recyclable Glass	TND	0.00	0.51	0.70	0.18	0.00	0.38	0.40	0.21	0.00	
Total Glass		0.20	0.51	0.98	0.18	0.00	0.38	0.40	0.48	0.10	
5. ORGANICS											
Avoidable Food Waste	W	17.26	1.10	3.75	18.63	28.46	1.48	1.72	19.63	32.04	
Unavoidable Food Waste	W	3.56	4.69	5.17	26.99	15.48	12.03	4.91	52.40	24.22	
Fats, Oils & Greases	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tissue & Paper Towels	W	2.96	1.85	1.24	3.81	3.92	1.62	0.98	5.14	5.77	
Leaf & Yard Waste	O	0.00	0.67	0.66	0.63	0.03	0.00	3.45	0.58	0.51	
Pet Waste	W	16.50	12.62	9.09	17.53	23.66	7.17	15.34	4.07	7.63	
Total Acceptable Organics	TAO	0.00	0.67	0.66	0.63	0.03	0.00	3.45	0.58	0.51	
Total Non-Acceptable Organics	TND	40.28	20.26	19.25	66.96	71.52	22.30	22.95	81.24	69.66	
Total Organics		40.28	20.93	19.91	67.59	71.55	22.30	26.40	81.82	70.17	
6. OTHER											
Concrete	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Clean Wood	W	0.02	0.00	0.44	0.35	0.19	0.00	0.02	0.01	0.02	
Treated Wood	W	0.18	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.42	
Rubber	W	0.92	0.01	0.00	0.00	0.00	0.00	0.07	0.00	0.02	
Ceramics & Porcelain	W	0.00	0.03	0.00	0.00	0.00	0.54	0.00	0.00	0.46	
Textiles	W	7.54	0.63	2.64	0.41	2.48	2.72	0.84	0.61	3.34	
Household Hazardous Waste (HHW)	W	0.08	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	
Electronics	W	0.87	0.00	0.26	0.15	0.23	0.00	0.03	0.17	0.90	
Rubble/Soil	W	0.00	0.00	0.00	0.00	1.01	0.00	0.00	0.00	0.00	
Bulky Items	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Diapers & Sanitary Waste	W	2.05	6.33	7.60	1.35	1.63	0.86	0.74	15.81	12.61	
Other Waste	W	8.63	1.58	4.05	0.88	1.44	2.84	2.72	2.08	2.04	
Total Recyclable Other	TR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Non-Recyclable Other	TND	20.29	8.58	15.02	3.14	7.33	6.96	4.42	18.68	19.81	
Total Other		20.29	8.58	15.02	3.14	7.33	6.96	4.42	18.68	19.81	
Overall Total Recyclable	TR	17.44	2.78	7.74	8.50	8.44	8.46	4.12	10.99	6.03	
Overall Total Acceptable Organics	TAO	0.00	0.67	0.66	0.63	0.03	0.00	3.45	0.58	0.51	
Overall Total Non-Recyclable/Non-Acceptable Materials	TND	69.95	34.02	41.42	78.71	83.76	35.92	30.46	110.30	96.36	
Grand Total		87.39	37.47	49.82	87.84	92.23	44.38	38.03	121.87	102.90	

## Oxford County Single Family Waste Con

Municipality:  Sample Area:  Waste Stream:  Community Type:  Date Collected (month/day/year): Waste Generation Period (number of days):  Notes:  Week:		Norwich	Norwich	Norwich	Norwich	Blandford-Blenheim	Blandford-Blenheim	Blandford-Blenheim	Blandford-Blenheim	East Zorra-Travistock
		Clyde Street	Clyde Street	Quaker Street	Quaker Street	River Road	River Road	Oxford Road 8	Oxford Road 8	16th line
		Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage
		Urban/Village	Urban/Village	Rural	Rural	Urban/Village	Urban/Village	Rural	Rural	Rural
		06/03/2021 7 days	06/10/2021 7 days	06/03/2021 7 days	06/10/2021 7 days	06/04/2021 7 days	06/11/2021 7 days	06/04/2021 7 days	06/11/2021 7 days	06/04/2021 7 days
		Week 1	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1	Week 2	Week 1
Material Category	Accepted? ("R" if accepted in recycling, "O" in organics program, "W" if garbage)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)
1. PAPER										
Newsprint	R	0.00	0.04	1.45	0.00	0.07	0.01	0.00	0.00	0.12
Corrugated Cardboard	R	1.11	0.29	0.39	0.00	0.34	0.09	0.24	0.03	0.11
Mixed Recyclable Paper	R	2.45	3.55	4.53	1.65	5.47	3.39	1.81	2.23	0.48
Non-Recyclable Paper	W	0.44	0.53	0.79	0.08	1.00	1.79	0.68	0.55	0.13
Polycoat/Composite Containers	R	0.22	0.26	0.68	0.00	0.17	0.21	0.14	0.37	0.02
Paper Cups	R	0.16	1.04	0.09	0.16	0.19	0.21	0.17	0.11	0.06
Total Recyclable Paper	TR	3.94	5.18	7.14	1.81	6.24	3.91	2.36	2.74	0.79
Total Non-Recyclable Paper	TND	0.44	0.53	0.79	0.08	1.00	1.79	0.68	0.55	0.13
Total Paper		4.38	5.71	7.93	1.89	7.24	5.70	3.04	3.29	0.92
2. PLASTIC										
#1 PET Bottles & Jars	R	0.58	0.77	0.15	0.07	0.54	0.65	0.57	0.47	0.22
Other Recyclable Plastics	R	1.68	2.29	1.59	0.42	1.14	0.96	1.29	1.13	0.26
Stand-up Pouches	W	0.00	0.01	0.01	0.05	0.15	0.27	0.00	0.19	0.00
Plastic Film or Sheet Film	W	0.98	1.51	1.75	0.50	2.41	2.52	1.04	2.18	0.90
Non-Recyclable Plastic Packaging	W	1.40	4.05	2.22	1.83	4.70	2.91	5.41	4.20	0.97
Non-Recyclable (non-packaging) plastic films	W	1.31	1.41	1.45	0.74	1.93	1.12	1.19	1.31	0.74
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	0.19	0.71	1.39	0.12	1.37	2.44	0.79	0.10	0.05
Total Recyclable Plastic	TR	2.26	3.06	1.74	0.49	1.68	1.61	1.86	1.60	0.48
Total Non-Recyclable Plastic	TND	3.88	7.69	6.82	3.24	10.56	9.26	8.43	7.98	2.66
Total Plastic		6.14	10.75	8.56	3.73	12.24	10.87	10.29	9.58	3.14
3. METALS										
Recyclable Metal Containers	R	0.74	1.93	0.89	1.84	0.64	0.63	0.45	0.72	0.44
Ferrous Metal	W	0.00	0.00	1.11	0.00	0.21	0.06	0.58	0.76	0.00
Non-Ferrous Metal	W	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00
Mixed Metals	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Recyclable Metals	TR	0.74	1.93	0.89	1.84	0.64	0.63	0.45	0.72	0.44
Total Non-Recyclable Metals	TND	0.00	0.00	1.11	0.32	0.21	0.06	0.58	0.76	0.00
Total Metals		0.74	1.93	2.00	2.16	0.85	0.69	1.03	1.48	0.44
4. GLASS										
Recyclable Glass Containers	R	0.40	0.34	0.00	0.00	0.00	0.35	0.00	0.92	0.00
Other Non-Recyclable Glass	W	0.00	0.59	0.45	0.00	0.00	0.60	0.15	0.31	0.05
Total Recyclable Glass	TR	0.40	0.34	0.00	0.00	0.00	0.35	0.00	0.92	0.00
Total Non-Recyclable Glass	TND	0.00	0.59	0.45	0.00	0.00	0.60	0.15	0.31	0.05
Total Glass		0.40	0.93	0.45	0.00	0.00	0.95	0.15	1.23	0.05
5. ORGANICS										
Avoidable Food Waste	W	20.20	13.72	3.25	3.81	10.49	18.79	8.74	10.24	2.16
Unavoidable Food Waste	W	1.92	6.76	9.86	4.95	27.98	23.43	11.12	14.84	10.92
Fats, Oils & Greases	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tissue & Paper Towels	W	0.64	2.18	2.57	1.89	7.35	6.27	2.65	2.35	0.96
Leaf & Yard Waste	O	0.11	0.39	0.22	0.00	0.40	4.24	2.70	0.02	0.10
Pet Waste	W	4.12	0.00	3.22	0.00	15.27	5.65	17.20	19.76	0.00
Total Acceptable Organics	TAO	0.11	0.39	0.22	0.00	0.40	4.24	2.70	0.02	0.10
Total Non-Acceptable Organics	TND	26.88	22.66	18.90	10.65	61.09	54.14	39.71	47.19	14.04
Total Organics		26.99	23.05	19.12	10.65	61.49	58.38	42.41	47.21	14.14
6. OTHER										
Concrete	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clean Wood	W	0.00	8.61	0.00	0.30	0.00	0.10	0.00	0.17	0.00
Treated Wood	W	0.00	0.08	0.73	0.00	0.00	0.00	0.11	0.00	0.00
Rubber	W	0.00	1.13	3.70	0.00	0.00	0.02	0.00	0.01	0.00
Ceramics & Porcelain	W	0.00	0.32	0.19	0.84	0.00	0.83	0.17	0.00	0.24
Textiles	W	0.41	1.04	0.28	0.35	1.30	1.24	0.08	5.13	0.97
Household Hazardous Waste (HHW)	W	0.00	0.03	0.11	0.00	0.23	0.01	0.02	0.09	0.00
Electronics	W	0.01	0.11	0.14	0.00	0.12	0.00	0.15	0.00	0.00
Rubble/Soil	W	0.44	0.00	4.08	0.00	0.00	0.00	0.00	0.00	0.00
Bulky Items	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diapers & Sanitary Waste	W	1.57	0.00	6.81	15.67	2.10	1.44	2.42	3.43	0.35
Other Waste	W	1.54	8.68	3.84	1.41	1.64	2.49	2.82	11.38	0.39
Total Recyclable Other	TR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Recyclable Other	TND	3.97	20.00	19.88	18.57	5.39	6.13	5.77	20.21	1.95
Total Other		3.97	20.00	19.88	18.57	5.39	6.13	5.77	20.21	1.95
Overall Total Recyclable	TR	7.34	10.51	9.77	4.14	8.56	6.50	4.67	5.98	1.71
Overall Total Acceptable Organics	TAO	0.11	0.39	0.22	0.00	0.40	4.24	2.70	0.02	0.10
Overall Total Non-Recyclable/Non-Acceptable Materials	TND	35.17	51.47	47.95	32.86	78.25	71.98	55.32	77.00	18.83
Grand Total		42.62	62.37	57.94	37.00	87.21	82.72	62.69	83.00	20.64



## Oxford County Single Family Waste Con

	Municipality:	East Zorra-Travistock	East Zorra-Travistock	East Zorra-Travistock
	Sample Area:	16th line	Liebler Street	Liebler Street
	Waste Stream:	Garbage	Garbage	Garbage
	Community Type:	Rural	Urban/Village	Urban/Village
	Date Collected (month/day/year):	06/11/2021	06/04/2021	06/11/2021
	Waste Generation Period (number of days):	7 days	7 days	7 days
	Notes:			
Week:		Week 2	Week 1	Week 2
Material Category	Accepted? ("R" if accepted in recycling, "O" in organics program, "W" if garbage)	Weight (kg)	Weight (kg)	Weight (kg)
<b>1. PAPER</b>				
Newsprint	R	0.00	0.00	0.00
Corrugated Cardboard	R	0.00	0.52	0.00
Mixed Recyclable Paper	R	0.55	0.96	0.59
Non-Recyclable Paper	W	0.08	0.69	0.34
Polycoat/Composite Containers	R	0.00	0.00	0.00
Paper Cups	R	0.31	0.20	0.02
<b>Total Recyclable Paper</b>	<b>TR</b>	<b>0.86</b>	<b>1.68</b>	<b>0.61</b>
<b>Total Non-Recyclable Paper</b>	<b>TND</b>	<b>0.08</b>	<b>0.69</b>	<b>0.34</b>
<b>Total Paper</b>		<b>0.94</b>	<b>2.37</b>	<b>0.95</b>
<b>2. PLASTIC</b>				
#1 PET Bottles & Jars	R	0.04	0.16	0.00
Other Recyclable Plastics	R	0.22	0.50	0.35
Stand-up Pouches	W	0.07	0.01	0.08
Plastic Film or Sheet Film	W	0.83	1.00	0.88
Non-Recyclable Plastic Packaging	W	0.59	2.76	2.82
Non-Recyclable (non-packaging) plastic films	W	0.33	1.36	0.44
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	0.08	0.54	2.04
<b>Total Recyclable Plastic</b>	<b>TR</b>	<b>0.26</b>	<b>0.66</b>	<b>0.35</b>
<b>Total Non-Recyclable Plastic</b>	<b>TND</b>	<b>1.90</b>	<b>5.67</b>	<b>6.26</b>
<b>Total Plastic</b>		<b>2.16</b>	<b>6.33</b>	<b>6.61</b>
<b>3. METALS</b>				
Recyclable Metal Containers	R	0.38	0.57	0.21
Ferrous Metal	W	0.00	0.03	0.00
Non-Ferrous Metal	W	0.00	0.07	0.00
Mixed Metals	W	0.00	0.00	0.00
<b>Total Recyclable Metals</b>	<b>TR</b>	<b>0.38</b>	<b>0.57</b>	<b>0.21</b>
<b>Total Non-Recyclable Metals</b>	<b>TND</b>	<b>0.00</b>	<b>0.10</b>	<b>0.00</b>
<b>Total Metals</b>		<b>0.38</b>	<b>0.67</b>	<b>0.21</b>
<b>4. GLASS</b>				
Recyclable Glass Containers	R	0.00	0.72	0.00
Other Non-Recyclable Glass	W	0.00	0.00	0.00
<b>Total Recyclable Glass</b>	<b>TR</b>	<b>0.00</b>	<b>0.72</b>	<b>0.00</b>
<b>Total Non-Recyclable Glass</b>	<b>TND</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total Glass</b>		<b>0.00</b>	<b>0.72</b>	<b>0.00</b>
<b>5. ORGANICS</b>				
Avoidable Food Waste	W	2.34	6.90	8.51
Unavoidable Food Waste	W	2.27	8.68	8.91
Fats, Oils & Greases	W	0.00	0.00	0.00
Tissue & Paper Towels	W	1.07	3.63	2.13
Leaf & Yard Waste	O	0.00	1.79	8.13
Pet Waste	W	0.00	8.95	0.00
<b>Total Acceptable Organics</b>	<b>TAO</b>	<b>0.00</b>	<b>1.79</b>	<b>8.13</b>
<b>Total Non-Acceptable Organics</b>	<b>TND</b>	<b>5.68</b>	<b>28.16</b>	<b>19.55</b>
<b>Total Organics</b>		<b>5.68</b>	<b>29.95</b>	<b>27.68</b>
<b>6. OTHER</b>				
Concrete	W	0.00	0.00	0.00
Clean Wood	W	0.00	0.00	0.00
Treated Wood	W	0.00	0.00	0.00
Rubber	W	0.00	0.12	0.00
Ceramics & Porcelain	W	0.06	0.07	0.00
Textiles	W	0.21	0.53	2.07
Household Hazardous Waste (HHW)	W	0.01	1.65	0.00
Electronics	W	0.00	0.00	0.00
Rubble/Soil	W	0.00	0.00	0.00
Bulky Items	W	0.00	0.00	0.00
Diapers & Sanitary Waste	W	1.68	19.17	4.99
Other Waste	W	0.51	1.80	1.53
<b>Total Recyclable Other</b>	<b>TR</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Total Non-Recyclable Other</b>	<b>TND</b>	<b>2.47</b>	<b>23.34</b>	<b>8.59</b>
<b>Total Other</b>		<b>2.47</b>	<b>23.34</b>	<b>8.59</b>
<b>Overall Total Recyclable</b>	<b>TR</b>	<b>1.50</b>	<b>3.63</b>	<b>1.17</b>
<b>Overall Total Acceptable Organics</b>	<b>TAO</b>	<b>0.00</b>	<b>1.79</b>	<b>8.13</b>
<b>Overall Total Non-Recyclable/Non-Acceptable Materials</b>	<b>TND</b>	<b>10.13</b>	<b>57.96</b>	<b>34.74</b>
<b>Grand Total</b>		<b>11.63</b>	<b>63.38</b>	<b>44.04</b>

## Oxford County Single Family Waste Con

Municipality: Sample Area: Waste Stream: Community Type: Date Collected (month/day/year): Waste Generation Period (number of days):		Total	Total	Total	Total	Total	Total	Total	Total
		Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage	Garbage
		Urban/Village	Urban/Village	Urban/Village	Urban/Village	Rural	Rural	Rural	Rural
Notes:		Total 14 Day Disposed	Total 7 Day Disposed	Total Disposed/hh/wk	Total Disposed/hh/yr	Total 14 Day Disposed	Total 7 Day Disposed	Total Disposed/hh/wk	Total Disposed/hh/yr
Week:									
Material Category	Accepted? ("R" if accepted in recycling, "O" in organics program, "W" if garbage)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)	Weight (kg)
<b>1. PAPER</b>									
Newsprint	R	3.30	1.65	0.01	0.48	1.70	0.85	0.01	0.74
Corrugated Cardboard	R	15.09	7.55	0.04	2.19	1.47	0.73	0.01	0.64
Mixed Recyclable Paper	R	131.85	65.93	0.37	19.15	17.19	8.60	0.14	7.47
Non-Recyclable Paper	W	25.25	12.63	0.07	3.67	3.84	1.92	0.03	1.67
Polycoat/Composite Containers	R	11.98	5.99	0.03	1.74	1.58	0.79	0.01	0.68
Paper Cups	R	19.36	9.68	0.05	2.81	1.15	0.57	0.01	0.50
Total Recyclable Paper	TR	181.58	90.79	0.51	26.37	23.08	11.54	0.19	10.03
Total Non-Recyclable Paper	TND	25.25	12.63	0.07	3.67	3.84	1.92	0.03	1.67
Total Paper		206.83	103.42	0.58	30.04	26.93	13.46	0.22	11.70
<b>2. PLASTIC</b>									
#1 PET Bottles & Jars	R	18.41	9.21	0.05	2.67	1.72	0.86	0.01	0.75
Other Recyclable Plastics	R	48.49	24.25	0.14	7.04	7.24	3.62	0.06	3.14
Stand-up Pouches	W	3.03	1.52	0.01	0.44	0.35	0.17	0.00	0.15
Plastic Film or Sheet Film	W	61.42	30.71	0.17	8.92	10.48	5.24	0.09	4.55
Non-Recyclable Plastic Packaging	W	100.14	50.07	0.28	14.54	20.41	10.21	0.17	8.87
Non-Recyclable (non-packaging) plastic films	W	46.54	23.27	0.13	6.76	8.31	4.16	0.07	3.61
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	49.43	24.72	0.14	7.18	5.62	2.81	0.05	2.44
Total Recyclable Plastic	TR	66.90	33.45	0.19	9.72	8.95	4.48	0.07	3.89
Total Non-Recyclable Plastic	TND	260.56	130.28	0.73	37.84	45.17	22.58	0.38	19.63
Total Plastic		327.46	163.73	0.91	47.56	54.12	27.06	0.45	23.52
<b>3. METALS</b>									
Recyclable Metal Containers	R	33.30	16.65	0.09	4.84	6.22	3.11	0.05	2.70
Ferrous Metal	W	7.31	3.66	0.02	1.06	3.26	1.63	0.03	1.42
Non-Ferrous Metal	W	0.11	0.06	0.00	0.02	0.32	0.16	0.00	0.14
Mixed Metals	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Recyclable Metals	TR	33.30	16.65	0.09	4.84	6.22	3.11	0.05	2.70
Total Non-Recyclable Metals	TND	7.42	3.71	0.02	1.08	3.58	1.79	0.03	1.56
Total Metals		40.72	20.36	0.11	5.91	9.80	4.90	0.08	4.26
<b>4. GLASS</b>									
Recyclable Glass Containers	R	18.55	9.28	0.05	2.69	1.22	0.61	0.01	0.53
Other Non-Recyclable Glass	W	8.41	4.21	0.02	1.22	2.02	1.01	0.02	0.88
Total Recyclable Glass	TR	18.55	9.28	0.05	2.69	1.22	0.61	0.01	0.53
Total Non-Recyclable Glass	TND	8.41	4.21	0.02	1.22	2.02	1.01	0.02	0.88
Total Glass		26.96	13.48	0.08	3.92	3.24	1.62	0.03	1.41
<b>5. ORGANICS</b>									
Avoidable Food Waste	W	582.93	291.47	1.62	84.67	47.62	23.81	0.40	20.69
Unavoidable Food Waste	W	488.51	244.26	1.36	70.95	68.61	34.31	0.57	29.81
Fats, Oils & Greases	W	0.57	0.29	0.00	0.08	0.00	0.00	0.00	0.00
Tissue & Paper Towels	W	126.53	63.26	0.35	18.38	16.92	8.46	0.14	7.35
Leaf & Yard Waste	O	61.22	30.61	0.17	8.89	5.13	2.56	0.04	2.23
Pet Waste	W	406.66	203.33	1.13	59.07	59.24	29.62	0.49	25.74
Total Acceptable Organics	TAO	61.22	30.61	0.17	8.89	5.13	2.56	0.04	2.23
Total Non-Acceptable Organics	TND	1,605.20	802.60	4.47	233.15	192.39	96.20	1.60	83.60
Total Organics		1,666.42	833.21	4.64	242.04	197.52	98.76	1.65	85.83
<b>6. OTHER</b>									
Concrete	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Clean Wood	W	14.63	7.32	0.04	2.12	0.86	0.43	0.01	0.37
Treated Wood	W	2.11	1.06	0.01	0.31	0.84	0.42	0.01	0.37
Rubber	W	3.33	1.67	0.01	0.48	3.72	1.86	0.03	1.62
Ceramics & Porcelain	W	9.61	4.81	0.03	1.40	1.53	0.76	0.01	0.66
Textiles	W	67.69	33.85	0.19	9.83	11.15	5.58	0.09	4.85
Household Hazardous Waste (HHW)	W	11.79	5.90	0.03	1.71	0.26	0.13	0.00	0.11
Electronics	W	6.50	3.25	0.02	0.94	0.52	0.26	0.00	0.22
Rubble/Soil	W	2.24	1.12	0.01	0.33	4.08	2.04	0.03	1.77
Bulky Items	W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diapers & Sanitary Waste	W	210.95	105.48	0.59	30.64	51.83	25.92	0.43	22.52
Other Waste	W	141.66	70.83	0.39	20.58	32.34	16.17	0.27	14.05
Total Recyclable Other	TR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Recyclable Other	TND	470.51	235.26	1.31	68.34	107.12	53.56	0.89	46.55
Total Other		470.51	235.26	1.31	68.34	107.12	53.56	0.89	46.55
Overall Total Recyclable	TR	300.33	150.17	0.84	43.62	39.47	19.73	0.33	17.15
Overall Total Acceptable Organics	TAO	61.22	30.61	0.17	8.89	5.13	2.56	0.04	2.23
Overall Total Non-Recyclable/Non-Acceptable Materials	TND	2,377.35	1,188.67	6.62	345.30	354.12	177.06	2.95	153.87
Grand Total		2,738.90	1,369.45	7.63	397.81	398.72	199.36	3.32	173.25

## Oxford County Single Family Waste Con

		Municipality:	Total	Total	Total
		Sample Area:			
		Waste Stream:	Garbage	Garbage	Garbage
		Community Type	Weighted Average	Weighted Average	Weighted Average
		Date Collected (month/day/year):			
		Waste Generation Period (number of days):			
		Notes:	Total Disposed/hh/wk	Total Disposed/hh/yr	Percent of Disposed
Week:					
Material Category		Accepted? ("R" if accepted in recycling, "O" in organics program, "W" if garbage)	Weight (kg)	Weight (kg)	%
1. PAPER					
Newsprint	R	0.01	0.54	0.16%	
Corrugated Cardboard	R	0.04	1.83	0.53%	
Mixed Recyclable Paper	R	0.32	16.44	4.76%	
Non-Recyclable Paper	W	0.06	3.20	0.93%	
Polycoat/Composite Containers	R	0.03	1.49	0.43%	
Paper Cups	R	0.04	2.27	0.66%	
Total Recyclable Paper	TR	0.43	22.57	6.53%	
Total Non-Recyclable Paper	TND	0.06	3.20	0.93%	
Total Paper		0.49	25.78	7.46%	
2. PLASTIC					
#1 PET Bottles & Jars	R	0.04	2.23	0.64%	
Other Recyclable Plastics	R	0.12	6.14	1.78%	
Stand-up Pouches	W	0.01	0.37	0.11%	
Plastic Film or Sheet Film	W	0.15	7.91	2.29%	
Non-Recyclable Plastic Packaging	W	0.25	13.23	3.83%	
Non-Recyclable (non-packaging) plastic films	W	0.12	6.03	1.74%	
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	0.12	6.08	1.76%	
Total Recyclable Plastic	TR	0.16	8.36	2.42%	
Total Non-Recyclable Plastic	TND	0.64	33.61	9.72%	
Total Plastic		0.80	41.97	12.14%	
3. METALS					
Recyclable Metal Containers	R	0.08	4.34	1.26%	
Ferrous Metal	W	0.02	1.14	0.33%	
Non-Ferrous Metal	W	0.00	0.04	0.01%	
Mixed Metals	W	0.00	0.00	0.00%	
Total Recyclable Metals	TR	0.08	4.34	1.26%	
Total Non-Recyclable Metals	TND	0.02	1.19	0.34%	
Total Metals		0.11	5.53	1.60%	
4. GLASS					
Recyclable Glass Containers	R	0.04	2.19	0.63%	
Other Non-Recyclable Glass	W	0.02	1.14	0.33%	
Total Recyclable Glass	TR	0.04	2.19	0.63%	
Total Non-Recyclable Glass	TND	0.02	1.14	0.33%	
Total Glass		0.06	3.33	0.96%	
5. ORGANICS					
Avoidable Food Waste	W	1.34	69.80	20.20%	
Unavoidable Food Waste	W	1.18	61.39	17.76%	
Fats, Oils & Greases	W	0.00	0.06	0.02%	
Tissue & Paper Towels	W	0.30	15.81	4.58%	
Leaf & Yard Waste	O	0.14	7.34	2.12%	
Pet Waste	W	0.98	51.32	14.85%	
Total Acceptable Organics	TAO	0.14	7.34	2.12%	
Total Non-Acceptable Organics	TND	3.80	198.39	57.40%	
Total Organics		3.95	205.73	59.53%	
6. OTHER					
Concrete	W	0.00	0.00	0.00%	
Clean Wood	W	0.03	1.72	0.50%	
Treated Wood	W	0.01	0.32	0.09%	
Rubber	W	0.01	0.75	0.22%	
Ceramics & Porcelain	W	0.02	1.23	0.35%	
Textiles	W	0.17	8.67	2.51%	
Household Hazardous Waste (HHW)	W	0.03	1.34	0.39%	
Electronics	W	0.01	0.78	0.22%	
Rubble/Soil	W	0.01	0.66	0.19%	
Bulky Items	W	0.00	0.00	0.00%	
Diapers & Sanitary Waste	W	0.55	28.75	8.32%	
Other Waste	W	0.37	19.06	5.51%	
Total Recyclable Other	TR	0.00	0.00	0.00%	
Total Non-Recyclable Other	TND	1.21	63.27	18.31%	
Total Other		1.21	63.27	18.31%	
Overall Total Recyclable	TR	0.72	37.47	10.84%	
Overall Total Acceptable Organics	TAO	0.14	7.34	2.12%	
Overall Total Non-Recyclable/Non-Acceptable Materials	TND	5.77	300.80	87.03%	
Grand Total		6.63	345.62	100.00%	

Oxford County Single Family Residential Curbside Waste Composition Study Sort Categories/Descriptions		
Material Category	Recyclable/ Waste/Organics	Description / Examples
<b>1. PAPER</b>		
Newsprint	R	All daily and weekly newspapers. This includes flyers and inserts.
Corrugated Cardboard	R	Any colour of fluted Corrugated Cardboard.
Mixed Recyclable Paper	R	Mixed fine paper, Kraft paper, boxboard, molded pulp, magazines & catalogues, telephone books, non-foil gift wrap, clean unsoiled paper plates.
Non-Recyclable Paper	W	Laminated paper packaging, composite paper/plastic materials, foil wrapping paper, wax lined paper cups
Polycoat/Composite Containers	R	Gable top containers, aseptic containers, spiral wound containers, NO paper cups.
Paper Cups	R	Coffee cups, cold beverage cups, no wax lined cups
<b>2. PLASTIC</b>		
#1 PET Bottles & Jars	R	#1 PET bottles and jars.
Other Recyclable Plastics	R	Recyclable plastics including #1 PET thermoform, #2 HDPE bottles, jars and jugs, wide mouth containers, #5 PP tubs and lids, rigid plastics (#3, #4, #6, #7) yogurt tubs, sour cream containers, clamshell containers, foam trays. #6 PS meat trays, takeout containers, Styrofoam egg cartons. No bulky Styrofoam allowed.
Stand-up Pouches	W	Stand up pouches used for packaging of food and non-food goods.
Plastic Film or Sheet Film	W	Film plastics, shopping bags, milk bags, bread bags.
Non-Recyclable Plastic Packaging	W	Bulky styrofoam, mesh bags, toothpaste tubes, laminated films, etc.
Non-Recyclable (non-packaging) plastic films	W	Garbage bags, Ziplock bags, other sandwich bags
Miscellaneous plastic (rigid plastics, pipes, vinyl siding)	W	Durable plastic products including large rigid plastics, piping, siding, VHS tapes, DVD's, CD's, plastic cutlery, etc.
<b>3. METALS</b>		
Recyclable Metal Containers	R	Steel and aluminum food and beverage cans, aluminum foil, empty steel paint cans, empty aerosol containers.
Ferrous Metal	W	Ferrous metals that contain iron. This includes steel, stainless steel, cast iron, wrought iron.
Non-Ferrous Metal	W	Non-ferrous metals including aluminum, copper, brass, nickel, tin, lead and zinc.
Mixed Metals	W	Mixed metals (i.e., plumbing, electrical, flashing, siding, furniture)
<b>4. GLASS</b>		
Recyclable Glass Containers	R	Glass jars and bottles
Other Non-Recyclable Glass	W	Other glass materials including dishware, decor, lightbulbs, etc.
<b>5. ORGANICS</b>		
Avoidable Food Waste	W	Edible food that is disposed of, including fruits and vegetables, meat and dairy products, baked goods and other leftovers.
Unavoidable Food Waste	W	Inedible food waste, including shells, bones, husks, peels, etc.
Fats, Oils & Greases	W	Cooking oil, fat, grease.
Tissue & Paper Towels	W	Tissue, paper towel
Leaf & Yard Waste	O	Standard natural yard litter, Sticks, Branches, Leaves, Rakings etc.
Pet Waste	W	Any type of pet waste material (litter, feces, bedding etc.).
<b>6. OTHER</b>		
Concrete	W	Concrete, stone.
Clean Wood	W	Clean, non-treated wood.
Treated Wood	W	Treated wood included pressure treated, painted wood, composite wood materials (particle board, MDF, laminate flooring, etc.)
Rubber	W	Miscellaneous rubber.
Ceramics & Porcelain	W	All ceramic and porcelain materials such as dishware, tiles, toilets, etc.
Textiles	W	Clothing or materials of similar nature.
Household Hazardous Waste (HHW)	W	Paint, solvents, lubricants, oil, CFL lightbulbs, batteries, etc.
Electronics	W	Computers, computer accessories, TV's, fax machines, cell phones, rechargeable batteries, video and audio devices.
Rubble/Soil	W	Crushed stone, earth, etc.
Bulky Items	W	Large items including furniture and appliances.
Diapers & Sanitary Waste	W	Any diaper or sanitary products.
Other Waste	W	Small appliances including coffee makers, irons, kettles, blenders, meat pads, wax, furnace filters, fines, etc.

**Will Jaques**

---

**Subject:** RE: Proposed Telecommunications Tower intake; Xplornet Site ON8341 - Braemar North

**From:** Jeff Mckay  
**Sent:** June 28, 2022 2:41 PM  
**To:** Will Jaques <wjaques@ezt.ca>;  
**Cc:** ic.spectrumswodo-spectrebdsoo.ic@canada.ca; Tanya O Leary  
**Subject:** Proposed Telecommunications Tower intake; Xplornet Site ON8341 - Braemar North

The Municipality of East Zorra-Tavistock  
 90 Loveys Street Box 100 Hickson, ON N0J 1L0  
 Attn: Will Jaques, MPA Corporate Services Manager/ Clerk  
 E: [wjaques@ezt.ca](mailto:wjaques@ezt.ca) T: 519.462.2697

**Re: Proposed Telecommunications Tower intake; Xplornet Site ON8331 – Comber East**

Dear Will and/or whom it may concern,

Please find attached the following documents in respect of Xplornet's proposal to erect a new telecom tower in your Land Use Authority ("LUA") jurisdiction.

- ☒ **Proponent's Justification Report**
- ☒ **Owners' Authorization**
- ☒ **Site Plan**
- ☒ **Draft Statement of Concurrence**

**Overview:**

Like all areas of the province, your community is experiencing explosive demand for wireless services. As people rely more on wireless devices such as smartphones, tablets and laptops for business and personal use, network improvements are required to ensure high quality voice and data services are available.

The prosperity of Canadians depends on telecommunications services to do their jobs, conduct business, learn new skills and build communities. These services play an important role in the lives of all Canadians, enabling them to participate in today's digital economy and to access health care, education, government, and public safety services. General information relating to antenna systems is available on ISED Canada's Spectrum Management and Telecommunications website at:

[http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h\\_sf01702.html](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf01702.html)

**Protocol:**

- ☐ ***This is a direct Clerk/CAO to Council intake stream under the authority of Parliament. We request that the Clerk's Office circulate the attached documents as an information/notice submission to members of Council at its earliest convenience. It is important that Council be prepared to address and/or engage us on any public concerns that may be routed directly to Council members from public respondents.***

We have confirmed that The Township of East Zorra-Tavistock does not have a locally enacted land use protocol for Wireless Telecommunications Facilities. Accordingly, we are required to comply with procedures described in ISED Canada's default protocol CPC-2-0-03 Issue 5i (July 2014) "Radiocommunication and Broadcasting Antenna Systems" for the municipal and public consultation process. One of the key concerns of this process

is that such installations are deployed in a manner that considers the surroundings in exercising the mandate to deploy necessary infrastructure. We note that the approval of this Site and its design is under the exclusive jurisdiction of the Government of Canada through Innovation, Science and Economic Development Canada ("ISED"). The LUA has no jurisdiction in this matter other than as a commenting body to ISED and the Applicant.

**Other Municipal Considerations:**

Because all telecommunications facilities are federally regulated, provincial legislation such as the Ontario Building Code (the OBC) and the Planning Act (including zoning by-laws, provincial conservation authority and site plan control) do not apply to these facilities. This means that, Clause 2.1.2.1(1)(c) of the OBC, which requires a designated structure to be designed in accordance with Part 4 of the OBC, is not applicable to the proposed tower. Rather, the tower structure design falls strictly under ISED's jurisdiction and the federal standards of CSA S37-01, not the OBC.

**Timing:**

The default protocol establishes reasonable, good faith effort timelines, which should not exceed 120 days from commencement.

**CPC Public Notification:**

Under CPC Section 4.2.1.1 and 4.2.1.2, we are to provide formal notice allowing 30 days for comments to any private property owners within three times the tower height (45m X 3 + tower width adjustment = 136m). The anticipated siting of this tower results in a total of 0 (zero) properties within this radius, not owned beneficially by the landlord. Accordingly, we are exempt from Public Notification and the proponent has therefore fulfilled its stipulated duties under the CPC.

**Concluding Land Use Authority Consultation:**

As we are exempt from the consultation requirements, we would ask for a copy of the minutes of either a Council meeting indicating Land Use Authority (LUA) concurrence, or a letter or report from a duly authorized Official, on Township of East Zorra-Tavistock letterhead noting the resolution.

We would propose that we agree on the form this will take ahead of time, and if you can confirm whether or not there is a delegation of authority for telecom installations, we have supplied a draft **Statement of Concurrence** for your prior review.

☐ ***We would also ask that they engage in exchange of these comments with us as received.***

We look forward to working with you and the various parties of interest in promoting and securing a positive resolution to this important infrastructure project.

Yours Truly,



**Jeff McKay CFP CIM FMA FCSI MBA**

**Contractor: Telecom Site Acquisition**

Cell: (519) 566-9267

eMail: [jeff.mckay@varcon.ca](mailto:jeff.mckay@varcon.ca)

**varcon**



\*Date

**Xplornet Communications Inc.**

300 Lockhart Mill Road

Woodstock, New Brunswick E7M 6B5

Jeff McKay, Telecom Site Acquisition Contractor

519-566-9267 | jeff.mckay@varcon.ca

**Re: Proposed Telecommunications Tower; Xplornet Site ON8341 – Braemar North**

---

Dear Mr. McKay,

Further to receipt of Xplornet Communications Inc.'s request for a Statement of Concurrence from the Township respecting the above telecommunications tower proposed to be constructed on the land known as 496313 10th Line, Tavistock, NOB2R0; PIN: 002370012, the Council of The Township of East Zorra-Tavistock passed the following resolution at their \*Date meeting:

Moved by \_

Seconded by \_

*That The Corporation of the Township of East Zorra-Tavistock concurs that the proposal by Xplornet Communications Inc. to erect a wireless communication tower on lands known as 496313 10th Line, Tavistock, NOB2R0 and owned by WALTERS, WENDY LEE; WALTERS, JAMES LLOYD, is fully compliant in the Township's opinion, with the requirements of ISED Canada's default protocol CPC-2-0-03 Issue 5 (July 2014) "Radiocommunication and Broadcasting Antenna Systems", and all obligations for the municipal and public consultation requirements have been satisfactorily met. **CARRIED.***

Accordingly, this motion serves as The Township of East Zorra-Tavistock's formal **Statement of Concurrence** concerning the proposed wireless communication installation located at 496313 10th Line, Tavistock, NOB2R0; PIN: 002370012.

**NOTE:** As Staff are not familiar with the particulars of the ISED protocol and the various legislative requirements involved in this process, it cannot recommend to Council whether or not the Township should be confirming that the municipal and public consultation requirements have been met. However, if Council is supportive of the project, Staff would recommend the following wording for a resolution:

***"That the Corporation of the Township of East Zorra-Tavistock supports the proposal by Xplornet Communications Inc. to erect a wireless communication tower on lands known as 496313 10th Line, Tavistock, NOB2R0 and owned by WALTERS, WENDY LEE; WALTERS, JAMES LLOYD;***

***And that the Township is advised by Jeff McKay from Varcon in his correspondence of June 28, 2022, that the proposal is fully compliant with the requirements of ISED Canada's default protocol CPC-2-0-03 Issue 5 (July 2014) "Radiocommunication and Broadcasting Antenna Systems", and all obligations for the municipal and public consultation requirements have been satisfactorily met."***



## **ON8341 – Braemar North**

### **Site Selection/Justification Report – Wireless Communications Site**

**Prepared for: Municipality of East Zorra-Tavistock**

Will Jaques, MPA, Corporate Services Manager/Clerk

T. 519.462.2697 x7825 E. [wjaques@ezt.ca](mailto:wjaques@ezt.ca)

**Proposed: 45m HDSS Self Support Narrow Lattice Tower**

Coordinates: 43.231834°, -80.851342°

PIN: 002370012 ARN: 323801004002800

496313 10th Line, Tavistock, NOB2R0

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## Introduction

Like all areas of the province, your community is experiencing an explosive demand for wireless services. As people rely more on wireless devices such as smartphones, tablets and laptops for business and personal use, network improvements are required to ensure high quality voice and data services are available.

This document outlines the site selection process in accordance with the requirements of Innovation, Science and Economic Development Canada's (ISED) Spectrum Management and Telecommunications Policy, CPC-2-0-03, Issue 5 (CPC) updated Jul. 15, 2014 and provides a description of the system associated with the proposed wireless communication installation on property owned by **WALTERS, WENDY LEE; WALTERS, JAMES LLOYD**, known municipally as:

**496313 10th Line, Tavistock, NOB2R0**

**Pin No.: 002370012 ARN: 323801004002800**

**Legal Description: E1/2 LT 22 CON 9 EAST ZORRA; SE1/4 LT 23 CON 9 EAST ZORRA; EAST ZORRA-TAVISTOCK, The Land Titles Division for Oxford Land Registry Office (No. 41)**

*The prosperity of Canadians depends on telecommunications services to do their jobs, conduct business, learn new skills and build communities. These services play an important role in the lives of all Canadians, enabling them to participate in today's digital economy and to access health care, education, government, and public safety services.*

*As a Tier 2 Carrier, Xplornet's mandate under the government Gaps 1.0 initiative is to fill coverage gaps; most often left between existing Tier 1 carriers' facilities where mandatory tower sharing has often resulted in multiple carrier options at these locations, and, with the reduced coverage radius of new 5G technology, insufficient coverage and options between them.*

## Background and Coverage Requirement

A wireless telecommunications facility is a puzzle piece in a very complex radio network, whether that site is situated in an urban, suburban or rural setting. Customer demand and sound engineering principles direct where sites are required to be located. As people rely more on wireless devices such as smartphones, tablets and laptops for business and personal use, network improvements are required to ensure high quality voice and data services are available. For a wireless network to be reliable, an operator must provide "seamless" coverage so that gaps in the network are avoided. Gaps create dropped calls and overall poor service to customers. Xplornet is committed and mandated by its license to ensure the best coverage and service to the public and private sectors.

The proposed site at *the above-noted location* will achieve the necessary engineering coverage objectives for our network. The location will also have the ability to provide much relied upon communication services in the area such as EMS Response, Police and Fire; improved wireless signal quality for area residents, those traveling along the major roads, as well as providing local subscribers with Xplornet's 4G/5G wireless network coverage and capacity for products and services such as iPhones, smartphones, tablets and wireless internet through surrounding area.

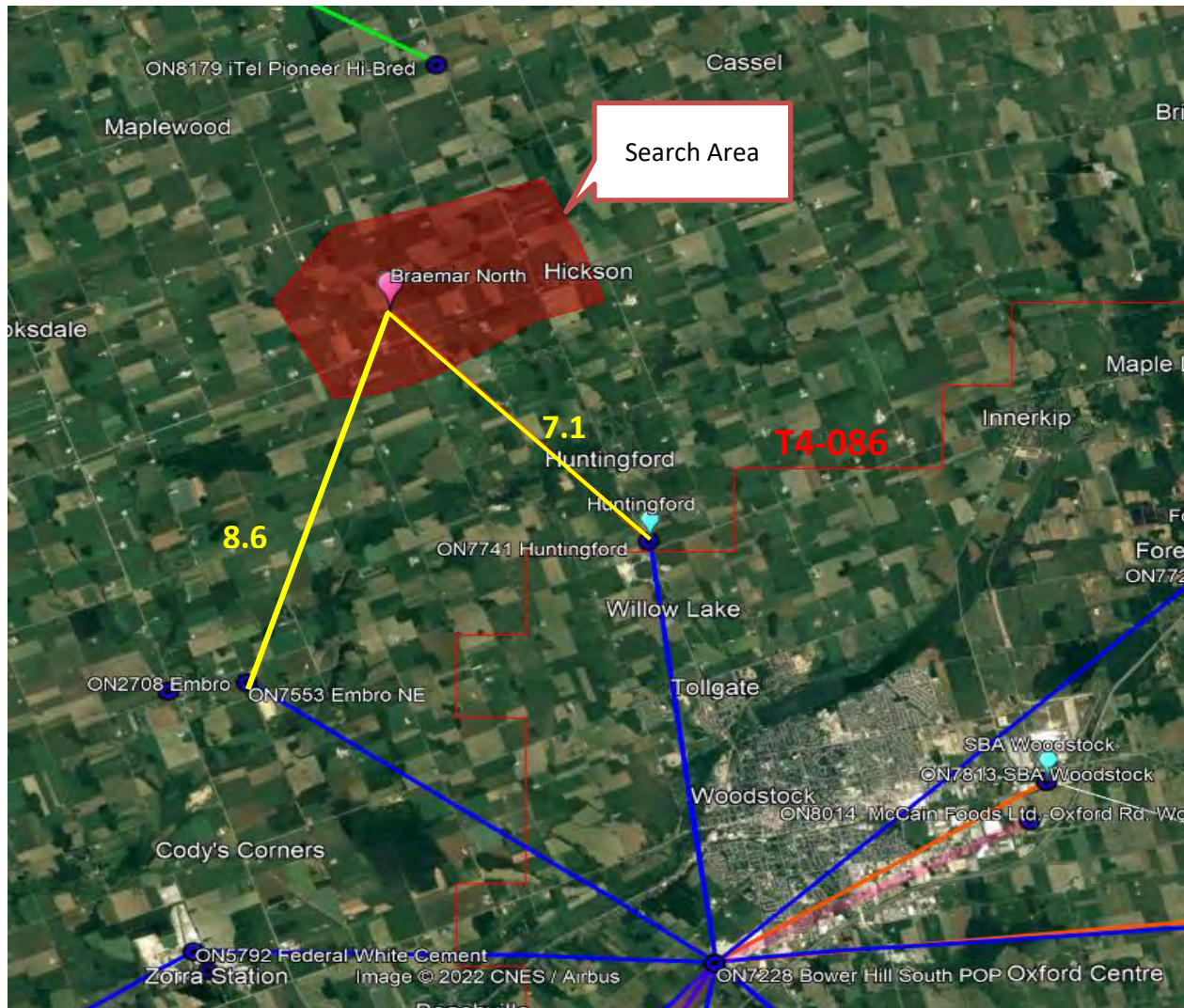
## Rationale for New Telecommunication Infrastructure

In identifying a potential new tower location and design, Xplornet examined the surrounding area, assessed the visibility of the structure and considered possible host sitings. Xplornet evaluated the best location for a new facility in compliance with protocol-established procedures, based on the following criteria:

## Coverage Objectives

Site Searching Requirements	
Build Type(Existing,Rebuild,New Build)	GF, new build 45m tower
Objective	Build 45m tower 1), Add 3 x Ericsson Air3228 antenna @45m facing 60-180-300deg 2), Add 18G-IP20A4+0-3ft BH @41m/135deg facing Huntingford
Target Site(s)	Bower Hill South POP
Searching Radius	as SR provided
Searching requirements (Directions to avoid, target community, spectrum tier boundary)	Keep enough distance from existing sites (Huntingford and Embro NE)
Special Requirements	Search for POP at the location as well

## Candidate Search Area



Above depicts the technical search area.



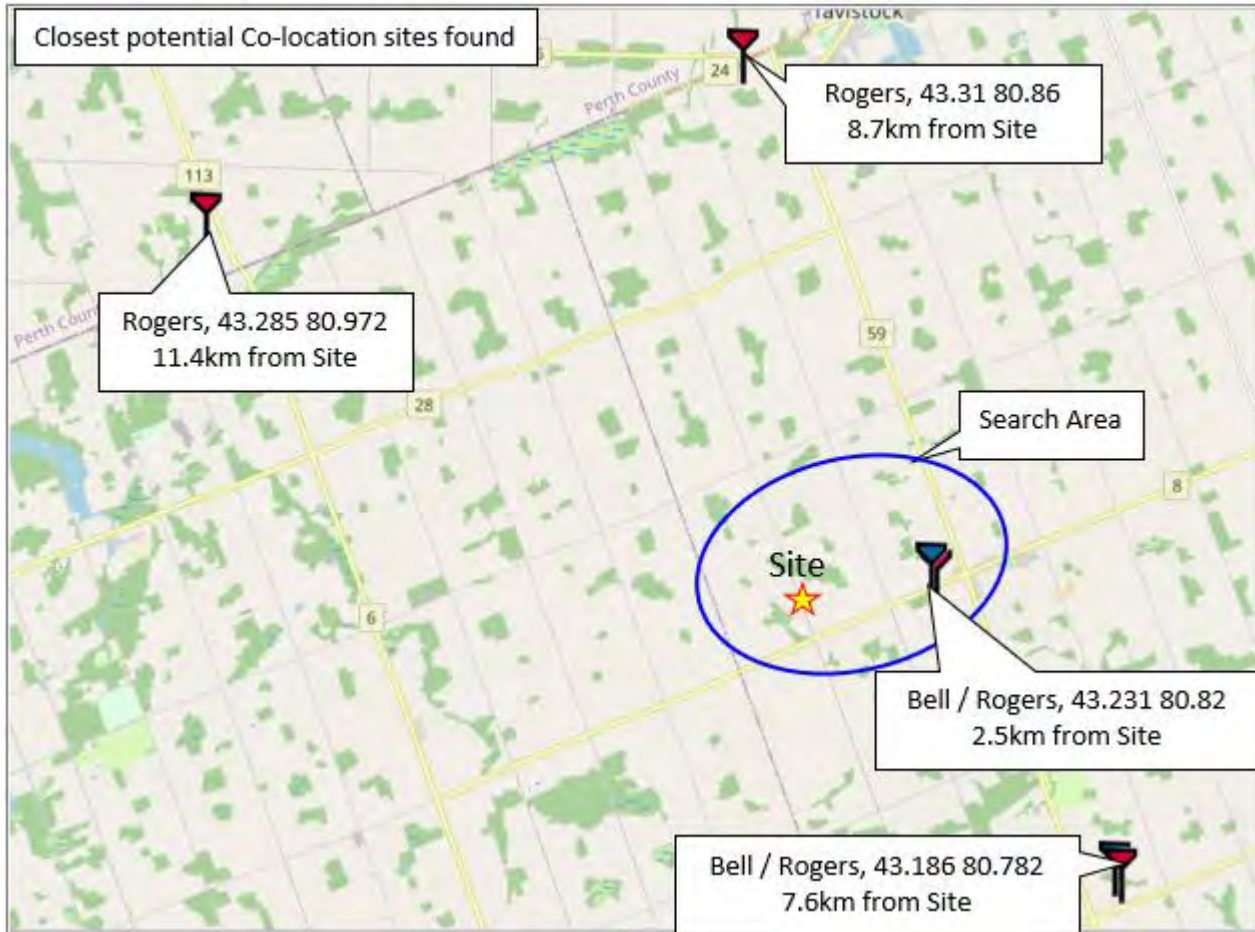
## Candidate Search Process

Before building a new antenna-supporting structure the proponent is required to first consider:

- Sharing an existing antenna system, modifying or replacing a structure, if necessary.
- Locate, analyze, and attempt to use any feasible existing infrastructure such as high-rise rooftops, water towers, etc.

### Co-location opportunities on existing area carrier structures

- The following local coverage map depicts the local tower inventory of all carriers within a 9km radius of the Search Centre.



There are no existing antenna structures in the area which may be utilized for co-location within two kilometers of the proposed site and a new structure must be erected to address the coverage deficiency. In particular, the closest existing tower is 2.5km from the proposed site, too far to satisfy coverage requirements.

### Evaluation of Other Local Existing Structures / Rooftops

After disqualifying any colocation opportunities, the proponent next evaluates existing structures that are located within the specific geographical area offering the required height and that may be available to support new equipment or to use for co-location.

### Existing Structure Notes:

During the site selection process for this proposed, Xplornet determined that no other existing infrastructure opportunity was available in our target area that was suitable for our network.

### Consideration of municipal surplus properties

Within the Proponent search area, the Proponent sought to identify any surplus municipal properties that may have been satisfactory to meet the coverage objectives.

- ☒ No suitable municipal properties were found
- ☐ Suitable municipal properties were identified:

### Aeronautical Issues

The proposed site is 12.70km west from CNR2 - Innerkip Aerodrome and 21.52km south of the CYSA – Stratford Municipal Airport. Accordingly, it is well outside of any airport zoning or safety restrictions.





## Private Candidate Review Process

Having identified an initial, qualified candidate from the preceding exercise, secondary candidates are then evaluated. Private candidates are reviewed starting with the center of the search area and moving out in a radial pattern until a large enough commercial, industrial or agricultural property option was available that could mitigate public concern to the greatest extent possible within the technical coverage limitations.

The following picture depicts the available real estate opportunities which were assessed for candidate suitability and technical sufficiency to meet the Proponent's coverage requirements.

Each of the private candidate sites were disqualified/qualified for the following reasons:

- |                                      |   |
|--------------------------------------|---|
| 1. Walters                           | Passed RF, fully existing access to proposed site; selected |
| 2. Ross                              | RF Disqualified due to lower elevation                      |
| 3. Darling International Canada Inc. | Landlord Unresponsive                                       |



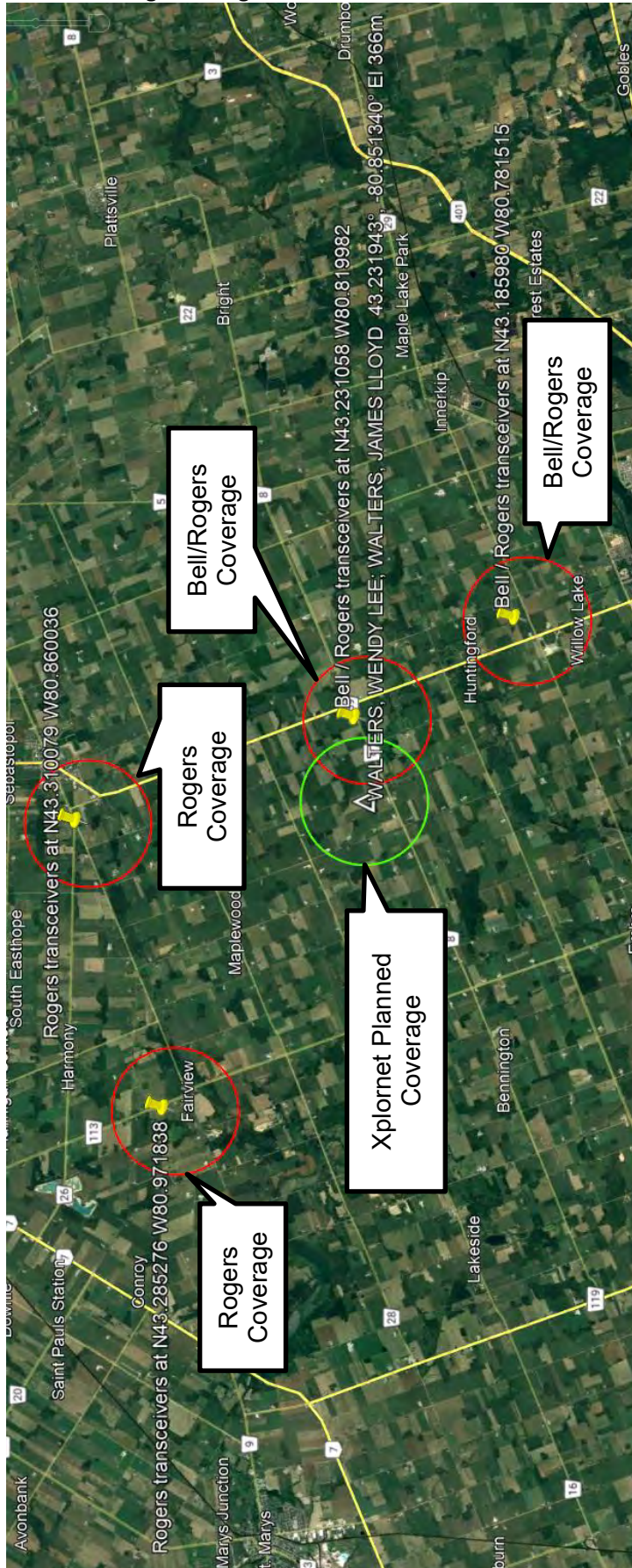
Proposed Facility Location and Site Sketch





### Coverage Map

The coverage map below depicts the general “4G/5G Good Coverage Radius” for the selected candidate, together with other local neighbouring carrier facilities.

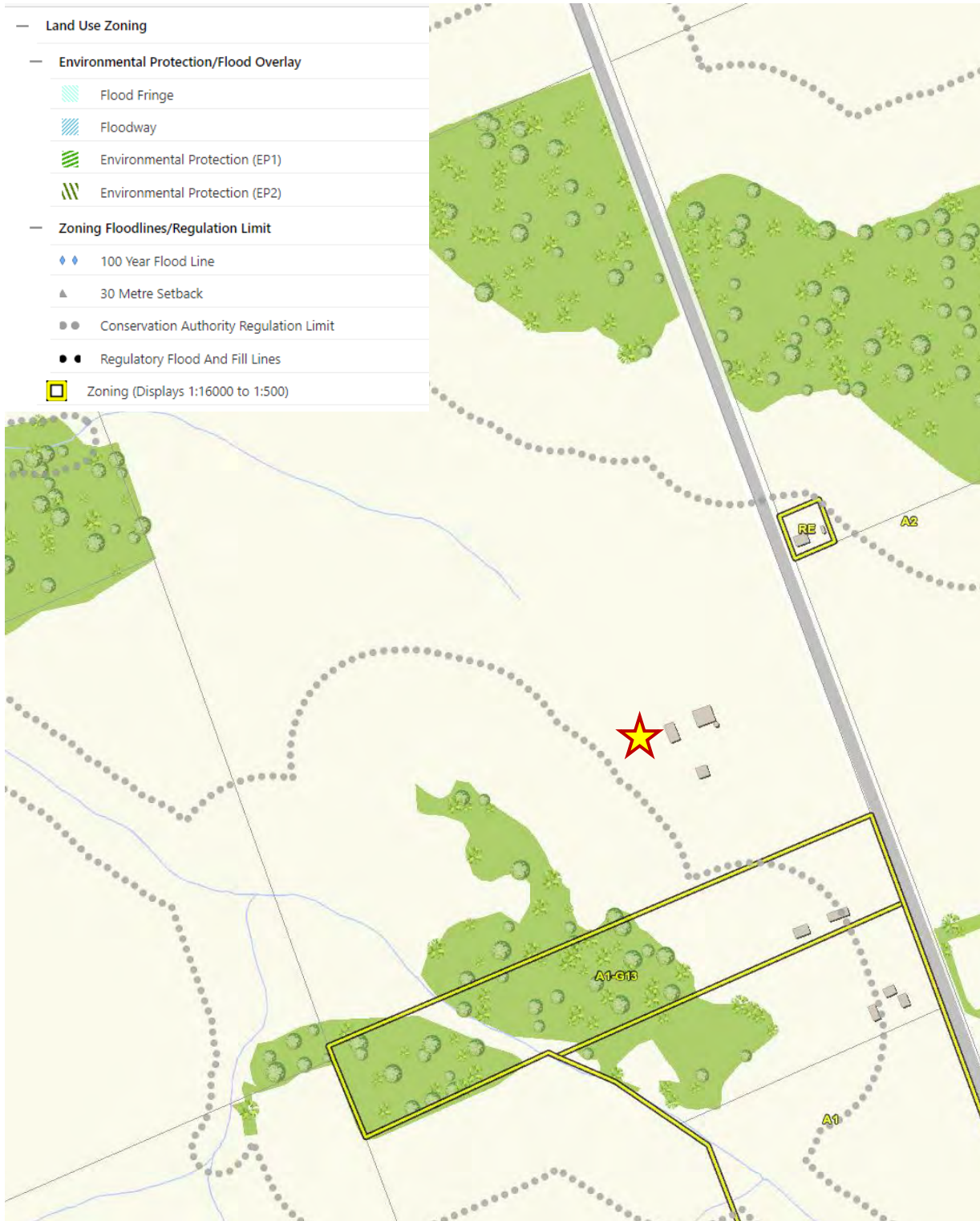




Residential Use Setback Map



## Compliance with Zoning Intent



Although federal undertakings are exempt from the application of zoning bylaws, sitings consider the intent of locating on non-residential properties with optimal setbacks from residential use. This siting is located on Rural zoned land, outside of Environmental protection, and abutted by Rural, Rural commercial, EP, and some Rural Residential in the South-West corner.

**The site candidate fully complies in all respects with good siting design tenets and guidelines, and in particular, all optimum design criteria of the CPC.**



Local Properties in Notification Radius (0 properties identified)



There are no (0) private-owned properties outside of the landlord property that fall within CPC's stipulated notification radius of three times tower height ( $45\text{m} \times 3 + \text{tower width adjustment} = 136\text{m}$ ). Accordingly, direct (mailing) notice of the proposal not required to be circulated to any property owners, as it is in the LUA and federally defined (CPC) impact radius.

The facility **is not** located within 3x tower height from a neighboring municipality. Accordingly, notice of the proposal is not required to be circulated to additional LUAs.



Site Plan



There is no change to grade or drainage, other than to establish the required slope away from structures within the ISED – regulated facility under National Building Code standards.

Rev No.	Description	Date	Rev By:
	XCI Site Layout	04/27/22	
 XPLORNET		Title	
		Site Layout top view Xplornet	
ON8341 – Braemar North    Tower Centre: 43.231943° -80.851340°			
Drawn By:	Drawing No:		
I.M.	496313 10th Line, Tavistock, ON N0B2R0		



# Xplornet Standard Site Layout

## For new Tower Build

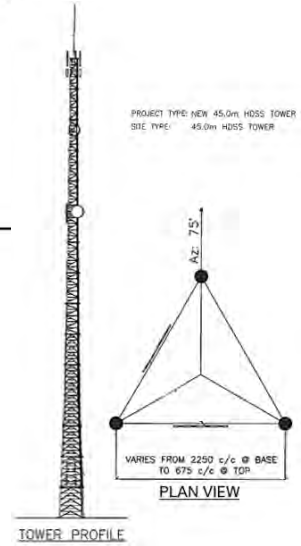
**Compound/lease area 15m x 15m**



Example Xplornet 45m Self support tower

### NOTES

- (N1) PROPOSED STEEL SELF SUPPORT TOWER WITH LIGHTNING PROTECTION SYSTEM. PAINT COLOUR SUBJECT TO NAV CANADA REQUIREMENTS. ANTENNA NUMBER AND LOCATIONS TO BE DETERMINED. FOUNDATION DESIGN PENDING SOIL REPORT.
- (N2) PROPOSED PREFABRICATED GALVANIZED STEEL WALK-IN RADIO EQUIPMENT CABINET ON CAST IN PLACE REINFORCED CONCRETE SLAB.
- (N3) HYDRO CONNECTION AND ROUTING TO BE DETERMINED BY QUALIFIED PERSONNEL IN CONSULTATION WITH LOCAL AUTHORITY.
- (N4) REMOVE EXISTING TOPSOIL. PROOF ROLL SUBGRADE AND PLACE 300 mm GRANULAR A ACROSS COMPOUND AREA. FINISHED GRAVEL SURFACE TO BE MIN. 300 mm ABOVE EXISTING GRADE AND SLOPED AWAY FROM PROPOSED STRUCTURES AT MIN. 1 % ON ALL SIDES TO PROVIDE ADEQUATE DRAINAGE.
- (N5) PROPOSED 1.8 m HIGH CHAIN LINK SECURITY FENCE TOPPED WITH BARBED WIRE SURROUNDING COMPOUND.

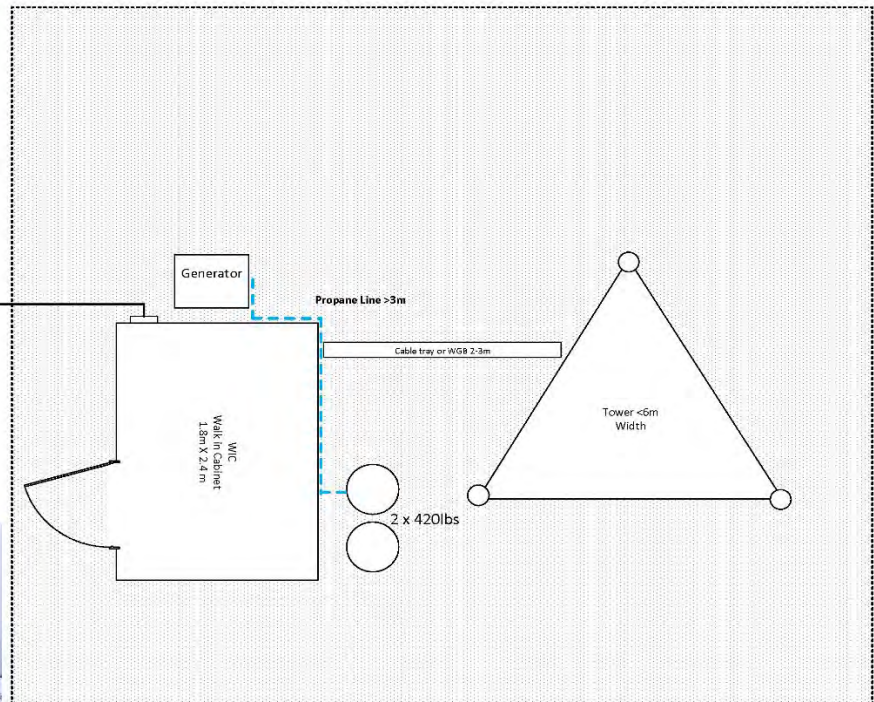



**Compacted Gravel 7.5mX 6M**

Power & Fiber Optic underground from Utility pole



Example Xplornet WIC and Generator



Rev No. 2	Description XCI Site Layout	Date March 26 2021	Rev By:
 XPLORNET		Title Site Layout top view Xplornet	
DRAWINGS ARE PROPERTY OF XPLORNET COMMUNICATIONS AND CAN NOT BE COPIED WITHOUT AUTHORIZATION			
Drawn By: P.R	Drawing No:		



## Protocol

The Township of East Zorra-Tavistock does not have a locally enacted policy for Telecommunication Facilities and Structures. Accordingly, the proponent's duties fall within the stipulated requirements of ISED Canada's default protocol CPC-2-0-03 Issue 5 (July 2014) "Radiocommunication and Broadcasting Antenna Systems". One of the key concerns of this process is that such installations are deployed in a manner that considers the surroundings in exercising the mandate to deploy necessary infrastructure.

CPC Protocol i5: <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08777.html>

The protocol outlines the land use consultation process relevant to evaluating federally mandated wireless communication installations. In accordance with Tweed's Protocol, proponents must provide a notification package to the local public (including nearby residences, community gathering areas, public institutions, schools, etc.), neighbouring land-use authorities, businesses, and property owners, etc. located within a radius of 3-times tower height measured from the tower base or the outside perimeter of the supporting structure, whichever is greater. **In this case, there are zero (0) other public properties outside of the beneficial ownership of the Landlord that fall within the 3x tower height radius, requiring direct notice.**

### Other Municipal Considerations

*As we are regulated under federal policy, provincial legislation such as the Ontario Building Code and the Planning Act including zoning by-laws and site plan control do not apply to these facilities.*

### Additional Public Consultation Obligations

Pursuant to CPC section 4.2, since the tower exceeds 30m in height, the Proponent is required to place a Public Notice in the local community newspaper, inviting comments about this proposal from the public, and participation in the stipulated Public Comment and Reply process.

## Compliance with Environmental Obligations

### Canadian Impact Assessment Act

We note that pending updates to the ISED (formerly Industry Canada) CPC 2-0-03 protocol have not yet been formalized, and such updates will recognize that, among other changes, the CEAA(2012) was repealed in 2019 and superseded by the Impact Assessment Act (S.C. 2019, c. 28, s. 1).

ISED requires that the installation and modification of antenna systems be done in a manner that complies with appropriate environmental legislation. This includes the Canadian Impact Assessment Act, 2019 (CIAA 2019), where the antenna system is incidental to a physical activity or project designated under CIAA 2019 or is located on federal lands.

In addition, notices under ISED's default public consultation process require written confirmation of the project's status under CIAA 2019 (e.g., whether it is incidental to a designated project or, if not, whether it is on federal lands).

- **Xplornet Communications Inc. attests** that the radio antenna system as proposed for this site is not located within federal lands or forms part of or incidental to projects that are designated by the *Regulations Designating Physical Activities* or otherwise designated by the Minister of the Environment as requiring an environmental assessment. **In accordance with the Canadian Impact Assessment Act, 2019, this installation is excluded from assessment.** For additional detailed information, please consult the Canadian Impact Assessment Act. <https://laws.justice.gc.ca/eng/acts/l-2.75/index.html>

### Species at Risk and Migratory Birds Convention Act

In addition to CIAA requirements, proponents are responsible to ensure that antenna systems are installed and operated in a manner that respects the local environment and that comply with other statutory requirements, such as those under the *...Migratory Birds Convention Act, 1994*, and the *Species at Risk Act*, as applicable.

ISED CPC-2-0-03 Section 4.2 requires that

"...the steps the proponent took to ensure compliance with the general requirements of this document including the *Impact Assessment Act* (CIAA), *Safety Code 6*, etc." be addressed by the proponent in Public Reply Comments relating to this matter.

### Steps taken to address concerns

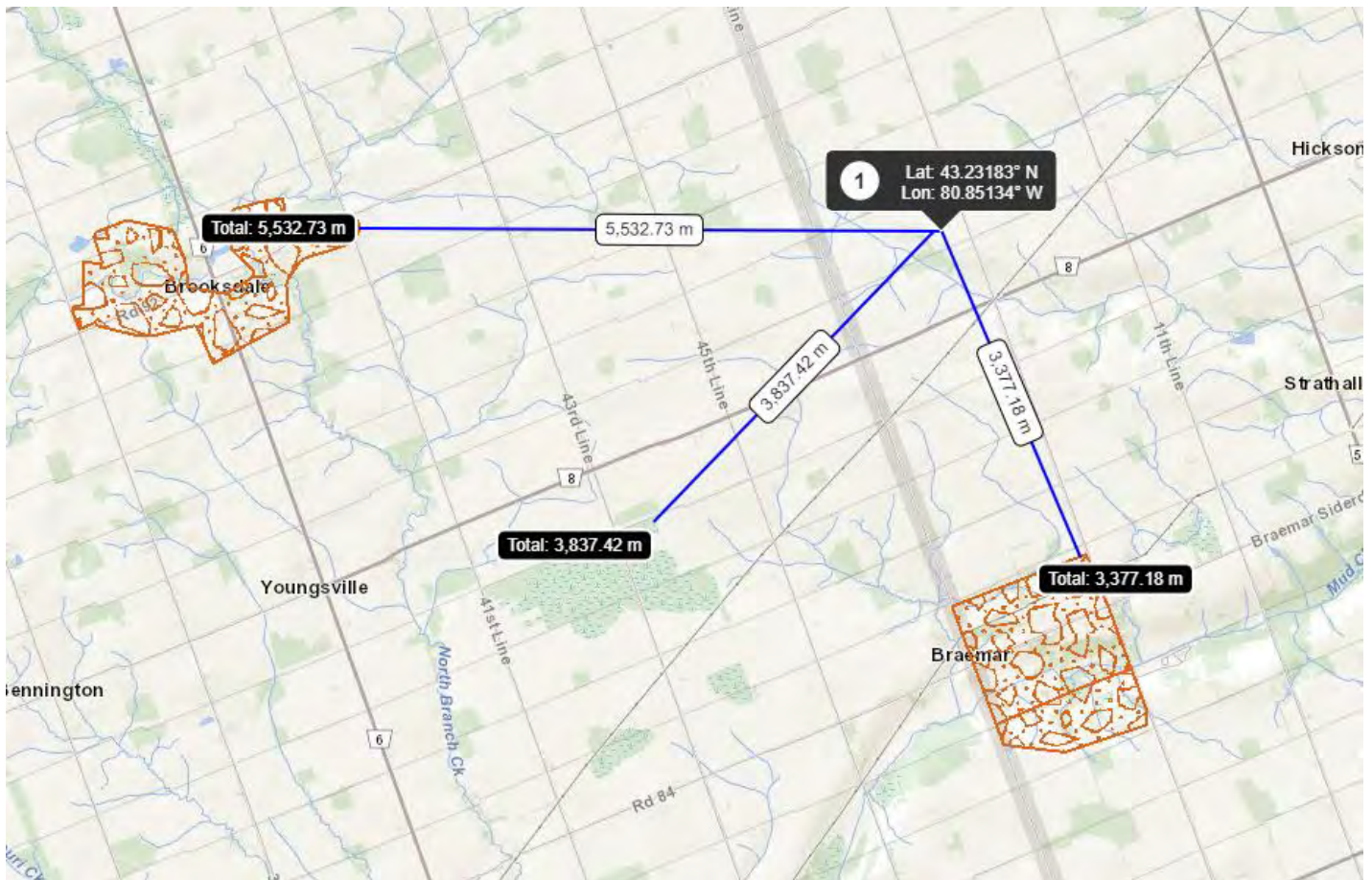
The Ministry of Natural Resources and Forestry (MNRF), The Natural Heritage Information Centre (NHIC), manages a list of over 17,000 records associated to Natural Heritage Areas in Ontario. Xplornet tower site locations are overlayed with national heritage areas in Ontario and presented in a table and map format.

A study is prepared for each tower location's surrounding natural areas contained within the 1km x 1km grid from Natural Heritage Information Centre (NHIC) data which includes:

- Ontario's rare species
- plant communities
- wildlife concentration areas
- natural heritage areas

This study demonstrates that:

- **The proposed site is not within 120m from ANSI designations**
- **The proposed site is not within 120m from PSW designations**
- As it relates to migratory bird strikes, the available evidence recognizes the minimal impact from structures lower than 100m in height.



☒ **ANSI**

☒ **ANSI**

☒ Earth Science Provincially  
 Significant/sciences de la terre d'importance provinciale

☒ Earth Science Regionally  
 Significant/sciences de la terre d'importance régionale

☒ Life Science Provincially  
 Significant/sciences de la vie d'importance provinciale

☒ Life Science Regionally  
 Significant/sciences de la vie d'importance régionale

☒ **Wetland**

☒ **Evaluated Wetland**

☒ Provincially Significant/considérée d'importance provinciale

☒ Non-Provincially Significant/non considérée d'importance provinciale

☒ **Unevaluated Wetland**

☒ **Woodland**

☒ Woodland

While the environmental impact is insufficient to preclude the installation of a tower at this location, the Proponent nonetheless recognizes these natural heritage concerns and takes additional steps in advising construction teams that they need to look for nesting birds and turtles prior to the start of ground clearing. Appropriate remedies are deployed which may include delaying construction until nesting season ends, at which point any impact is eliminated.

**Environmental Reporting By Tower Location**

The data in this table means that sometime in the last 50 years - someone reported seeing the species within the grid.

Tower Information		Environmental Parameters				
Tower Name	Tower Type	Site Type	ANSI (120m)	PSW (120m)	Species at Risk	Federal lands
ON8341 – Braemar North	HDSS Self Support Narrow Lattice Tower	New	N	N	None	N

**Woodlands**

Proponent has sited proposed tower outside of Woodland Designation to ensure the least environmental impact possible within the search area provided.

## Federal Requirement: Attestations

In addition to the requirements for consultation with municipal authorities and the public, Xplornet must also fulfill other important obligations including the following:

### Canadian Impact Assessment Act

*ISED requires that the installation and modification of antenna systems be done in a manner that complies with appropriate environmental legislation. This includes the Impact Assessment Act, 2019 (IAA 2019), where the antenna system is incidental to a physical activity or project designated under CIAA 2019 or is located on federal lands.*

- ***Xplornet Communications Inc. attests*** that the radio antenna system as proposed for this site is not located within federal lands or forms part of or incidental to projects that are designated by the Regulations Designating Physical Activities or otherwise designated by the Minister of the Environment as requiring an environmental assessment. ***In accordance with the Canadian Impact Assessment Act, 2019, this installation is excluded from assessment.*** For additional detailed information, please consult the Canadian Environmental Assessment Act <https://laws.justice.gc.ca/eng/acts/I-2.75/index.html>

### Transport Canada's Aeronautical Obstruction Marking Requirements

Aerodrome safety is under the exclusive jurisdiction of NAV Canada and Transport Canada. An important obligation of Xplornet's installations is to comply with Transport Canada / NAV CANADA aeronautical safety requirements. Transport Canada will assess the proposal with respect to potential hazards to air navigation and notify Xplornet of any painting and/or lighting requirements for the antenna system.

- ***Xplornet Communications Inc. attests*** that the radio antenna system described in this notification package will comply with Transport Canada / NAV Canada aeronautical safety requirements.

For additional detailed information, please consult Transport Canada.

<https://tc.canada.ca/en/corporate-services/acts-regulations/list-regulations/canadian-aviation-regulations-sor-96-433>

### Engineering Practices:

- ***Xplornet Communications Inc. attests*** that the radio antenna system as proposed for this site will be constructed in compliance with the National Building Code and The Canadian Standard Association and comply with good engineering practices including structural adequacy.

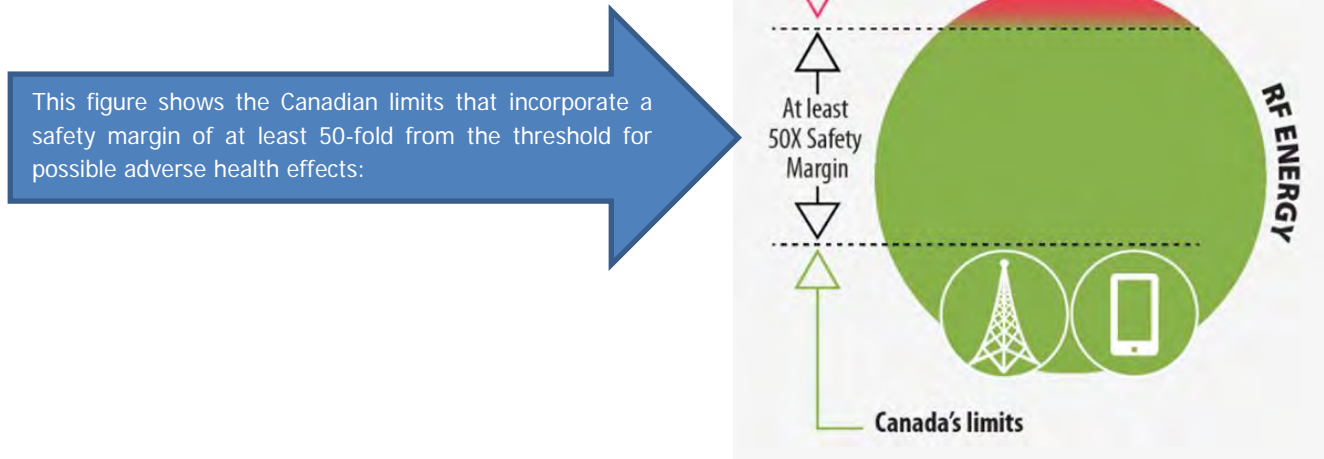
### Health Canada's Safety Code 6 Compliance

Health Canada is responsible for research and investigation to determine and promulgate the health protection limits for Exposure to the RF electromagnetic energy. Accordingly, Health Canada has developed a guideline entitled "Limits of Human Exposure to Radiofrequency Electromagnetic Field in the Frequency Range from 3kHz to 300 GHz – Safety Code 6".

The exposure limits specified in Safety Code 6 were established from the results of hundreds of studies over the past several decades where the effects of RF energy on biological organisms were examined. Radiocommunication, including technical aspects related to broadcasting, is under responsibility of the Ministry of Industry (Innovation, Science and Economic Development Canada), which has the power to establish standards, rules, policies and procedures. ISED, under this authority, has adopted Safety Code 6 for the protection of the general public. As such, ISED requires that all proponents and operators ensure that their installations and apparatus comply with the Safety Code 6 at all times.



- **Xplornet Communications Inc. attests** that the radio antenna system described in this notification package will at all times comply with Health Canada's Safety Code 6 limits, as may be amended from time to time, for the protection of the general public including any combined effects of additional carrier co-locations and nearby installations within the local radio environment.



More information in the area of RF exposure and health is available on the Health Canada's website under Health Canada's Radiofrequency Exposure Guidelines.

<https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/radiation/safety-code-6-health-canada-radiofrequency-exposure-guidelines-environmental-workplace-health-health-canada.html>

<https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11467.html>

### Proponent Contact Information

#### **Xplornet Communications Inc.**

c/o Simpson-McKay Inc.

12317 Funaro Crescent, Tecumseh ON N9K1B2

**Attn:** Jeff McKay, SAS

P: (519) 566-9267

E: [jeff.mckay@varcon.ca](mailto:jeff.mckay@varcon.ca)

## Conclusion

Reliable wireless communication services are a key enabler of economic and social development across Canada. They facilitate the growth of local economies by providing easy access to information, and connectivity for residents and business alike.

The infrastructure proposed is suitable for the development over the long term and protects public health and safety.

In response to this growing demand for wireless services, Xplornet has worked to find the most suitable location for a new telecommunications structure in our efforts to provide improved wireless services to residents, businesses and the traveling public.

In addition to meeting consumer needs, technological upgrades are also critical to ensuring the accessibility of emergency services such as fire, police and ambulance. Wireless communications products and services used daily by police, EMS, firefighters and other first responders, are an integral part of Canada's safety infrastructure.

Xplornet feels that the proposed site is well situated to provide improved wireless voice and data services in the targeted area and designed to have minimal impact on surrounding land uses and meets the intent of the governing protocol.

*Xplornet looks forward to working with the Municipality to  
provide improved wireless services to the community.*

Should you have any further questions or comments, please feel free to contact me via email at [jeff.mckay@varcon.ca](mailto:jeff.mckay@varcon.ca), or via phone at (519) 566-9267.

Yours truly,



**Jeff McKay FCSI MBA**

**Site Acquisition Specialist**

**Contractor: Xplornet Communications Inc.**



**Cell: (519) 566-9267**



**eMail: [jeff.mckay@varcon.ca](mailto:jeff.mckay@varcon.ca)**

Owners' Authorization

---

**SCHEDULE D**  
**AUTHORIZATION LETTER**

**FROM: James and Wendy Walters**  
496313 10th Line  
Tavistock, ON N0B2R0

TO WHOM IT MAY CONCERN.

**Re: E1/2 LT 22 CON 9 EAST ZORRA; SE1/4 LT 23 CON 9 EAST ZORRA; EAST ZORRA-  
TAVISTOCK, Land Registry Office: Oxford (41)**

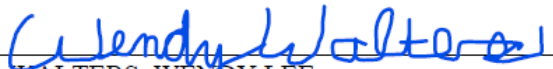
**PIN: 00237-0012**

**Arn/Roll Number: 323801004002800**

**Site: ON8341 - Braemar North**

We/I, **James and Wendy Walters**, the owner(s) of the above-mentioned property, hereby give Xplornet Communications Inc. and its agents permission to act as my/our agent to acquire the necessary permits, drawings and/or buildings structural blue-prints, hydro information from the public utility and information from the municipality or other authorities concerned, needed to approve the construction of the telecommunications site at the address indicated above and as shown on the attached plans.

Sincerely,

  
WALTERS, WENDY LEE

  
WALTERS, JAMES LLOYD



## Site Plan



There is no change to grade or drainage, other than to establish the required slope away from structures within the ISED – regulated facility under National Building Code standards.

Rev No.	Description	Date	Rev By:
	XCI Site Layout	04/27/22	
 XPLORNET		Title Site Layout top view Xplornet	
ON8341 – Braemar North      Tower Centre: 43.231943° -80.851340°			
Drawn By:	Drawing No:		
I.M.	496313 10th Line, Tavistock, ON N0B2R0		



# Xplornet Standard Site Layout

## For new Tower Build

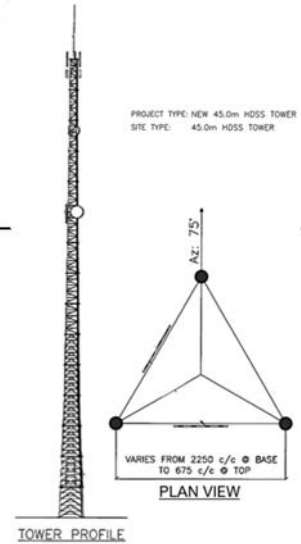
**Compound/lease area 15m x 15m**



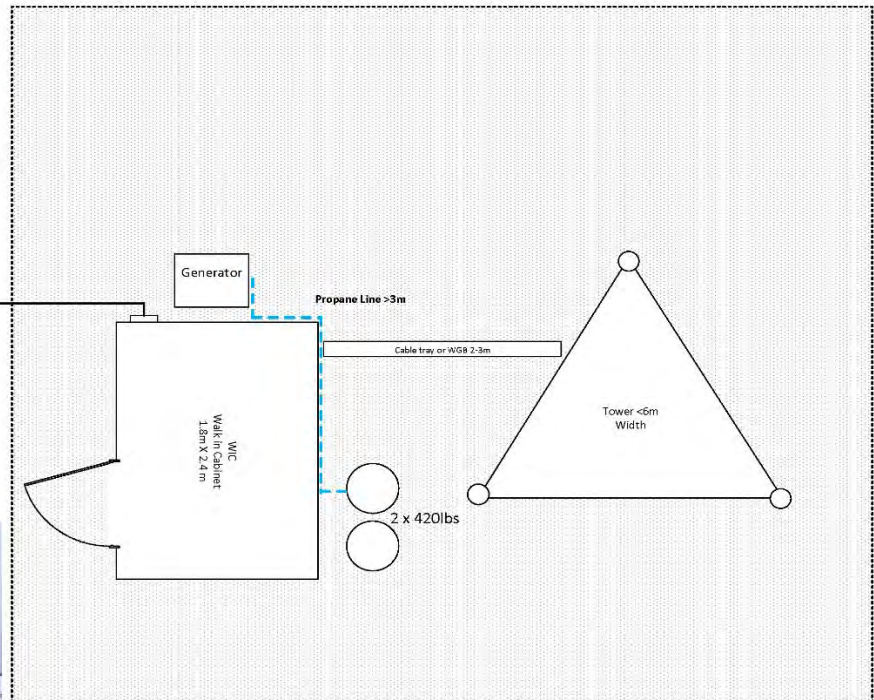
Example Xplornet 45m Self support tower

### NOTES


- (N1) PROPOSED STEEL SELF SUPPORT TOWER WITH LIGHTNING PROTECTION SYSTEM. PAINT COLOUR SUBJECT TO NAV CANADA REQUIREMENTS. ANTENNA NUMBER AND LOCATIONS TO BE DETERMINED. FOUNDATION DESIGN PENDING SOIL REPORT.
- (N2) PROPOSED PREFABRICATED GALVANIZED STEEL WALK-IN RADIO EQUIPMENT CABINET ON CAST IN PLACE REINFORCED CONCRETE SLAB.
- (N3) HYDRO CONNECTION AND ROUTING TO BE DETERMINED BY QUALIFIED PERSONNEL IN CONSULTATION WITH LOCAL AUTHORITY.
- (N4) REMOVE EXISTING TOPSOIL. PROOF ROLL SUBGRADE AND PLACE 300 mm GRANULAR A ACROSS COMPOUND AREA. FINISHED GRAVEL SURFACE TO BE MIN. 300 mm ABOVE EXISTING GRADE AND SLOPED AWAY FROM PROPOSED STRUCTURES AT MIN. 1 % ON ALL SIDES TO PROVIDE ADEQUATE DRAINAGE.
- (N5) PROPOSED 1.8 m HIGH CHAIN LINK SECURITY FENCE TOPPED WITH BARBED WIRE SURROUNDING COMPOUND.



Compacted Gravel 7.5m 6M



Example Xplornet WIC and Generator

Rev No. 2	Description XCI Site Layout	Date March 26 2021	Rev By:
 XPLORNET		Title Site Layout top view Xplornet	
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Drawn By: P.R	Drawing No:		



#5.a

ENGINEERING REPORT

For

**WITZEL DRAIN**

**Township of East Zorra-Tavistock**

Oxford County

Date: May 30, 2022

File No. 20-329



**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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SCHEDULE A – SCHEDULE OF ASSESSMENTS

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STANDARD SPECIFICATIONS

- Section 200 - General Conditions
- Section 300 - Special Provisions (See Drawings 6 to 11)
- Section 400 - Standard Specifications for Construction of Drains
- Section 420 - Standard Specifications for Tile Drains

DRAWINGS 1 TO 11 (Includes SPECIAL PROVISIONS)

Definitions:

“Act” or “Drainage Act” means The Drainage Act RSO 1990

“CSP” means corrugated steel pipe

“Drain” means Witzel Drain

“Grant” means grant paid under the Agricultural Drainage Infrastructure Program

“HDPE” means high-density polyethylene

“KSAL” means K. Smart Associates limited

“Municipality” means Township of East Zorra-Tavistock

“OMAFRA” means the Ontario Ministry of Agriculture, Food and Rural Affairs

“Tribunal” or “Drainage Tribunal” means Agriculture, Food and Rural Affairs Appeal Tribunal

“ø” means diameter of a pipe or tile

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## K. SMART ASSOCIATES LIMITED

### CONSULTING ENGINEERS & PLANNERS

85 McIntyre Drive  
Kitchener, ON N2R 1H6

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

May 30, 2022

File No. 20-329

## WITZEL DRAIN

### TOWNSHIP OF EAST ZORRA-TAVISTOCK

#### 1 **EXECUTIVE SUMMARY**

This report is prepared pursuant to Section 4 of the Drainage Act RSO 1990 (the Act).

On November 5, 2020, the Township of East Zorra-Tavistock received a *Petition for Drainage Works by Owner* signed by four (4) properties located in Lots 34-36, Concession 18, in the Township of East Zorra-Tavistock, as well as Lot 5, Concession 3, in the Township of Perth East. On November 19, 2020, K. Smart Associates Limited was appointed by resolution of Council to prepare a report on the petition received.

To address the petition received, this report recommends the following:

#### **Main Drain**

- 25m of 375mmØ solid plastic pipe crossing of Perth-Oxford Road by open cut
- Installation of 1,145m of closed tile drain (450mmØ to 675mmØ)
- Two (2) - 900x1200mm concrete catchbasins, two (2) - 900x1200mm ditch inlet concrete catchbasins, one (1) - 900x1500mm concrete junction box, and one (1) - 900x1500mm ditch inlet catchbasin
- Construction of two (2) berms

#### **Branches 1, 2, 3 & 4**

- Installation of 3,102m of new closed tile drain (200mmØ to 450mmØ)
- Eight (8) - 600x600mm concrete catchbasins, one (1) - 600x600mm concrete junction box, and one (1) - 900x1200mm concrete catchbasin
- Construction of six (6) small berms

The estimated cost of this project is **\$510,000**.

The total watershed area is approximately 171.7 hectares (423 acres), of which 127.1 hectares is serviced by the Main Drain/Branch 3/Branch 4, and 44.6 hectares is serviced by Branch 1/Branch 2.

Assessment schedules are for construction and future maintenance of the drainage works.

- Schedule A shows the assessment of the total estimated cost
- Schedule B is for prorating future maintenance cost
- Schedule C is for levying the final cost of the Drain
- Appendix A shows the calculation of assessments outline in Schedules A & B.



## **2 BACKGROUND**

On November 5, 2020, the Township of East Zorra-Tavistock received a *Petition for Drainage Works by Owner* signed by Jon & Ashley Witzel, Destination Dairy Ltd. (Nauta), Claynook Farms Ltd. (Wagler), and Highhaven Holsteins Inc. (Heeg) for the construction of a new tile drain along the route of the existing, failing, private tile system in Lots 34-36, Concession 18, in the Township of East Zorra-Tavistock, as well as Lot 5, Concession 3, in the Township of Perth East. Pursuant to Section 8 of the Act, on November 19, 2020, K. Smart Associates Limited was appointed by resolution of Council to prepare a report on the petition received.

## **3 DRAINAGE HISTORY**

The watershed of the Witzel Drain is located within the greater watershed of the Kuntze Drain. As stated by R. G. Walton, P. Eng. - R. J. Burnside & Associates, in a report dated July 22, 1998 and titled "Kuntze Drain 1998", the Kuntze Drain was constructed as an open ditch under a report by W. G. Ure dated October 10, 1950. Subsequent reports to improve/extend the Kuntze Drain were prepared by H. M. Gibson through the year of 1968. At this time, the main open ditch of the Kuntze Drain approximately commences in Lot 5, Concession 1 in the Township of Perth East (former township of South Easthope). The drain continues southerly through the Township of East Zorra Tavistock in Lots 30-35, Concession 17-18, and the Township of Wilmot in Lot 33, Concession 4, and ends at an old C.N.R. railway track in Lot 6, Concession 12 in the Township of Blandford Blenheim.

The watershed of the proposed Witzel Drain is currently serviced by existing private drainage systems. The watershed area can be separated into two parts (north and south portions).

The northern portion of the proposed Witzel Drain watershed is the area proposed to be serviced by the Main Drain and Branches 3 & 4. This area services the J. & A. Witzel farm, Claynook Farms Ltd., Wagler Farmstead Ltd. and the north portion of Highhaven Holsteins Inc. The southern portion of the proposed Witzel Drain watershed is the area proposed to be serviced by Branches 1 & 2, draining the east part of the Destination Dairy Ltd. farm, as well as the south portion of the Highhaven Holsteins Inc. farm.

Site investigation and tile plans received for the J. & A. Witzel farm (dated 1984, 1987, 1992 and 1997) show that the north watershed is currently served by a privately constructed clay or concrete tile of an unknown date. A tile plan received from Claynook Farms Ltd. for drainage work completed by Sebben Ag Drainage Ltd. in 2013, shows the property on the north side of the Perth-Oxford Road systematically drained, for the most part, to a 10" diameter ( $\varnothing$ ) outlet at the Perth-Oxford Road, east of Road 102. This existing 10"  $\varnothing$  outlet continues across the Perth-Oxford Road, southerly through the J. & A. Witzel farm, switching to a 12"  $\varnothing$  tile in the vicinity of the proposed Branch 4 outlet. The tile eventually outlets in the Kuntze Drain as a 375mm  $\varnothing$  CSP at the same location as the proposed Main Drain.

From site investigation and review of aerial maps, it is clear that some amount of private tiling also exists on the Destination Dairy Ltd. and Highhaven Holstein Inc. farms in the southern watershed, with their outlet also to the Kuntze Drain open ditch.

No record of a municipal drain exists for either watershed area.

## 4 **INVESTIGATION**

### 4.1 **On-Site Meeting**

#### **Attendees:**

Jon Witzel (Roll No. 060-12300)	Curtis MacIntyre, P. Eng. (KSAL)
Allardus Nauta (Roll No. 060-12100)	Thomas Jackson, E.I.T. (KSAL)
Wayne, Mary and Marcus Wagler (Roll No. 002-00100)	Connor Occleston (Drainage Superintendent)
Dirk Heeg (Roll No. 060-12700)	

On December 16, 2020, an on-site meeting for the Section 4 appointment was held at the farm of Jon Witzel, in accordance with Section 9(1) and 9(2) of the Act. Notice of the meeting was sent to the landowners most affected by the drain and the affected agencies. Curtis MacIntyre welcomed everyone and briefly explained the process of the Drainage Act, the purpose of the meeting and his understanding of the petition filed. Each petitioner explained the existing drainage occurring on their property and the areas they would like to see addressed for improvement. The following is a summary of the general comments listed by property:

#### **Jon Witzel [J. & A. Witzel] (Roll No. 060-12300) (Petitioner)**

Jon provided tile plans for his farm from 1984/1987, 1992, and 1997. He described a main drain clay tile (shown on the tile plans) that starts on the north side of the Perth-Oxford Road, crosses to the south and through his farm as a 10"Ø, switching over to a 12"Ø part way through the farm. The tile then crosses onto the Destination Dairy Ltd. farm (Roll No. 060-12100) to its outlet in the Kuntze Drain open ditch. He explained that they have experienced multiple blowouts on the main 10-12"Ø clay tile in the last couple years. He also described a 6"Ø clay tile from the east on his property that connects into the 12"Ø main tile, that also has experienced multiple blowouts. This tile contained some sort of catchbasin structure on the east property line with the Highhaven Holsteins Inc. farm (Roll No. 060-12700). He also mentioned the significant erosion in the southern portion of his field, over top of the main tile due to overland flow (confirmed during site investigation after the meeting).

Jon wishes to see the north to south main drain replaced and upsized. He also has two potential easterly branches off the main drain towards the Highhaven Holsteins Inc. farm that he wishes to also be investigated.

Allardus Nauta [Destination Dairy] (060-12100) (Petitioner)

Allardus described significant erosion problems over the main tile drain alignment starting at the north property line (shared with Roll No. 060-12300) to the Kuntze Drain open ditch. He was unsure where the tile outlets into the Kuntze Drain and wondered if the tile outlet was completely blocked. He explained that the north section of field is wet every spring, and doesn't think it is tiled.

Allardus also described a second private tile drain on his Highhaven Holsteins Inc. farm to the east that continues through his farm and outlets into the Kuntze Drain open ditch further downstream of the previously mentioned main tile system. This private tile starts at a catchbasin on the property line with the Highhaven Holsteins Inc. farm and contains a second catchbasin located in the middle of his field where it is joined by a second tile entering from the northeast. As with the branch drains mentioned to be investigated on the J. & A. Witzel farm, Allardus was also open to exploring the construction of a new branch drain across his farm as a part of the project.

The engineer explained he would survey all potential branches and prepare estimates for the cost of the work to be discussed at the next meeting.

Dirk Heeg [Highhaven Holsteins] (060-12700) (Petitioner)

Dirk acknowledged that much of his farm drains towards the Witzel and Destination Dairy Ltd. farms, although he hasn't experienced any blowouts or significant erosion on his land. Dirk also knew that portions of his farm were tiled, but did not have any tile plans. He confirmed the locations of the 6"Ø tiles and catchbasin structures on property lines mentioned by Jon and Allardus. Site investigation following the meeting confirmed that the catchbasins are not well positioned to admit surface water.

He was also open to exploring the branch construction as a part of this project.

Wayne Wagler [Claynook Farms] (002-00100) (Petitioner)

Wayne explained that his farm had been tiled by Sebben Drainage at 15-20 foot spacing approx. 7 years ago. At the time the work was completed, they had the Perth-Oxford Road crossing scoped and confirmed it is in poor condition. He would like to ensure that if work proceeds downstream, that a new tile drain be continued across the Perth-Oxford Road to provide an improved outlet to his farm.

Wayne clarified that the western portion along Road 102 and the small eastern corner of his farm are tiled out of the watershed and towards the Roth-Zehr Drain and Schwartzentruber Drain, respectively. In general, the Wagler farm doesn't experience any negative drainage effects.

**4.2 Site Examination and Survey**

The routes of the existing private tiles and areas of requested drainage improvements were examined after the on-site meeting. The findings from this investigation are outlined below. Topographic (GPS) survey was later completed in early February, 2021.

Claynook Farms Ltd. (002-00100)

Inspection of the property confirmed the existence of the Roth-Zehr Drain by finding catch basins at the crossing of Road 102. The alignment of the Roth-Zehr Drain is

along the west edge of the Claynook Farms property up to and across Line 33. A catchbasin was located on the north side of Line 33 near the intersection. Beyond that, it is not fully clear where the Roth-Zehr Drain continues upstream, however it is believed to cross back to the west side of Road 102 before shortly crossing back over again to the east side.

Wagler Farmstead Ltd. (001-19200)

The potential for the Witzel Drain watershed to receive water from the property to the north of Line 33 (later identified as Wagler Farmstead Ltd., Roll No. 001-19200) was confirmed by the presence of a road culvert under Line 33. Two hickenbottoms were also observed around the barn of the Wagler Farmstead Ltd. property and are believed to be connected to tile(s) that cross Line 33 and connect into the private header of Claynook Farms. This header eventually connects into the existing 10"Ø tile on the Witzel farm as described earlier.

Highhaven Holsteins Inc. (060-12700)

A subsurface road crossing and culvert were observed to cross 19<sup>th</sup> Line, confirming the Witzel Drain watershed boundary in the vicinity of Highhaven Holsteins Inc./19<sup>th</sup> Line (lands east of 19<sup>th</sup> Line drain away towards the Schwartzentruber Drain).

Two existing catch basins were located on the west property line adjacent to the Destination Dairy Ltd. and J. & A. Witzel farms (areas of the proposed Branch 1 and Branch 3). Both catchbasins were not positioned well to collect surface water. The southern most catchbasin is located approximately 30m north of the defined overflow swale and has three inletting pipes from the north, east and south, with the outlet to the west through the Destination Dairy Ltd. farm. Further to the north of this area a low run was observed on the westerly property line with no associated catchbasin, causing slight field erosion. This is located near a large tree and would represent the second potential branch on the Destination Dairy Ltd. farm (proposed Branch 2).

The northern catchbasin of the private system is on the property line with the Witzel farm and contained two inlets (NE and SE). Surface water to this area cuts across the corner of the Heeg farm before heading back onto the Witzel land. No catchbasins were observed on the far easterly shared property line between the Highhaven Holsteins Inc. and Witzel farms.

Destination Dairy Ltd. (060-12100)

A catchbasin was located in the middle of the field with two inletting tiles from the north and east, and one 12"Ø outlet to the south. It is believed that the east tile continues upstream to the catchbasin on the property line with the Highhaven Holsteins Inc. farm (proposed Branch 1 area), and the north tile continues to the low run near the large tree on the same property line (proposed Branch 2 area). Downstream from this catchbasin located in the middle of the field, the tile was found to outlet into the Kuntze Drain open ditch near the southern property line of the Destination Dairy Ltd. farm as an approximate 13"Ø (330mm) steel pipe.

The outlet of the main tile system proceeding from the Witzel farm was found south of the laneway culvert on the Kuntze Drain. Significant erosion was observed across the

field from the north property line, south to the Kuntze Drain. No catchbasin exists on the main tile system at the property line with the Witzel farm.

#### J. & A. Witzel (060-12300)

The two low runs coming from the east were confirmed as potential branches (proposed Branches 3 & 4). Where the low runs joined up with the Main Drain alignment, two uncropped, rock pile areas were observed. A concrete block burn pile was observed on the existing main tile system alignment in the vicinity of the northerly low run (Station 0+933 of the proposed Main Drain) and was identified as a potential location for a catchbasin and berming.

The Perth-Oxford road culvert was not graded to the catch basin on the south side of the road, causing sitting water in the culvert. No catchbasin exists on the north side of the road, however a big hole in the ground was suspected to be a blowout of a tile and identified to be the likely alignment of the outlet for the Claynook Farms Ltd. private tile. The alignment was on a southwesterly skew across the road toward the existing catchbasin on the south side of the road.

### **4.3 Watershed Description**

The perimeter watershed of the Drain was established from on-site investigation, topographical survey and open source SWOOP Digital Elevation Model (DEM) data from the province.

Historic reports of neighboring municipal drains were also reviewed to ensure accuracy. The watershed for the proposed Witzel Drain is neighboured by the Roth-Zehr Drain in the Township of Perth East to the northwest, as well as the Schwartzentruber Drain (1927) to the east. A copy of the report for the Schwartzentruber Drain was received from the Township of Perth East, and though its watershed boundary was found to slightly overlap/contradict the watershed boundary for this proposed Witzel Drain on the Highhaven Holsteins Inc. and Claynook Farms Ltd. properties, no alterations to the proposed Witzel Drain boundary were made. This decision was made due to the known, recent, changes in systematic tile drainage on the Claynook Farms Ltd. property, as well as today's improved technology for more accurately determining watershed boundaries. Whenever a new report is undertaken on the Schwartzentruber Drain, the appointed engineer should give consideration to matching its watershed to this proposed Witzel Drain watershed.

The watershed area for the proposed Witzel Drain is approximately 97% agricultural lands, and 3% roads, with no forested land present.

## **5 AUTHORITY FOR REPORT**

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

As a result of discussions at the on-site meeting and site examination, the first area requiring drainage was determined to be the majority of the property north of Perth-Oxford Road identified by Roll No. 002-00100 requiring an improved subsurface



drainage outlet. This area also includes the surface water flow path commencing at the northern property limits of Roll No. 060-12300, and traveling southerly along the existing private tile route into the northwest corner of property with Roll No. 060-12100 to the Kuntze Drain, causing surface erosion along both properties with Roll No.'s 060-12300 and 060-12100.

The second portion of the area requiring drainage was determined to be the four (4) separate areas of surface flow drainage from the property with Roll No. 060-12700 in the easterly limits of the Witzel watershed, causing various levels of erosion on properties with Roll No.'s 060-12100 & and Roll No. 060-12300.

The signatures on the petition represent greater than 60% of the area requiring drainage in both cases; thus, the petition is valid under Section 4(1)(b) of the Drainage Act.

## **6 RECOMMENDED WORK**

A property by property description of the proposed Witzel Drain for construction and future maintenance can be found in the Special Provisions (Drawings 6-11). A high level outline of the proposed Witzel Drain is as follows.

### **6.1 MAIN DRAIN**

The proposed Main Drain commences on the north side of Perth-Oxford Road, continuing south and following the alignment of the existing private main tile system through the property with Roll No. 060-12300 to its outlet at the Kuntze Drain on property with Roll No. 060-12100. The proposed Main Drain includes:

#### **Perth-Oxford Road**

- 900x1200mm ditch inlet catchbasin
- 25m of 375mmØ solid plastic pipe crossing of Perth-Oxford Road by open cut
- 900x1200mm catchbasin,

#### **A.&J. Witzel (Roll No. 060-12300)**

- 575m of 450mmØ concrete tile, 229m of 525mmØ concrete tile, and 66m of 600mmØ concrete tile
- 900x1200mm ditch inlet catchbasin with birdcage grate and 25m long berm adjacent to the concrete burn pile
- 900x1200mm catchbasin
- 900x1500mm junction box
- 900x1500mm ditch inlet catchbasin and 6m long berm on southern property line

#### **Destination Dairy (Roll No. 060-12100)**

- 900x1500mm ditch inlet catchbasin and 6m long berm on northern property line (as mentioned above)

- 95m of 600mmØ concrete tile, 174m of 675mmØ concrete tile, and 6m of 750mmØ solid plastic pipe at outlet

## **6.2 BRANCH 1 & 2**

Branches 1 & 2 both commence at the easterly property line divide between Destination Dairy Ltd. (Roll No. 060-12100) and Highhaven Holsteins Inc. (Roll No. 060-12700). The upstream catchbasin on Branch 1 is proposed to be located approximately 30m to the south of the existing catchbasin and generally follow the existing private tile path to its outlet in the Kuntze Drain. The upstream catchbasin of Branch 2 is approximately 200m north of Branch 1, where there is no existing structure, but will follow what is generally believed to be the alignment of an existing private tile to the intersection of Branch 1 at Sta. 0+308.

### **Highhaven Holsteins Inc. (Roll No. 060-12700)**

- 600x600mm catchbasin and 12m long berm on westerly property line (Br. 1)
- 600x600mm catchbasin and 12m long berm on westerly property line (Br. 2)

### **Destination Dairy Ltd. (Roll No. 060-12100)**

- 600x600mm catchbasin and 12m long berm on easterly property line (Br. 1) (as mentioned above)
- 336m of 350mmØ concrete tile, 302m of 450mmØ concrete tile with 6m of 450mmØ solid plastic pipe at the outlet (Br. 1)
- 900x1200mm catchbasin (in middle of field) (Br. 1)
- 600x600mm catchbasin and 12m long berm on easterly property line (Br. 2) (as mentioned above)
- 445m of 250mmØ concrete tile or 300mmØ perforated plastic pipe (Br. 2)

## **6.3 BRANCHES 3 & 4**

Branches 3 & 4 both commence at the easterly property line divide between J. & A. Witzel (Roll No. 060-12300) and Highhaven Holsteins Inc. (Roll No. 060-12700). Branch 3 is proposed to contain three (3) structures to catch surface water runoff and provide an outlet for Highhaven Holsteins Inc. Branch 3 outlets into the Main Drain at Sta. 0+341. Branch 4 is the northern most tile drain proposed to service Highhaven Holsteins Inc. From Station 0+800 to 0+284, Branch 4 is proposed to veer off of the natural alignment of surface flow in order to avoid the destruction of an east-to-west systematic tile drainage system on the J. & A. Witzel farm. Branch 4 outlets into the Main Drain at Sta. 0+570.

### **Highhaven Holsteins (Roll No. 060-12700)**

- 600x600mm catchbasin and 15m long berm on westerly property line, 600x600mm catchbasin and 30m long berm on southerly property line, and a 600x600mm catchbasin and 10m long berm on westerly property line (Br. 3)
- 79m of 200mmØ concrete tile or 250mmØ perforated plastic tubing (Br. 3)

- 600x600mm catchbasin and 10m long berm on westerly property line (Br. 4)

**A. & J. Witzel (Roll No. 060-12300)**

- 600x600mm catchbasin and 15m long berm on easterly property line, 600x600mm catchbasin and 30m long berm on northerly property line, and a 600x600mm catchbasin and 10m long berm on easterly property line (Br. 3) (as mentioned above)
- 284m of 200mmØ concrete tile or 200mmØ perforated plastic tubing, 349m of 300mmØ concrete tile and 288m of 400mmØ concrete tile (Br. 3)
- 600x600mm catchbasin (Br. 3)
- 600x600mm catchbasin and 10m long berm on easterly property line (Br. 4) (as mentioned above)
- 400m of 200mmØ concrete tile or 200mmØ perforated plastic tubing, 122m of 200mmØ concrete tile or 250mmØ perforated plastic tubing, 211m of 250mmØ concrete tile or 250mmØ perforated plastic tubing, and 280m of 300mmØ concrete tile
- 600x600mm junction box
- 600x600mm catchbasin

## **7 MEETING(S)**

### **Attendees:**

Jon Witzel (Roll No. 060-12300)	Curtis MacIntyre, P. Eng. (KSAL)
Allardus Nauta (Roll No. 060-12100)	Thomas Jackson, E.I.T. (KSAL)
Wayne and Marcus Wagler (Roll No. 002-00100)	Connor Occleston (Drainage Superintendent)
Dirk Heeg (Roll No. 060-12700)	Tom Lightfoot (Public Works Manager)
Tim and Brendan Wagler (Roll No. 001-19200)	

On April 1, 2022, an information meeting with the owners was held. Notice for the meeting was sent to all landowners assessed by the proposed work. At the meeting, the results of the investigation to-date were presented, along with a summary of the proposed work, preliminary cost estimates and assessments.

Those present at the meeting were in general agreement with the proposed works and informed the engineer that they wish to proceed with the inclusion of all branch drains as a part of the drainage project.

The comments from those in attendance are summarized below:

**General Discussion/Comments**

- Wayne Wagler (Claynook Farms Ltd) requested if the proposed flat top catchbasin on the upstream side of the Perth-Oxford Road be reviewed to instead be a ditch inlet catchbasin.
- Jon Witzel (J. & A. Witzel) asked to verify the invert elevation of the existing culvert crossing vs. proposed catchbasin top of grate elevation on the south side of the Perth Oxford Road.
- Both Jon Witzel and Allardus Nauta (Destination Dairy Ltd.) requested that existing tile be removed/destroyed along the route of the Main Drain.
- Connor Occleston confirmed that the township has recently cleaned out the Kuntze Drain. Site investigation suggested the ditch bottom at the proposed Main Drain tile outlet may still require a spot cleanout.
- Curtis MacIntyre explained the proposal to prepare the report and tender with the option for contractors to bid the sections of small diameter tile (branch drains) as either concrete tile or corrugated plastic tubing. All in attendance agreed.

**Tile Upsizing Beyond 38mm (1.5") Drainage Coefficient Design**

- Additional discussion involved the topic of increasing the size of the Main Drain and Branch 1 by one tile size. The engineer provided a rough estimate of the increased cost to do so and explained that the additional cost would not be eligible for grant.
  - Wayne Wagler believed, in his experience, that money may be better spent improving private systematic tiling.
  - Jon Witzel may be in favor of increasing the size of the Main Drain, but would like to first see the prices of tenders received.
  - Allardus Nauta was in favour of upsizing the Main Drain, as well as Branch 1, but agreed it would be beneficial to first see the prices of tenders.

**8 DESIGN CONSIDERATIONS****8.1 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." For this project the outlets of the Main Drain (675mmØ tile) and Branch 1 (450mmØ tile) will discharge into the open ditch of the Kuntze Drain. The Kuntze Drain open ditch provides for a sufficient outlet for the proposed Drains.

Additionally, Branch 2 is proposed to outlet into Branch 1 at Sta. 0+308. Branch 1 downstream of this location was sized with the 38mm (1.5") drainage coefficient for the total catchment area of Branch 1 & 2. Branch 1 is upsized from a 350mmØ concrete tile to a 450mmØ concrete tile at the intersection, therefore Branch 1 provides sufficient outlet for Branch 2.



Finally, Branches 3 & 4 discharge into the Main Drain tile at Sta. 0+341 and Sta. 0+570, respectively. As stated above for Branch 1, the Main Drain downstream of these locations has been sized for the 38mm (1.5") drainage coefficient for the total catchment area of the Main Drain, Branch 3 and Branch 4. The Main Drain tile increases in size from a 525mmØ to a 600mmØ concrete tile at the intersection of Branch 3 and increases from a 450mmØ to a 525mmØ concrete tile at the intersection of Branch 4. Therefore the sizing for the proposed Main Drain provides a sufficient outlet for the Branch Drains 3 and 4.

### **8.2 Drain Capacity**

The size of the proposed tile drain was determined using the Drainage Coefficient Method outlined in the *Drainage Guide for Ontario*, published by OMAFRA. The drainage coefficient is a measure of the amount of runoff that a closed drain can remove from an upstream watershed in a 24-hour period. Based on the watershed examination and landowner discussions, the proposed tile drains on this project have been designed for a 38mm (1.5") drainage coefficient.

Additional discussion on drain capacity and tile sizing is later outlined below in *Section 8.5 Material Substitutions for Small Diameter Tile*.

### **8.3 Berms**

On the Main Drain, berming has been proposed behind the catchbasin on the property line divide between the Witzel and Destination Dairy Ltd. farms, as well as a convenient location between fields on the J. & A. Witzel farm, identified as Sta. 0+933. Berms have also been proposed behind both catchbasins on the property line divide between the Highhaven Holsteins Inc. and Destination Dairy farms on Branches 1 & 2 (Sta.'s 0+644 on Branch 1 and 0+445 on Branch 2), and every property line crossing between the Highhaven Holsteins Inc. and Witzel farms on Branches 3 & 4. Those include Sta. 0+637, 0+716 and 1+000 on Branch 3 and Sta. 1+017 on Branch 4.

The main purpose of the berms is to direct as much of the surface water as possible into the subsurface tile drain during a rain event, and limit/avoid situations where surface water bypasses the basins causing cutting and erosion, as evidence shows is currently occurring. The actual storage capacity of the berms is considered minimal.

### **8.4 Soil Conditions**

The 1996 report titled: "Upgrade of Soil Survey Information for Oxford County" indicates that the soils adjacent to the Drain are 100% Perth Clay Loam with imperfect drainage for the majority of the proposed Main Drain and branch drain constructions. At the top end of the proposed Branches 3 & 4, the soils are Huron Clay Loam and are considered to be well drained. Both soils are made up of a clayey till and contain slight surface stoniness.

Based on available information, adverse subsurface conditions are not expected on this project, and the use of conventional construction equipment is anticipated. Refer to the

Standard Specifications for drain construction procedures when adverse subsurface conditions are encountered.

### **8.5 Material Substitutions for Small Diameter Tile**

The proposed Witzel Drain contains portions of large diameter tile only feasibly proposed to be installed with the use of a wheel machine. The Drain also includes portions of small diameter tile at the upstream sections of Branches 2, 3, and 4 that may be proposed as concrete tile and continued to be installed with the use of a wheel machine, or otherwise proposed to be plastic tubing and elected to be installed by use of a drainage plow, if such selected contractor chooses to do so. It is of the engineer's opinion that, so long as the petitioners did not have a material preference, it would be of cost benefit to them to allow materials used for these sections of Drain be quoted both ways by the bidding contractors.

It should be noted, for each of these sections of drain containing a material choice option, the engineer has prepared sizing for each of the concrete tile and corrugated plastic tubing options, as per the 38mm (1.5") drainage coefficient design stated in *Section 8.2 Drain Capacity*. The reason for this is due to the fact that a given size of corrugated plastic tubing will not convey the same amount of flow as the same size of concrete tile. In *Section 6 RECOMMENDED WORK*, some situations require the plastic tubing option to be one size larger than it would otherwise be for concrete tile, however there are still some cases where this is not required, and the same size of plastic tubing or concrete tile meet the 38mm (1.5") drainage coefficient design.

In *Section 12.2 Construction Cost Estimate* of this report, the cost of construction for those items proposed as optional materials has been estimated as though all drains will be supplied as concrete tile and installed by wheel machine.

Furthermore, with the recent amendment to the Drainage Act and the addition of Section 84.1, this Engineer's report may be amended by municipal bylaw after the completion of construction, to produce drawings that reflect the material that was actually constructed.

### **8.6 Provisional Items for Tile Upsizing**

As described in *Section 7 MEETING(S)* above, discussion occurred amongst some of the petitioners regarding the option/ability to upsize sections of the Drain on their properties at the time of construction. After discussing various options to address this, it was determined that the best course of action would be to continue to propose tile sizes as per the 38mm (1.5") drainage coefficient design and include provisional items that address this request for optional tile drain upsizing. The sections of the Drain to be included as provisional items for tile upsizing are as follows:

- Main Drain – Roll No. 060-12100 (Destination Dairy Ltd. property, Interval 1)
- Main Drain – Roll No. 060-12300 (J. & A. Witzel property, Interval 2 & 3)
- Branch 1 – Roll No. 060-12100 (Destination Dairy Ltd. property, Interval 1 & 2)

If the larger sizes are installed, these provisional items will be assessed as Section 24 Special Benefits to those owners directly requesting the upsizing. It is proposed that each owner be assessed the costs for increasing the tile size on their own property for the Main Drain. The cost to increase the tile size on Branch 1 is proposed to be shared equally between Destination Dairy Ltd. (Roll No. 060-12100) and Highhaven Holsteins Inc. (Roll No. 060-12700). For more information see *13.4 Special Benefit Assessment (Section 24)*.

Upon closing of the tender, the overall cost of the project and prices of the provisional tile upsizing items will be reviewed with the requesting owners. At that time a final decision will be made by the owners, prior to award of the contract.

## **9 ENVIRONMENTAL CONSIDERATIONS**

### **9.1 Agency Consultation**

#### **9.1.1 Grand River Conservation Authority**

The Grand River Conservation Authority did not request an environmental appraisal under Section 6 of the Act. The Conservation Authority was sent notices for the public meetings. No comments regarding the petition or on-site meeting invitation were received.

## **10 CONSTRUCTION CONSIDERATIONS**

### **10.1 Pre-Construction Approvals**

Before starting work, the Contractor shall ensure all public utilities are located and shall contact all landowners along the proposed drain route to determine the location of any private utilities. Permits are not required for the proposed work.

### **10.2 Construction Scheduling**

Construction cannot commence until ten days after a bylaw to adopt this report is given third reading in accordance with the Act.

### **10.3 Minor Adjustments During Construction**

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 more than 133% of the tendered amount, and not impact the 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. If a substantial alteration is required, a revised report can be prepared and processed through the act, or an application can be made under the Act to the Drainage Tribunal to recognize the substantial alteration. The applicant to the Tribunal must occur before final costs are levied.

#### **10.4 Alignment of Drains**

All drains shall be constructed and maintained generally to the alignment, as noted on the plans and specified by the Special Provisions. In the absence of survey bars, existing fences and similar boundary features are assumed to represent property lines.

Should landowners desire a more precise location for the drains in relation to their property line or if there is a dispute about the location of any property line, landowners may obtain a legal survey at their own cost before construction.

### **11 DRAWINGS AND SPECIFICATIONS**

#### **11.1 Drawings**

The location of the Drain, watershed boundary and the affected properties are shown on Drawing No. 1 included with this report. The numbers adjacent to the Drain are station numbers, which indicate in metres the distance along the Drain from the outlet.

The profiles for the Main Drain and Branch Drains are on Drawings 2 to 5. The profiles show the depth and grade for proposed work and future maintenance.

Drawings 6 to 11 contain details at specific locations such as catchbasins and road crossings, as well as the Special Provisions – Construction Specifications.

#### **11.2 Specifications**

This report incorporates the General Conditions, Standard Specifications and Special Provisions listed in the Table of Contents, which govern the construction and maintenance of the Drain.

### **12 COST ESTIMATE**

The estimated cost of this project includes allowances to owners, the construction cost, the engineering cost and other costs associated with the project.

#### **12.1 Allowances**

Sections 29 to 33 of the Drainage Act provides for allowances (compensation) to owners affected by proposed drain construction. On this project, there are only allowances for Section 30.



**12.1.1 Section 30 - Damages**

Section 30 provides for payment of an allowance to landowners along the Drain for damages caused by the construction of the Drain. Where separate access routes to the working area are specified in this report, Section 30 allowances also account for access route damage. In agricultural areas, crop damages are computed based on published crop values and declining productivity loss in the years following construction.

The allowance for damage to land and crops was calculated using a rate of \$2,000 per hectare applied to the defined working area. A 25m corridor width along the drain in the area of the proposed tile drain construction, as well as a 6m corridor width for proposed access routes was the basis for the Section 30 allowance calculations. There is a minimum Section 30 allowance of \$100.

**12.1.2 Summary of Allowances**

The table below summarizes the amounts of allowances to be provided under this report.

**Table 12.1-1 – Summary of Allowances**

Roll Number	<b>MAIN DRAIN</b> (\$)	<b>BRANCH 1</b> (\$)	<b>BRANCH 2</b> (\$)	<b>BRANCH 3</b> (\$)	<b>BRANCH 4</b> (\$)	Total (\$)
060-12100	1,600	3,250	1,800			6,650
060-12300	4,400			4,350	4,350	13,100
060-12700		100	100	400	100	700
002-0100	500					500
<b>TOTAL ALLOWANCES:</b>	6,500	3,350	1,900	4,750	4,450	<b>20,950</b>

In accordance with Section 62(3) of the Act, the allowances shown may be deducted from the final assessment levied. Payment to the owner would only be made when the allowance is greater than the final assessment. The allowances are a fixed amount and are not adjusted due to construction.

**12.2 Construction Cost Estimate**

The estimated cost for Labour, Equipment and Materials to construct the proposed Drain is outlined in detail in Table 12.6-1 – Estimated Cost Summary. The construction cost estimate is based on recent costs for comparable work. A contingency amount is included to cover additional work that may be required due to field conditions or minor alterations to the project.

The contract for the Drain will be awarded by public tender. If the contract price is more than 33% over the engineer's estimate, Section 59 of the Act requires a Council meeting with the petitioner to determine if the project should proceed.

### **12.3 Engineering Cost Estimate**

Engineering costs include report preparation and attending the Council meeting to consider the report and the Court of Revision.

Construction Phase Services may include: preparing tender documents and tender call, review of tenders, attending the pre-construction meeting, periodic construction inspection, payments, final inspection, post-construction follow-up, final cost analysis and preparation of the grant application.

The cost for report preparation 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, which would result in additional costs. The amount shown for meetings is an estimate. The final cost will be based on the actual time required for meetings. The estimate shown for construction phase services is based on experience and assumes good construction conditions and a Contractor who efficiently completes the construction. The final cost for the construction phase will vary as per the actual time spent during and following drain construction. Engineering costs are summarized in Table 12.6-1 – Estimated Cost Summary.

### **12.4 Estimate of Section 73 Costs**

Section 73(2) and 73(3) of the Act direct that the cost of services provided by municipal staff and the Council to carry out the Act process shall not form part of the final cost of the Drain. However, Section 73(1) outlines that the following costs incurred by the Municipality can be included in the cost of the Drain: “*cost of any application, reference or appeal and the cost of temporary financing.*”

The estimate of Section 73 costs is included to cover the above-referenced items from Section 73(1) and primarily provides for interest charges on financing the project until it is completed. This cost estimate may not be adequate to cover legal or engineering costs incurred by or assessed to the Municipality should the project be appealed beyond the Court of Revision though such costs will form part of the final drain cost.

Grant policy indicates that municipal cost for photo-copying and mailing required to carry out the required procedures under the Act can be included in the final drain cost. Section 73 costs are summarized in Table 12.6-1 – Estimated Cost Summary.

### **12.5 Harmonized Sales Tax**

The Harmonized Sales Tax (HST) will apply to most costs on this project. The Municipality is eligible for a partial refund on HST paid, the net 1.76% HST is included in the cost estimates in this report.

**12.6 Estimated Cost Summary****Table 12.6-1 – Estimated Cost Summary**

DESCRIPTION				TOTAL
ALLOWANCES:				\$20,950
CONSTRUCTION COST ESTIMATE				
Item	Stations	Description	Cost	
A) Main Drain				
A1	0+000 to 0+006	6m of 750mmø solid plastic outlet pipe with rodent gate & 5m² of riprap	3,000	
A2	0+006 to 0+180	174m of 675mmø concrete tile with joint wrap	19,100	
A3	0+180 to 0+275	95m of 600mmø concrete tile with joint wrap	8,600	
A4	0+275	900x1500mm concrete ditch inlet catchbasin including connections & birdcage grate	4,500	
A5	0+275	Construct 6m of new berm as per detail	1,000	
A6	0+275 to 0+341	66m of 600mmø concrete tile with joint wrap	5,900	
A7	0+341	900x1500mm junction box including connections	3,000	
A8	0+341 to 0+570	229m of 525mmø concrete tile with joint wrap	18,300	
A9	0+570	900x1200mm catchbasin including connections & birdcage grate. Also includes approx. 20m of 150mmø plas. tubing connection to ex. private tile	4,000	
A10	0+570 to 0+933	363m of 450mmø concrete tile including joint wrap	25,400	
A11	0+933	900x1200mm concrete ditch inlet catchbasin including connections & birdcage grate	2,800	
A12	0+933	Construct 25m of new berm as per detail	2,000	
A13	0+933 to 1+145	212m of 450mmø concrete tile with joint wrap	14,800	
A14	1+145	900x1200mm concrete catchbasin including connections, birdcage grate & 2m² of riprap	3,100	
A15	1+145 to 1+170	25m of 375mm dia. solid plastic pipe (HDPE) crossing of Perth - Oxford Road by open cut.	50,000	
A16	1+170	900x1200mm concrete catchbasin including connections, birdcage grate & 2m² of riprap. Also includes approx. 20m of 200mmø plastic tubing connection to existing private tile	3,600	
Sub Total Part A):				169,100
B) Branch 1				
B1	0+000 to 0+006	6m of 450mmø solid plastic outlet pipe with rodent gate & 5m² of riprap	1,200	
B2	0+006 to 0+308	302m of 450mmø concrete tile with joint wrap. Existing 300mmø private tile to be pre-located and preserved	21,100	
B3	0+308	900x1200mm concrete catchbasin including connections, birdcage grate & 5m² of riprap	2,800	
B4	0+308 to 0+644	336m of 350mmø concrete tile with joint wrap. Existing 300mmø private tile to be pre-located and preserved	16,800	
B5	0+644	600x600mm concrete catchbasin including connections & birdcage grate	2,000	
B6	0+644	Construct 12m of new berm as per detail	1,000	
Sub Total Part B):				44,900

DESCRIPTION				TOTAL
<b>C) Branch 2</b>				
C1	0+000 to 0+445	445m of 250mmø concrete tile with joint wrap <u>or</u> 300mmø perforated plastic tubing with filter sock	15,600	
C2	0+445	600x600mm concrete catchbasin including connections & birdcage grate	2,000	
C3	0+445	Construct 12m of new berm as per detail	1,000	
<b>Sub Total Part C):</b>			<b>18,600</b>	
<b>D) Branch 3</b>				
D1	0+000 to 0+288	288m of 350mmø concrete tile with joint wrap	14,400	
D2	0+288	600x600mm concrete catchbasin including connections & birdcage grate	2,000	
D3	0+288 to 0+637	349m of 300mmø concrete tile with joint wrap	15,700	
D4	0+637 to 0+458±	Install approx. 170m± of 150mmø (6") plastic tubing header tile along east side of proposed drain with approx. 12± 4" tile connections from the southeast.	6,000	
D5	0+637	600x600mm concrete catchbasin including connections & birdcage grate	2,200	
D6	0+637	Construct 15m of new berm as per detail	1,500	
D7	0+637 to 0+716	79m of 200mmø concrete tile with joint wrap <u>or</u> 250mmø perforated plastic tubing with filter sock	2,500	
D8	0+716	600x600mm concrete catchbasin including connections & birdcage grate	2,000	
D9	0+716	Construct 30m of new berm as per detail	1,500	
D10	0+716 to 1+000	284m of 200mmø concrete tile with joint wrap <u>or</u> 200mmø perforated plastic tubing with filter sock	8,000	
D11	1+000	600x600mm concrete catchbasin including connections & birdcage grate	2,000	
D12	1+000	Construct 10m of new berm as per detail	800	
<b>Sub Total Part D)</b>			<b>58,600</b>	
<b>E) Branch 4</b>				
E1	0+000 to 0+280	280m of 300mmø concrete tile with joint wrap. Existing 150mmø (6") private tile header tile to north to be pre-located and preserved	12,600	
E2	0+280	600x600mm concrete catchbasin, including connections & birdcage grate	2,000	
E3	0+280 to 0+491	211m of 250mmø concrete tile with joint wrap <u>or</u> 250mmø perforated plastic tubing with filter sock	7,400	
E4	0+491	600x600mm junction box including connections	1,500	
E5	0+491 to 0+613	122m of 200mmø concrete tile with joint wrap <u>or</u> 250mmø perforated plastic tubing with filter sock	3,900	
E6	0+613 to 1+013	400m of 200mmø concrete tile with joint wrap <u>or</u> 200mmø perforated plastic tubing with filter sock	11,200	
E7	0+800	80m of 100mmø plastic tubing and hickenbottom offset from Br. 4	4,000	
E8	1+013	600x600mm concrete catchbasin, including connections & birdcage grate	2,000	
E9	1+013	Construct 10m of new berm as per detail	800	
<b>Sub Total Part E)</b>			<b>45,400</b>	
<b>F) Contingencies</b>				
F1	Increased costs to install 100m of tile by backhoe in areas of muck or wet/unstable soils, including geotextile and 300mm of clear crushed stone. (Contingency is intended to be independent of tile size. If required and authorized, would be paid in addition to regular bid item above).		6,000	
F2	Increased costs to install 200m of tile by backhoe in stony conditions, where authorized and with thin bedding of clear crushed stone. (Contingency is intended to be independent of tile size. If required and authorized, would be in paid in addition to regular bid item above).		8,000	



DESCRIPTION			TOTAL
F3	Contingency allowance for lift-outs of wheel machine to allow for stone removal, including the stone removal and restarting/continuing the wheel machine (based on 5 @ \$300/lift-out)	1,500	
F4	Tile Connections (based on 15 @ \$100/connection).	1,500	
F5	Lump sum contingency allowance	4,600	
Sub Total Contingencies (Part F):		21,600	
Net HST (1.76%) (on Parts A-F):		6,305	
Sub Total Construction:		364,505	
<b>G) Provisional</b>			
G1	Increased cost to upsize proposed Main Drain concrete tile by one size on the Destination Dairy Ltd. property. This applies to Items A2 (675mmø to 750mmø) and A3 (600mmø to 675mmø) Note: This amount does not replace Items A2 and A3. It will be paid in addition to the price tendered for Items A2 and A3, if owners elect to proceed with the upsizing.	9,400	
G2	Increased cost to upsize proposed Main Drain concrete tile by one size on the J. & A. Witzel property. This applies to Items A6 (600mmø to 675mmø), A8 (525mmø to 600mmø), A10 (450mmø to 525mmø) and A13 (450mmø to 525mmø) Note: This amount does not replace Items A6, A8, A10 and A13. It will be paid in addition to the price tendered for Items A6, A8, A10 and A13, if owners elect to proceed with the upsizing.	9,800	
G3	Increased cost to upsize proposed Branch 1 concrete tile by one size on the Destination Dairy Ltd. property. This applies to Items B1 (450mmø outlet pipe to 525mmø outlet pipe) and B2 (450mmø to 525mmø) Note: This amount does not replace Items B1 and B2. It will be paid in addition to the price tendered for Items B1 and B2, if owners elect to proceed with the upsizing.	3,100	
G4	Increased cost to upsize proposed Branch 1 concrete tile by one size on the Destination Dairy Ltd. property. This applies to Item B4 (350mmø to 400mmø) Note: This amount does not replace Item B4. It will be paid in addition to the price tendered for Item B4, if owners elect to proceed with the upsizing.	1,700	
Sub Total Provisional (Part G):		24,000	
<b>TOTAL CONSTRUCTION COST ESTIMATE:</b>			<b>\$388,505</b>
<b>ENGINEERING</b>			
	Report Preparation	55,000	
	Consideration of Report Meeting	1,000	
	Court of Revision	1,000	
	Construction Phase Services	30,000	
	Net HST (1.76%)	1,530	
<b>TOTAL ENGINEERING COSTS:</b>			<b>88,530</b>
<b>SECTION 73 COSTS</b>			
	Interest Estimate	5,000	
	Other Unforeseen costs/applications	7,015	
<b>TOTAL SECTION 73 COSTS:</b>			<b>12,015</b>
<b>TOTAL ESTIMATED COST:</b>			<b>\$510,000</b>

### 13 ASSESSMENTS

The Drainage Act requires that the total estimated cost 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 Increased Cost (Section 26).

### **13.1 Calculation of Assessments**

For the Main Drain and each individual Branch Drain, the first step in the assessment calculation is to determine the benefit assessment to the affected lands and roads, then special assessments to roads and utilities are determined, where applicable. After deducting the total benefit and special assessments from the total cost of each branch, the balance of the cost is then assessed as outlet liability on a per hectare basis to all lands and roads in the watershed.

### **13.2 Benefit Assessments (Section 22)**

Benefit assessments are listed in Schedule A – Schedule of Assessments and shown on a per interval basis in Appendix A – Calculation of Assessments.

Section 22 benefits were determined based on the estimated value provided to the property by the works. Benefit assessments are generally balanced and applied on the following three criteria: Direct Outlet (ability of a property to connect directly to the new drain), Subsurface Service Area (size of land area that is or can be directly connected via subsurface tile drains), and Improved Drainage (improved drainage along the length of the drain crossing a property). Table 13.2-1 – Benefit Assessments provides a summary of the benefit assessments separated for each proposed branch.

**Table 13.2-1 – Benefit Assessments**

<b><u>Roll Number</u></b>	<b><u>Description</u></b>	<b><u>Main Drain</u></b>	<b><u>Branch 1</u></b>	<b><u>Branch 2</u></b>	<b><u>Branch 3</u></b>	<b><u>Branch 4</u></b>	<b><u>Total</u></b>
060-12100	-for improved drainage along drain -for improved direct outlet -for improved sub-surface service area	17,900 1,200	22,400 3,000 3,500	9,800 2,700			60,500
060-12300	-for improved drainage along drain -for improved direct outlet -for improved sub-surface service area	35,800 3,000 15,700			27,800 <sup>1</sup> 3,000 6,300	28,500 <sup>2</sup> 7,900	128,000
060-12700	-for improved drainage along drain -for improved direct outlet -for improved sub-surface service area	1,000	3,500 10,200	2,500 4,500	1,700 5,500 5,700	2,500 1,700	38,800
002-00100	-for improved direct outlet -for improved sub-surface service area	3,000 15,300					18,300
Perth-Oxford Road	-for improved direct outlet (\$2,500 to each County)	5,000					5,000
<b>TOTAL BENEFIT</b>		97,900	42,600	19,500	50,000	40,600	<b>250,600</b>

<sup>1</sup>Included in total is \$2,500 for construction of new private header along route (Br. 3)

<sup>2</sup>Included in total is \$2,200 for construction of offset hickenbottom, 100mmø plastic tubing & berming (Br. 4)

**13.3 Outlet Liability Assessments (Section 23)**

Section 23(3) of the Drainage Act states that outlet liability assessment is to be based on the volume and rate of flow of the water artificially caused to flow. Therefore the lands and roads in the watershed are assessed on a per hectare basis, with adjustments made to recognize the different amount of runoff generated by different land uses. The basis for the adjustments is 1 hectare of cleared agricultural land contributing both surface and subsurface water to the Drain. Land uses with a different runoff rate are adjusted by the factors given in Table 13.3-1 – Runoff Factors.

**Table 13.3-1 – Runoff Factors**

<b>Land Use</b>	<b>Runoff factor</b>
Agricultural	1
Paved Roads	3
Gravel Roads	2
Lands Tiled Away	0.5

**13.4 Special Benefit Assessment (Section 24)**

Special Benefits are incurred when works are constructed, at the request of landowners, that are not essential to the function of the Drain. As mentioned previously, provisional items have been included for select sections of the tile drain to be potentially upsized. In this case, it has been determined that the base design to provide a functioning level of drainage to the watershed is the 38mm (1.5") drainage coefficient design. It is therefore the opinion that it would not be fair to assess the increased costs for upsizing tile beyond the 38mm drainage coefficient design to the watershed. Provisional items, if carried out, shall be assessed as special benefits outlined in Table 13.4-1 - Estimated Special Benefit Assessments.

**Table 13.4-1 - Estimated Special Benefit Assessments**

<b>Roll Number</b>	<b>Estimated Special Benefit</b>	<b>Drain (Interval)</b>	<b>Provisional Item #</b>
060-12100	9,400	Main Drain (Int. 1)	G1
	1,550	Branch 1 (Int. 1)	G3/2
	850	Branch 1 (Int. 2)	G4/2
060-12300	1,650	Main Drain (Int. 2)	G2
	8,150	Main Drain (Int. 3)	
060-12700	1,550	Branch 1 (Int. 1)	G3/2
	850	Branch 1 (Int. 2)	G4/2
<b>TOTAL SPECIAL BENEFIT</b>	<b>24,000</b>		

Special Benefits for provisional tile upsizing items are non-grantable. See *Section 14 GRANT* for more information. Special Benefits are estimates only and are also not to be pro-rated. The final special benefits will be determined after construction by inserting

the actual construction costs in the Special Benefit Assessments Table according to the Provisional Item #.

### **13.5 Increased Cost (Special) Assessment (Section 26)**

Section 26 of the Drainage Act directs that any increased cost due to a public utility (utility) or road authority (road) shall be paid for by that utility or road. This assessment is known as a Special Assessment.

The estimated Special Assessments are presented in Table 13.5-1 - Estimated Special Assessments. The equivalent drain cost is based on the length of the Drain affected by the road allowance or utility right of way and the normal cost of drain construction. The increased cost caused by the road or utility is determined by subtracting the equivalent drain cost from the construction and engineering costs.

**Table 13.5-1 - Estimated Special Assessments**

	<b><u>Main Drain</u></b>	
<b>Road/Railroad/Utility</b>	Perth-Oxford Road (Oxford Road 24)	Perth-Oxford Road (Perth Road 101)
<b>Authority/Owner</b>	Oxford County	Perth County
<b>Construction Cost</b>	26,550 <sup>1</sup>	26,550 <sup>1</sup>
<b>+ Engineering Cost</b>	5,600	5,600
<b>- Equivalent Drain Cost</b>	1,750	1,750
<b>+ Net HST</b>	535	535
<b>= Estimated Special Assess.</b>	<b>30,935</b>	<b>30,935</b>

<sup>1</sup>Items A14 & A15 from the construction cost estimate divided in half.

Estimated costs shown above have been totalled for the full crossing of the Perth-Oxford Road and split equally between the two road authorities as it is a boundary road.

The actual special assessments will be determined after construction by inserting the actual construction and engineering costs in the Special Assessments Table. Any additional costs identified by the engineer will be added to the Special Assessment where appropriate.

In this case, it is anticipated that the road authority will elect to construct the Drain within their right of way with their own contractor at the time culvert replacements are being completed along the Perth-Oxford Road in the summer of 2022. If that occurs, the special assessment is calculated by inserting zero for the construction cost. At the time of the filing of this report, a quotation for the extra work to install the road crossing has been received from Oxford County's culvert replacement contractor that the County is in the process of reviewing. The estimate for construction shown above has not been updated to reflect this quotation. The construction estimate in this report represents the expected cost of the open cut crossing if the work were to be competitively bid through a tendering process.

If there are increased costs to the drain project at the time of construction due to a utility or road not listed in the table above, a Special Assessment will be based on the actual costs incurred.

Special Assessments do not apply to future maintenance assessments.

### **13.6 Assessment Schedules**

#### **13.6.1 Schedule A- Schedule of Assessments**

The estimated cost for the drainage works in this report is distributed among lands, roads and utilities, as shown in Schedule A, the Schedule of Assessments. In Schedule A each parcel of land assessed has been identified by the municipal assessment roll number at the time of the preparation of this report. The size of each parcel was established using the assessment roll information. If an "F" is shown in the first column, it denotes lands with current Farm Property Tax Class designation that may qualify for Grant. For convenience only, each parcel is also identified by the owner name(s) from the last revised assessment roll.

#### **13.6.2 Schedule B -Schedule of Assessments for Maintenance**

In accordance with Section 74 of the Act, the Drain shall be maintained by the Municipality, and the cost of maintenance shall be assessed to lands and roads upstream of the maintenance location, pro rata with the amounts in Schedule B. The \$ amounts in Schedule B are listed solely for calculating percentages (share of future maintenance costs) and will not be levied with the final cost of the drainage works.

Roll numbers are per the Municipality's last revised assessment roll, names included for convenience. The Municipality will confirm eligibility for the grant at the time the maintenance cost is levied.

Schedule B is divided into columns to reflect the different branches where maintenance work may be undertaken. The percentages shown in Schedule B determine the share of future maintenance to be levied to property or road. For example, a \$1,000 tile repair will result in a \$50 assessment to a property with a 5% maintenance assessment.

#### **13.6.3 Schedule C – Schedule for Actual Cost Bylaw**

After the construction of the Drain is certified, complete by the Engineer, the Municipality will determine the actual cost of the Drain. Actual assessments will be determined by prorating the actual cost of the Drain using Schedule C. Schedule C illustrates the estimated net assessments after deducting allowances and grants from the total assessments shown in Schedule A. Eligibility for the grant will be confirmed by the Municipality at the time the actual cost is levied. Actual assessments in Schedule C will be levied to the owner of the identified parcel at the time the Actual Cost Bylaw is passed. Roll numbers are per the Municipality's last revised assessment roll, and the names are included for convenience.



## **14 GRANT**

In accordance with the provisions of Section 85 of the Act, a grant not exceeding 1/3 (33-1/3%) may be available on the assessments against lands used for agricultural purposes. The current OMAFRA *Agricultural Drainage Infrastructure Program* (ADIP) policy defines agricultural lands as privately owned parcels of land which have the Farm Property Class Tax Rate. Based on Municipal assessment roll information, parcels that have the Farm Property Tax Class are identified with an 'F' in the first column of the assessment schedules.

Section 88 of the Act provides for the Municipality to apply for this grant after the construction of the Drain is certified complete by the Engineer. The Municipality must confirm the Farm Property Tax Class on the assessed parcels at the time the grant application is completed and submitted to OMAFRA. OMAFRA has the authority to determine grant eligibility regardless of the designation herein.

If any portion of the drainage works is not eligible for the grant, as per OMAFRA's ADIP policy, those ineligible costs have been separately identified in this report. In specific, Section 2.3(m) of the ADIP policy identifies that the maximum design standard for pipe systems in agricultural areas is the 38mm (1.5") drainage coefficient design. Special benefit assessments applied to provisional items for increasing sections of the Witzel Drain beyond the 38mm drainage coefficient design are not grant eligible. Schedule C – Schedule for Actual Cost Bylaw separates these special benefit assessments.

## **15 PRIVACY OF LANDS**

A right of way for the Municipality 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.

## **16 MAINTENANCE**

### **16.1 General**

Section 74 of the Act requires the Drain, as outlined in this report, to be maintained by the Municipality, and the cost of maintenance to be assessed to the upstream lands and roads pro rata with the assessments in Schedule B. Considering this report contains sections of branch drains proposed as optional materials and provisional items to upsize sections of tile drain, with the decisions not to be made/known until the time of construction, the Drain shall be maintained in the future as per the tile sizes and materials that were actually constructed.

All parties affected by the Drain, are encouraged to periodically inspect the Drain and report any visible or suspected problems to the Municipality.

A right of way along the drain and access routes to the Drain exist for the Municipality to maintain the Drain.

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.

### **16.2 Updating Future Maintenance Schedules**

To ensure future maintenance assessments are equitable, the assessments provided in this report should be reapportioned under Section 65 when severances or amalgamations occur when new lands are connected to the Drain or 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.

## **17 BYLAW**

This report including the drawings, specifications, and assessment schedules, when adopted by bylaw in accordance with the Act, provides the basis for construction and maintenance of the Drain.

All of which is respectfully submitted,

K. SMART ASSOCIATES LTD.



Curtis MacIntyre, P. Eng.





May 30, 2022

**SCHEDULE A - SCHEDULE OF ASSESSMENTS**  
**WITZEL DRAIN**  
**TOWNSHIP OF EAST ZORRA - TAVISTOCK /**  
**TOWNSHIP OF PERTH EAST**

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Con Lot Roll Number (Owner)			Main Drain					Branch 1					Branch 2				
			Total ha affected	Benefit (Sec. 22)	Special (Sec. 24/26)	Outlet (Sec. 23)	Total	Total ha affected	Benefit (Sec. 22)	Special (Sec. 24/26)	Outlet (Sec. 23)	Total	Total ha affected	Benefit (Sec. 22)	Special (Sec. 24/26)	Outlet (Sec. 23)	Total
<b>Township of East Zorra - Tavistock (Roll No. 32-38-010-)</b>																	
F 18	Pt. Lot. 34	060-12100 (Destination Dairy Ltd.)	4.9	19,100	9,400	1,217	29,717	14.4	28,900	2,400	7,050	38,350	5.3	12,500	0	3,527	16,027
F 18	Pt. Lots 35, 36	060-12300 (J. & A. Witzel)	64.0	54,500	9,800	28,439	92,739	0.0	0	0	0	0	0.0	0	0	0	0
F 18	Pt. Lots 33,34	060-12500 (Highhaven Holsteins Inc.)	0.0	0	0	0	0	0.8	0	0	250	250	0.0	0	0	0	0
F 18	Pt. Lots 34, 35, 36	060-12700 (Highhaven Holsteins Inc.)	14.6	1,000	0	4,101	5,101	29.2	13,700	2,400	16,467	32,567	8.9	7,000	0	5,923	12,923
<b>Subtotal (Lands):</b>			<b>83.5</b>	<b>74,600</b>	<b>19,200</b>	<b>33,757</b>	<b>127,557</b>	<b>44.4</b>	<b>42,600</b>	<b>4,800</b>	<b>23,767</b>	<b>71,167</b>	<b>14.2</b>	<b>19,500</b>	<b>0</b>	<b>9,450</b>	<b>28,950</b>
19th Line (Township of East Zorra-Tavistock)			0.0	0	0	0	0	0.2	0	0	248	248	0.0	0	0	0	0
1/2 of Perth-Oxford Road (Oxford County)			1.9	2,500	30,935	3,811	37,246	0.0	0	0	0	0	0.0	0	0	0	0
<b>Subtotal (Roads):</b>			<b>1.9</b>	<b>2,500</b>	<b>30,935</b>	<b>3,811</b>	<b>37,246</b>	<b>0.2</b>	<b>0</b>	<b>0</b>	<b>248</b>	<b>248</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Assessment Township of East Zorra - Tavistock:</b>			<b>85.4</b>	<b>77,100</b>	<b>50,135</b>	<b>37,568</b>	<b>164,803</b>	<b>44.6</b>	<b>42,600</b>	<b>4,800</b>	<b>24,015</b>	<b>71,415</b>	<b>14.2</b>	<b>19,500</b>	<b>0</b>	<b>9,450</b>	<b>28,950</b>
<b>Township of Perth East (Roll No. 31-10-010-)</b>																	
F 3	Pt. Lots 4, 5	002-00100 (Claynook Farms Ltd.)	31.3	18,300	0	23,710	42,010	0.0	0	0	0	0	0.0	0	0	0	0
F 2	Lot 3, Pt. Lot 4	001-19200 (Wagler Farmstead Ltd.)	7.3	0	0	5,602	5,602	0.0	0	0	0	0	0.0	0	0	0	0
<b>Subtotal (Lands):</b>			<b>38.6</b>	<b>18,300</b>	<b>0</b>	<b>29,312</b>	<b>47,612</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
33rd Line (Township of Perth- East)			1.5	0	0	2,301	2,301	0.0	0	0	0	0	0.0	0	0	0	0
1/2 of Perth-Oxford Road (Perth County)			1.6	2,500	30,935	3,684	37,119	0.0	0	0	0	0	0.0	0	0	0	0
<b>Subtotal (Roads):</b>			<b>3.1</b>	<b>2,500</b>	<b>30,935</b>	<b>5,985</b>	<b>39,420</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Assessment Township of Perth East:</b>			<b>41.7</b>	<b>20,800</b>	<b>30,935</b>	<b>35,297</b>	<b>87,032</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TOTAL ASSESSMENT WITZEL DRAIN:</b>			<b>127.1</b>	<b>97,900</b>	<b>81,070</b>	<b>72,865</b>	<b>251,835</b>	<b>44.6</b>	<b>42,600</b>	<b>4,800</b>	<b>24,015</b>	<b>71,415</b>	<b>14.2</b>	<b>19,500</b>	<b>0</b>	<b>9,450</b>	<b>28,950</b>

## Notes:

- Lands noted with an "F" are classified as agricultural and according to current OMAFRA policy qualify for the 1/3 grant. Eligibility for the 1/3 grant will be confirmed at the time the final cost is levied.
- Section 21 of the Drainage Act, RSO 1990 requires that assessments be shown opposite each 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 County/Township. For convenience the owner's names as shown by the last revised assessment roll have also been included.

May 30, 2022

**SCHEDULE A - SCHEDULE OF ASSESSMENTS  
WITZEL DRAIN  
TOWNSHIP OF EAST ZORRA - TAVISTOCK /  
TOWNSHIP OF PERTH EAST**

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			Branch 3					Branch 4					Gross Total Assessment (\$)
Con	Lot	Roll Number (Owner)	Total ha affected	Benefit (Sec. 22)	Special (Sec. 24/26)	Outlet (Sec. 23)	Total	Total ha affected	Benefit (Sec. 22)	Special (Sec. 24/26)	Outlet (Sec. 23)	Total	
<b><i>Township of East Zorra - Tavistock (Roll No. 32-38-010-)</i></b>													
F 18	Pt. Lot. 34	060-12100 (Destination Dairy Ltd.)	0.0	0	0	0	0	0.0	0	0	0	0	84,094
F 18	Pt. Lots 35, 36	060-12300 (J. & A. Witzel)	12.6	37,100	0	20,221	57,321	19.4	36,400	0	23,124	59,524	209,584
F 18	Pt. Lots 33,34	060-12500 (Highhaven Holsteins Inc.)	0.0	0	0	0	0	0.0	0	0	0	0	250
F 18	Pt. Lots 34, 35, 36	060-12700 (Highhaven Holsteins Inc.)	11.3	12,900	0	18,134	31,034	3.3	4,200	0	3,933	8,133	89,758
<b>Subtotal (Lands):</b>			23.9	50,000	0	38,355	88,355	22.7	40,600	0	27,057	67,657	383,686
19th Line (Township of East Zorra-Tavistock)			0.0	0	0	0	0	0.0	0	0	0	0	248
1/2 of Perth-Oxford Road (Oxford County)			0.0	0	0	0	0	0.5	0	0	1,788	1,788	39,034
<b>Subtotal (Roads):</b>			0.0	0	0	0	0	0.5	0	0	1,788	1,788	39,282
<b>Total Assessment Township of East Zorra - Tavistock:</b>			23.9	50,000	0	38,355	88,355	23.2	40,600	0	28,845	69,445	422,968
<b><i>Township of Perth East (Roll No. 31-10-010-)</i></b>													
F 3	Pt. Lots 4, 5	002-00100 (Claynook Farms Ltd.)	0.0	0	0	0	0	0.0	0	0	0	0	42,010
F 2	Lot 3, Pt. Lot 4	001-19200 (Wagler Farmstead Ltd.)	0.0	0	0	0	0	0.0	0	0	0	0	5,602
<b>Subtotal (Lands):</b>			0.0	0	0	0	0	0.0	0	0	0	0	47,612
33rd Line (Township of Perth- East)			0.0	0	0	0	0	0.0	0	0	0	0	2,301
1/2 of Perth-Oxford Road (Perth County)			0.0	0	0	0	0	0.0	0	0	0	0	37,119
<b>Subtotal (Roads):</b>			0.0	0	0	0	0	0.0	0	0	0	0	39,420
<b>Total Assessment Township of Perth East:</b>			0.0	0	0	0	0	0.0	0	0	0	0	87,032
<b>TOTAL ASSESSMENT WITZEL DRAIN:</b>			<b>23.9</b>	<b>50,000</b>	<b>0</b>	<b>38,355</b>	<b>88,355</b>	<b>23.2</b>	<b>40,600</b>	<b>0</b>	<b>28,845</b>	<b>69,445</b>	<b>510,000</b>

Notes:

1. Lands noted with an "F" are classified as agricultural and according to current OMAFRA policy qualify for the 1/3 grant. Eligibility for the 1/3 grant will be confirmed at the time the final cost is levied.
2. Section 21 of the Drainage Act, RSO 1990 requires that assessments be shown opposite each 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 County/Township. For convenience the owner's names as shown by the last revised assessment roll have also been included.



**SCHEDULE B - SCHEDULE OF ASSESSMENTS FOR FUTURE MAINTENANCE**  
**WITZEL DRAIN**  
**TOWNSHIP OF EAST ZORRA - TAVISTOCK /**  
**TOWNSHIP OF PERTH EAST**

Con Lot Roll No. & Owner			Main Drain						Branch 1				Branch 2		Branch 3		Branch 4	
			Interval 1		Interval 2		Interval 3		Interval 1		Interval 2							
			0+000 to 0+341		0+341 to 0+570		0+570 to 1+170		0+000 to 0+308		0+308 to 0+644		0+000 to 0+445		0+000 to 1+000		0+000 to 1+013	
			\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
<b><u>Township of East Zorra - Tavistock (Roll No. 32-38-010-)</u></b>																		
18 Pt. Lot. 34	060-12100 (Destination Dairy Ltd.)		15,007	30.00	0	0.00	0	0.00	14,425	51.90	7,075	40.37	9,600	50.00	0	0.00	0	0.00
18 Pt. Lots 35, 36	060-12300 (J. & A. Witzel)		18,305	36.59	14,635	62.77	19,390	40.00	0	0.00	0	0.00	0	0.00	38,771	61.20	39,316	80.00
18 Pt. Lots 33,34	060-12500 (Highhaven Holsteins Inc.)		0	0.00	0	0.00	0	0.00	172	0.62	78	0.45	0	0.00	0	0.00	0	0.00
18 Pt. Lots 34, 35, 36	060-12700 (Highhaven Holsteins Inc.)		3,875	7.75	726	3.11	0	0.00	13,022	46.86	10,295	58.74	9,600	50.00	24,584	38.80	8,041	16.36
			37,187	74.34	15,361	65.88	19,390	40.00	27,619	99.38	17,448	99.56	19,200	100.00	63,355	100.00	47,357	96.36
19th Line (Township of East Zorra-Tavistock)			0	0.00	0	0.00	0	0.00	171	0.62	77	0.44	0	0.00	0	0.00	0	0.00
1/2 of Perth-Oxford Road (Oxford County)			1,415	2.84	822	3.53	2,804	5.79	0	0.00	0	0.00	0	0.00	0	0.00	1,788	3.64
Total Assessments on Roads:			1,415	2.84	822	3.53	2,804	5.79	171	0.62	77	0.44	0	0.00	0	0.00	1,788	3.64
Total Assessment Township of East Zorra - Tavistock:			38,602	77.18	16,183	69.41	22,194	45.79	27,790	100.00	17,525	100.00	19,200	100.00	63,355	100.00	49,145	100.00
<b><u>Township of Perth East (Roll No. 31-10-010-)</u></b>																		
3 Pt. Lots 4, 5	002-00100 (Claynook Farms Ltd.)		7,673	15.34	4,955	21.25	19,390	40.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2 Lot 3, Pt. Lot 4	001-19200 (Wagler Farmstead Ltd.)		1,813	3.61	1,053	4.52	2,736	5.64	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total Assessments on Lands:			9,486	18.95	6,008	25.77	22,126	45.64	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
33rd Line (Township of Perth- East)			744	1.49	432	1.85	1,125	2.32	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
1/2 of Perth-Oxford Road (Perth County)			1,193	2.38	692	2.97	3,030	6.25	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total Assessments on Roads:			1,937	3.87	1,124	4.82	4,155	8.57	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total Assessment Township of Perth East:			11,423	22.82	7,132	30.59	26,281	54.21	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>TOTAL ASSESSMENTS:</b>			50,025	100.00	23,315	100.00	48,475	100.00	27,790	100.00	17,525	100.00	19,200	100.00	63,355	100.00	49,145	100.00

**Notes:**

1. Agricultural designation not included as grant eligibility has to be confirmed at the time of maintenance cost levy.
2. \$ amounts above are listed solely for calculating percentages (share of future maintenance costs) and will not be levied with the final cost of the drainage works.

May 30, 2022

**SCHEDULE C - SCHEDULE FOR ACTUAL COST BYLAW  
WITZEL DRAIN  
TOWNSHIP OF EAST ZORRA - TAVISTOCK /  
TOWNSHIP OF PERTH EAST**

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Con	Lot	Owner	Ha. Affected	Gross Assessment	Minus Special Benefit (Sec. 24) Assessments	Eligible Grantable Assessments	1/3 Grant	Allowances	NET
<b>Township of East Zorra - Tavistock (Roll No. 32-38-010-)</b>									
F	18	Pt. Lot. 34	060-12100 (Destination Dairy Ltd.)	19.3	84,094	11,800	72,294	24,098	53,346
F	18	Pt. Lots 35, 36	060-12300 (J. & A. Witzel)	64.0	209,584	9,800	199,784	66,595	129,889
F	18	Pt. Lots 33,34	060-12500 (Highhaven Holsteins Inc.)	0.8	250		250	83	167
F	18	Pt. Lots 34, 35, 36	060-12700 (Highhaven Holsteins Inc.)	43.8	89,758	2,400	87,358	29,119	59,939
<b>Subtotal (Lands):</b>			127.9	383,686	24,000	359,686	119,895	20,450	243,341
		19th Line (Township of East Zorra-Tavistock)	0.2	248	0	248	0		248
		1/2 of Perth-Oxford Road (Oxford County)	1.9	39,034	0	39,034	0		39,034
<b>Subtotal (Roads):</b>			2.1	39,282	0	39,282	0	0	39,282
<b>Total Assessment Township of East Zorra - Tavistock:</b>			130.0	422,968	24,000	398,968	119,895	20,450	282,623
<b>Township of Perth East (Roll No. 31-10-010-)</b>									
F	3	Pt. Lots 4, 5	002-00100 (Claynook Farms Ltd.)	31.3	42,010	0	42,010	14,003	27,507
F	2	Lot 3, Pt. Lot 4	001-19200 (Wagler Farmstead Ltd.)	7.3	5,602	0	5,602	1,867	3,735
<b>Subtotal (Lands):</b>			38.6	47,612	0	47,612	15,870	500	31,242
		33rd Line (Township of Perth- East)	1.5	2,301	0	2,301	0		2,301
		1/2 of Perth-Oxford Road (Perth County)	1.6	37,119	0	37,119	0		37,119
<b>Subtotal (Roads):</b>			3.1	39,420	0	39,420	0	0	39,420
<b>Total Assessment Township of Perth East:</b>			41.7	87,032	0	87,032	15,870	500	70,662
<b>TOTAL ASSESSMENT WITZEL DRAIN:</b>			171.7	510,000	24,000	486,000	135,765	20,950	353,285

## Notes:

- Lands noted with an "F" are classified as agricultural and according to current OMAFRA policy qualify for the 1/3 grant. Eligibility for the 1/3 grant will be confirmed at the time the final cost is levied.
- Actual assessment is levied to the owner of the parcel at the time the final cost is levied.
- Special Benefit Assessments have been subtracted from Gross Assessments to obtain Eligible Grantable Assessments.

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**WITZEL DRAIN**  
**TOWNSHIP OF EAST ZORRA - TAVISTOCK /**  
**TOWNSHIP OF PERTH EAST**

		Main Drain																		
		Interval 1				Interval 2				Interval 3				Main Drain						
		Station	0+000	to	0+341	Station	0+341	to	0+570	Station	0+570	to	1+170	Total						
ESTIMATED COST	Allowances			1,950				1,150				3,400		6,500						
	Construction			48,500				24,000				105,600		178,100						
	Engineering			8,900				3,600				12,900		25,400						
	Construction Supervision			4,600				1,800				6,900		13,300						
	Administration			1,830				800				2,885		5,515						
	Net HST			1,095				515				2,210		3,820						
	SubTotal			66,875				31,865				133,895		232,635						
	Provisional			9,400				1,650				8,150		19,200						
TOTAL			76,275				33,515				142,045		251,835							
Roll No. (Owner)	Total Ha Affected	Run-off Factor	Total ha Adjusted	Benefit (Sec. 22)	Special (Sec. 24/26)	Adj Ha	Outlet (Sec. 23)	Benefit (Sec. 22)	Special (Sec. 24/26)	Adj Ha	Outlet (Sec. 23)	Benefit (Sec. 22)	Special (Sec. 24/26)	Adj Ha	Outlet (Sec. 23)	Total Benefit	Total Special	Total Outlet	Total	
Township of East Zorra - Tavistock (Roll No. 32-38-010-)																				
060-12100 (Destination Dairy Ltd.)		19.3	1.0	19.3	19,100	9,400	4.9	1,217		0.0	0			0.0	0	19,100	9,400	1,217	29,717	
060-12300 (J. & A. Witzel)		64.0	1.0	62.4	14,100		62.4	15,495	15,600	1,650	47.4	6,835	24,800	8,150	16.3	6,109	54,500	9,800	28,439	92,739
060-12500 (Highhaven Holsteins Inc.)		0.8	0.5	0.4			0.0	0			0.0	0			0.0	0	0	0	0	0
060-12700 (Highhaven Holsteins Inc.)		43.8	1.0	43.8	500		14.6	3,625	500		3.3	476			0.0	0	1,000		4,101	5,101
Subtotal (Lands):		127.9	3.5	125.9	33,700	9,400	81.9	20,337	16,100	1,650	50.7	7,311	24,800	8,150	16.3	6,109	74,600	19,200	33,757	127,557
19th Line (Township of East Zorra-Tavistock)		0.2	2.0	3.0			0.0	0			0.0	0			0.0	0	0	0	0	0
1/2 of Perth-Oxford Road (Oxford County)		1.9	3.0	4.8			5.7	1,415			5.7	822	2,500	30,935	4.2	1,574	2,500	30,935	3,811	37,246
Subtotal (Roads):		2.1	5.0	7.8	0	0	5.7	1,415	0	0	5.7	822	2,500	30,935	4.2	1,574	2,500	30,935	3,811	37,246
Total Assessment Township of East Zorra - Tavistock:		130.0	8.5	133.7	33,700	9,400	88	21,752	16,100	1,650	56	8,133	27,300	39,085	21	7,683	77,100	50,135	37,568	164,803
Township of Perth East (Roll No. 31-10-010-)																				
002-00100 (Claynook Farms Ltd.)		31.3	1.0	30.9			30.9	7,673	1,000		30.9	4,455	17,300		30.9	11,582	18,300	0	23,710	42,010
001-19200 (Wagler Farmstead Ltd.)		7.3	1.0	7.3			7.3	1,813			7.3	1,053			7.3	2,736	0	0	5,602	5,602
Subtotal (Lands):		38.6	2.0	38.2	0	0	38.2	9,486	1,000	0	38.2	5,508	17,300	0	38.2	14,318	18,300	0	29,312	47,612
33rd Line (Township of Perth- East)		1.5	2.0	3.0			3.0	744			3.0	432			3.0	1,125	0	0	2,301	2,301
1/2 of Perth-Oxford Road (Perth County)		1.6	3.0	4.8			4.8	1,193			4.8	692	2,500	30,935	4.8	1,799	2,500	30,935	3,684	37,119
Subtotal (Roads):		3.1	5.0	7.8	0	0	7.8	1,937	0	0	7.8	1,124	2,500	30,935	7.8	2,924	2,500	30,935	5,985	39,420
Total Assessment Township of Perth East:		41.7	7.0	46.0	0	0	46.0	11,423	1,000	0	46.0	6,632	19,800	30,935	46.0	17,242	20,800	30,935	35,297	87,032
TOTAL ASSESSMENT WITZEL DRAIN:		171.7		179.7	33,700	9,400	133.6	33,175	17,100	1,650	102.4	14,765	47,100	70,020	66.5	24,925	97,900	81,070	72,865	251,835

**WITZEL DRAIN**  
**TOWNSHIP OF EAST ZORRA - TAVISTOCK /**  
**TOWNSHIP OF PERTH EAST**

		Branch 1												Branch 2						
		Interval 1				Interval 2				Branch 1										
		Station	0+000	to	0+308	Station	0+308	to	0+644	Total				Station	0+000	to	0+445			
ESTIMATED COST	Allowances				1,550				1,800				3,350				1,900			
	Construction				27,000				21,300				48,300				20,000			
	Engineering				4,200				3,700				7,900				3,800			
	Construction Supervision				2,300				2,000				4,300				2,000			
	Administration				900				800				1,700				800			
	Net HST				590				475				1,065				450			
	SubTotal				36,540				30,075				66,615				28,950			
Provisional				3,100				1,700				4,800				0				
TOTAL				39,640				31,775				71,415				28,950				
Roll No. (Owner)	Total Ha Affected	Run-off Factor	Total ha Adjusted	Benefit (Sec. 22)	Special (Sec. 24/26)	Adj Ha	Outlet (Sec. 23)	Benefit (Sec. 22)	Special (Sec. 24/26)	Adj Ha	Outlet (Sec. 23)	Total Benefit	Total Special	Total Outlet	Total	Benefit (Sec. 22)	Special (Sec. 24/26)	Adj Ha	Outlet (Sec. 23)	
Township of East Zorra - Tavistock (Roll No. 32-38-010-)																				
060-12100 (Destination Dairy Ltd.)		19.3	1.0	19.3	16,500	1,550	14.4	6,175	12,400	850	4.5	875	28,900	2,400	7,050	38,350	12,500		5.3	3,527
060-12300 (J. & A. Witzel)		64.0	1.0	62.4			0.0	0			0.0	0	0	0	0	0			0.0	0
060-12500 (Highhaven Holsteins Inc.)		0.8	0.5	0.4			0.4	172			0.4	78	0	0	250	250			0.0	0
060-12700 (Highhaven Holsteins Inc.)		43.8	1.0	43.8	1,000	1,550	29.2	12,522	12,700	850	20.3	3,945	13,700	2,400	16,467	32,567	7,000		8.9	5,923
Subtotal (Lands):		127.9	3.5	125.9	17,500	3,100	44.0	18,869	25,100	1,700	25.2	4,898	42,600	4,800	23,767	71,167	19,500	0	14.2	9,450
19th Line (Township of East Zorra-Tavistock)		0.2	2.0	3.0			0.4	171			0.4	77	0	0	248	248			0.0	0
1/2 of Perth-Oxford Road (Oxford County)		1.9	3.0	4.8			0.0	0			0.0	0	0	0	0	0			0.0	0
Subtotal (Roads):		2.1	5.0	7.8	0	0	0.4	171	0	0	0.4	77	0	0	248	248	0	0	0.0	0
Total Assessment Township of East Zorra - Tavistock:		130.0	8.5	133.7	17,500	3,100	44	19,040	25,100	1,700	26	4,975	42,600	4,800	24,015	71,415	19,500	0	14	9,450
Township of Perth East (Roll No. 31-10-010-)																				
002-00100 (Claynook Farms Ltd.)		31.3	1.0	30.9			0.0	0			0.0	0	0	0	0	0			0.0	0
001-19200 (Wagler Farmstead Ltd.)		7.3	1.0	7.3			0.0	0			0.0	0	0	0	0	0			0.0	0
Subtotal (Lands):		38.6	2.0	38.2	0	0	0.0	0	0	0	0.0	0	0	0	0	0	0	0	0.0	0
33rd Line (Township of Perth- East)		1.5	2.0	3.0			0.0	0			0.0	0	0	0	0	0			0.0	0
1/2 of Perth-Oxford Road (Perth County)		1.6	3.0	4.8			0.0	0			0.0	0	0	0	0	0			0.0	0
Subtotal (Roads):		3.1	5.0	7.8	0	0	0.0	0	0	0	0.0	0	0	0	0	0	0	0	0.0	0
Total Assessment Township of Perth East:		41.7	7.0	46.0	0	0	0.0	0	0	0	0.0	0	0	0	0	0	0	0	0.0	0
TOTAL ASSESSMENT WITZEL DRAIN:		171.7		179.7	17,500	3,100	44.4	19,040	25,100	1,700	25.6	4,975	42,600	4,800	24,015	71,415	19,500	0	14.2	9,450

**TOWNSHIP OF EAST ZORRA - TAVISTOCK /  
TOWNSHIP OF PERTH EAST**

		Branch 3				Branch 4				Grand Total			
		Station	0+000	to	1+000	Station	0+000	to	1+013				
<b>ESTIMATED COST</b>	Allowances			4,750				4,450			20,950		
	Construction			63,000				48,800			358,200		
	Engineering			11,100				8,800			57,000		
	Construction Supervision			5,800				4,600			30,000		
	Administration			2,300				1,700			12,015		
	Net HST			1,405				1,095			7,835		
	SubTotal			88,355				69,445			486,000		
	Provisional			0				0			24,000		
	TOTAL			88,355				69,445			510,000		
Roll No. (Owner)	Total Ha Affected	Run-off Factor	Total ha Adjusted	Benefit (Sec. 22)	Special (Sec. 24/26)	Outlet Adj Ha (Sec. 23)	Benefit (Sec. 22)	Special (Sec. 24/26)	Outlet Adj Ha (Sec. 23)	Total Benefits	Total Special	Total Outlets	TOTAL
<b>Township of East Zorra - Tavistock (Roll No. 32-38-010-)</b>													
060-12100 (Destination Dairy Ltd.)	19.3	1.0	19.3			0.0			0.0	60,500	11,800	11,794	84,094
060-12300 (J. & A. Witzel)	64.0	1.0	62.4	37,100		12.6	36,400		19.4	128,000	9,800	71,784	209,584
060-12500 (Highhaven Holsteins Inc.)	0.8	0.5	0.4			0.0			0.0	0	0	250	250
060-12700 (Highhaven Holsteins Inc.)	43.8	1.0	43.8	12,900		11.3	4,200		3.3	38,800	2,400	48,558	89,758
<b>Subtotal (Lands):</b>	<b>127.9</b>	<b>3.5</b>	<b>125.9</b>	<b>50,000</b>	<b>0</b>	<b>23.9</b>	<b>40,600</b>	<b>0</b>	<b>22.7</b>	<b>227,300</b>	<b>24,000</b>	<b>132,386</b>	<b>383,686</b>
19th Line (Township of East Zorra-Tavistock)	0.2	2.0	3.0			0.0			0.0	0	0	248	248
1/2 of Perth-Oxford Road (Oxford County)	1.9	3.0	4.8			0.0			1.5	2,500	30,935	5,599	39,034
<b>Subtotal (Roads):</b>	<b>2.1</b>	<b>5.0</b>	<b>7.8</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>1.5</b>	<b>2,500</b>	<b>30,935</b>	<b>5,847</b>	<b>39,282</b>
<b>Total Assessment Township of East Zorra - Tavistock:</b>	<b>130.0</b>	<b>8.5</b>	<b>133.7</b>	<b>50,000</b>	<b>0</b>	<b>23.9</b>	<b>40,600</b>	<b>0</b>	<b>24</b>	<b>229,800</b>	<b>54,935</b>	<b>138,233</b>	<b>422,968</b>
<b>Township of Perth East (Roll No. 31-10-010-)</b>													
002-00100 (Claynook Farms Ltd.)	31.3	1.0	30.9			0.0			0.0	18,300	0	23,710	42,010
001-19200 (Wagler Farmstead Ltd.)	7.3	1.0	7.3			0.0			0.0	0	0	5,602	5,602
<b>Subtotal (Lands):</b>	<b>38.6</b>	<b>2.0</b>	<b>38.2</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>18,300</b>	<b>0</b>	<b>29,312</b>	<b>47,612</b>
33rd Line (Township of Perth- East)	1.5	2.0	3.0			0.0			0.0	0	0	2,301	2,301
1/2 of Perth-Oxford Road (Perth County)	1.6	3.0	4.8			0.0			0.0	2,500	30,935	3,684	37,119
<b>Subtotal (Roads):</b>	<b>3.1</b>	<b>5.0</b>	<b>7.8</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>2,500</b>	<b>30,935</b>	<b>5,985</b>	<b>39,420</b>
<b>Total Assessment Township of Perth East:</b>	<b>41.7</b>	<b>7.0</b>	<b>46.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>20,800</b>	<b>30,935</b>	<b>35,297</b>	<b>87,032</b>
<b>TOTAL ASSESSMENT WITZEL DRAIN:</b>	<b>171.7</b>		<b>179.7</b>	<b>50,000</b>	<b>0</b>	<b>23.9</b>	<b>40,600</b>	<b>0</b>	<b>24.2</b>	<b>250,600</b>	<b>85,870</b>	<b>173,530</b>	<b>510,000</b>





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**200                    GENERAL CONDITIONS****200.1                SCOPE**

The work to be done under this contract consists of supplying all labour, equipment and materials to construct the drainage work as outlined in the Instructions to Tenderers, the Form of Tender and Agreement, the Schedule of Tender Prices, the Drawings, the General Conditions, Special Provisions and the Standard Specifications.

**200.2                ORDER OF PRECEDENCE**

In case of any inconsistency or conflict between the drawings and specifications, the following order of precedence shall apply: Addenda, Form of Tender and Agreement, Schedule of Tender Prices, Special Provisions, Contract Drawings, Standard Specifications, General Conditions.

**200.3                MUNICIPALITY**

Municipality refers to a municipal corporation in the Province of Ontario. Where reference to Township, County, Region, Town, City or Owner appears it shall be deemed to be the same as the word Municipality. Where reference to owner appears in the specifications it is usually in reference to the owner of the property on which the drain is being constructed.

**200.4                TENDERS**

Tenders are to be submitted on a lump sum basis for the complete works or a portion thereof, as instructed by the Municipality. The Schedule of Tender Prices must be completed and submitted with the Form of Tender and Agreement even though the Contract will be a lump sum. As outlined in the Instructions to Tenders a deposit in the form of a certified cheque, bank draft, bonding or irrevocable letter of credit must accompany each tender as a guarantee of good faith. The deposit shall name the Municipality as the payee. All deposits, except that of the Tenderer to whom the work is awarded, will be returned within 10 days of the time the contract is awarded. The certified cheque of the Tenderer awarded the work will be retained as Contract Security and returned with the Completion Certificate for the work. A Performance Bond may also be required to ensure maintenance of the work for a period of one year after the date of the Completion Certificate.

**200.5                EXAMINATION OF SITE, PLANS AND SPECIFICATIONS**

Prior to the submission of the Tender, the Tenderer must examine the premises and site to compare them with the Drawings and Specifications in order to be satisfied with the existing conditions and the extent of the work to be done. The Tenderer must ensure that the meaning and intent of the drawings, estimated quantities and specifications is clearly understood before submission of the Tender. No allowances shall be made on behalf of the Contractor by reason of any error made in the preparation of the tender submission.

Any estimates of quantities shown or indicated on the drawings or elsewhere in the tender document are provided for the convenience of the Tenderer. The Tenderer should check the estimate of quantities for accuracy. Any use made of the estimated quantities by the Tenderer in calculating the tendered amounts is done at the Tenderers risk.

**200.6 COMMENCEMENT AND COMPLETION OF WORK**

The work must commence immediately after the Tenderer is notified of the contract award or at a later date, if set out as a condition in the Form of Tender and Agreement. If weather and ground conditions are unsuitable, work may be started at a later date from either of the above two dates if such delay is approved by the Engineer. The Contractor shall provide a minimum of 48 hours advance notice to the Engineer and the Municipality before commencement of any work. The work must proceed in such manner as to ensure its completion at the earliest possible date consistent with first class workmanship and within the time limit set out in the tender/contract document. Failure to commence or complete the work as set out in the tender/contract document may result in a forfeiture of all or part of the Contract Security if the Engineer deems that damages have been sustained to the Municipality or to any landowner because of the non-commencement or non-completion of the contract as awarded and that the failure to meet the specified dates has been the fault of the Contractor.

**200.7 NOTICES RE COMMENCEMENT OF WORK**

If the Contractor leaves the job site for a period of time after initiation of work, a minimum of 48 hours advance notice shall be given to the Engineer and the Municipality before commencement of any further work. If any work is commenced without the advance notice the Contractor shall be fully responsible for all such work undertaken prior to such notification and shall make good any works or materials judged to be inadequate or constructed in any manner that may have been subject to alteration if made known to the Engineer prior to commencement of construction.

**200.8 PERMITS, NOTICES, LAWS AND RULES**

The Contractor shall apply and pay for all necessary permits or licenses required for the execution of the work. This shall not include the obtaining of permanent easements or rights or servitude. The Contractor shall give all necessary notices and pay all fees required by the law and comply with all laws, ordinances, rules and regulations relating to the work and to the preservation of the public's health and safety and if the specifications and drawings are at variance therewith, any resulting additional expense incurred by the Contractor shall constitute an addition to the contract price.

**200.9 HEALTH AND SAFETY**

*Contractor must comply with the Occupational Health and Safety Act (OHSA) and the associated Regulations for Construction Projects. Contractor will also follow any site-specific safety and training requirements of the Municipality, agencies, utility companies or other authorities.*

Communication about site-specific hazards and safety requirements shall occur at the pre-construction meeting. If no pre-construction meeting is conducted, Contractor will communicate site-specific hazards and safety requirements before beginning work.

Contractor shall immediately report any workplace incidents, near misses, injuries and occupational illnesses to the Engineer.

**200.10 LIMITATIONS OF OPERATIONS**

Except for such work as may be required by the Engineer to maintain the works in a safe and satisfactory condition, the Contractor shall not carry out operations under the contract on Sundays or Statutory Holidays without permission in writing from the Engineer. The Engineer may direct in writing to the Contractor to cease or limit operations under the contract on any day or days if the operations are of such a nature, or if the work is so located, or if the traffic is of such a volume, that the Engineer deems it necessary or expedient to do so.

**200.11 SUPERVISION**

The Contractor shall provide constant supervision of the construction work and shall keep a competent foreman in charge at the site.

**200.12 CHARACTER AND EMPLOYMENT OF WORKERS**

The Contractor shall employ only orderly, competent and skillful workers to do the work and shall give preference to available qualified residents in the area of the contract. Whenever the Engineer informs the Contractor in writing that any workers are, in the opinion of the Engineer, disorderly, incompetent, or breaking the law, such workers shall be discharged from the job site and shall not again be employed on the job site without the written consent of the Engineer.

**200.13 SUB-CONTRACTORS**

If the Municipality so directs, the Contractor shall not sublet the whole or any part of this contract without the approval of the Engineer.

**200.14 PAYMENT**

Progress payments in cash equal to about 90% of the value of the work done and materials incorporated in the work will be made to the Contractor monthly. If directed by the Engineer the Contractor may be required to provide a written request for the progress payment amount. An additional 7% will be paid 45 days after the date of the Completion Certificate by the Engineer and 3% of the contract price may be reserved by the Municipality as a maintenance holdback for one year from the date of the Completion Certificate.

The holdbacks noted above may be increased by the Municipality if, in the written opinion of the Engineer, particular conditions of the contract require such greater holdback.

After the completion of the work any part of maintenance holdback may be used to correct defects from faulty construction and/or materials provided that notice shall first be given by the Engineer in writing to the Contractor stating that the Contractor has seven (7) days in which to remedy the defect in construction and/or materials.

**200.15 TERMINATION OF CONTRACT BY THE MUNICIPALITY**

Termination of the contract by the Municipality may be considered if the Contractor:

1. should be adjudged bankrupt or make a general assignment for the benefit of creditors or if a receiver should be appointed on account of insolvency;
2. should refuse or fail to supply enough properly skilled workmen or proper materials after having received seven (7) days' notice in writing from the Engineer to supply such additional workmen or materials in order to commence or complete the works;
3. should fail to make prompt payment to sub-contractors or for materials or labour;
4. should persistently disregard laws, ordinances, or instructions from the Engineer, or otherwise be guilty of a substantial violation of the provisions of the contract;

then the Municipality, upon Certificate of the Engineer that sufficient cause exists to justify such action, may without prejudice to any other right or remedy, give written notice to the Contractor to terminate the employment of the Contractor and take possession of the premises, and of all materials, tools and appliances thereon, and may finish the work by whatever method the Municipality may deem expedient, but without undue delay or expense. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price will exceed the expense of finishing the work including compensation to the Engineer for additional



services and including other damages of every name and nature, such excess shall be paid to the Contractor. If such expense will exceed such unpaid balance including the Contract Security, the Contractor shall pay the difference to the Municipality. The expense incurred by the Municipality, as herein provided, shall be certified by the Engineer. If the contract is terminated by the Municipality due to the Contractor's failure to properly commence the works, the Contractor shall forfeit the Contract Security and furthermore shall pay to the Municipality an amount to cover the increased costs, if any, associated with a new tender for the contract being terminated.

If any unpaid balance and the Contract Security do not equal the monies owed by the Contractor upon the termination of the contract, the Municipality may also charge such expenses against any money which is or may thereafter be due to the Contractor from the Municipality.

#### **200.16 LIQUIDATED DAMAGES**

It is agreed by the parties to the Contract that in case all the work called for under the Contract is not finished or complete within the period of time as set forth in the Tender/Contract Document, damage will be sustained by the Municipality. It is understood by the parties that it will be impracticable and extremely difficult to ascertain and determine the actual damage which the Municipality will sustain in the event of and by reason of such delay. The parties hereto agree that the Contractor will pay to the Municipality a sum as set out in the Form of Tender and Agreement for liquidated damages for each and every calendar day delay, including Saturdays, Sundays and Statutory Holidays, in finishing the work in excess of the number of working days prescribed. It is agreed that the liquidated damages amount is an estimate of the actual damage to the Municipality which will accrue during the period in excess of the prescribed number of working days.

The Municipality may deduct any amount due under this section from any monies that may be due or payable to the Contractor on any account whatsoever. The liquidated damages payable under this section are in addition to and without prejudice to any other remedy, action or other alternative that may be available to the Municipality.

The Contractor shall not be assessed with liquidated damages for any delay caused by acts of nature, or of the Public Enemy, Acts of the Province or of any Foreign State, Fire, Flood, Epidemics, Quarantine Restrictions, Embargoes or any delays of Sub-Contractors due to such causes.

If the time available for the completion of the work is increased or decreased by reason of alterations or changes made under the provisions of the Contract, the number of working days shall be increased or decreased as determined by the Engineer.

If the Form of Tender and Agreement does not show an amount for Liquidated Damages then Liquidated Damages do not apply for this contract.

#### **200.17 CONTRACTOR'S LIABILITY**

The Contractor and all workers, agents or any party under the Contractor's control, including Sub-Contractors, shall use due care that no person or property is injured and that no rights are infringed during the construction work outlined in the contract. The Contractor shall be solely responsible for all damages by whomsoever claimable in respect of any injury to persons or to lands, buildings, structures, fences, livestock, trees, crops, roadways, ditches, drains and watercourses, whether natural or artificial, or property of whatever description and in respect of any infringement of any right, privilege or easement wherever occasioned in the carrying on of the work or any part thereof, or by any neglect, misfeasance or non-feasance on the Contractor's part or on the part of any workers, agents or parties under the Contractor's control including Sub-Contractors, and shall bear the full cost thereof. The Contractor shall be fully responsible to make such temporary provisions as may be necessary to ensure the avoidance of any such damage, injury or infringement and to prevent the interruption of or danger or menace to the traffic in any railway or any public or private road entrance or sidewalk and to secure to all persons and corporations the uninterrupted enjoyment of all their

rights, in and during the performance of the work. The Contractor shall indemnify and save harmless the Municipality and the Engineer from and against all claims, demands, losses, costs, damages, actions, suits or other proceedings by whomsoever made, brought or prosecuted in any manner based upon, occasioned by, or attributed to any such damage, injury or infringement.

Wherever any work is of such an extent and nature that it must necessarily be confined to particular areas of a roadway, a working area, or private property, the Contractor shall use reasonable care not to damage or deface the remaining portions of the property, and if any damage is occasioned as a result of the Contractor's operations, it shall be rectified by and at the expense of the Contractor, to the satisfaction of the Engineer. Notwithstanding the indemnity provisions contained in this section, where in the opinion of the Engineer the Contractor has failed to rectify any damage, injury or infringement or has failed to adequately compensate any person for any damage, injury or infringement for which the Contractor is responsible under the contract, the Engineer, following notice in writing to the Contractor of an intention so to do, may withhold payment of any monies due the Contractor under this or any other contract until the Contractor has rectified such damage, injury or infringement or has paid adequate compensation for such damage, injury or infringement, provided however, that the Municipality will not withhold such monies where in the opinion of the Engineer there are reasonable grounds upon which the Contractor denies liability for such damage, injury or infringement and the Contractor has given the claimant a reasonable time in which to establish the validity of the claim, and provided further that the amount withheld under this section shall not exceed the amount of such claims against the Contractor.

Where the Contractor uses privately owned lands for pits or waste disposal areas, the Contractor shall comply with applicable laws and provide the Engineer with a release signed by or on behalf of the owner of each pit or waste disposal area used by the Contractor. If the said release is not obtained, then sufficient monies will be withheld from the Contractor except, however, where the owner's signature is withheld solely on the basis of damage, injury, or infringement it will be dealt with as provided elsewhere in this subsection.

Nothing herein contained shall be construed as in any way restricting or limiting the liability of the Contractor under the laws of the country, province or locality in which the work is being done. Neither the Completion Certificate nor final payment thereunder, nor any provision in the Contract Document shall relieve the Contractor from this liability.

#### **200.18 LIABILITY INSURANCE**

The Contractor shall take out and keep in force until the date of acceptance of the entire work by the Engineer, a comprehensive policy of public liability and property damage insurance providing insurance coverage of at least \$3,000,000 for each and every accident, exclusive of interest and cost, against loss or damage resulting from bodily injury to or death of one or more persons and loss of or damage to property and such policy shall where, and as requested by the Municipality, name the Municipality and the Engineer as an additional insured thereunder and shall protect the Municipality against all claims for all damage or injury including death to any person or persons and for damage to any property of the Municipality or any other public or private property resulting from or arising out of any act or omission on part of the Contractor or any of his servants or agents during the execution of the Contract.

#### **200.19 LOSSES DUE TO ACTS OF NATURE, ETC.**

All damage, loss, expense and delay incurred or experienced by the Contractor in the prosecution of the work, by reason of unanticipated difficulties, bad weather, strikes, wars, acts of nature, or other mischances, shall be borne by the Contractor and shall not be the subject of a claim for additional compensation.

## 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.





BENCHMARKS	
BM#1	SPIKE IN NORTH FACE CORNER FENCE POST 15m± WEST OF KUNTZE DITCH AT OUTLET FOR BRANCH 1 N. 4,798,107.221 E. 519,953.532 ELEV. 335.211
BM#2	SPIKE IN NORTHWEST FACE CORNER FENCE POST APPROX. 50m± SOUTH OF BRANCH 3 N. 4,798,639.813 E. 520,062.994 ELEV. 341.122
BM#3	SPIKE SET IN W. FACE OF 2ND LAST FENCE POST S/SIDE ROAD ALLOWANCE. N. 4,799,082.570 E. 519,632.581 ELEV. 343.711
BM#4	SPIKE SET IN WEST FENCE OF SW CORNER FENCE POST OF HORSE Paddock BEHIND WITZEL FARM N. 4,799,280.881 E. 520,043.696 ELEV. 348.959

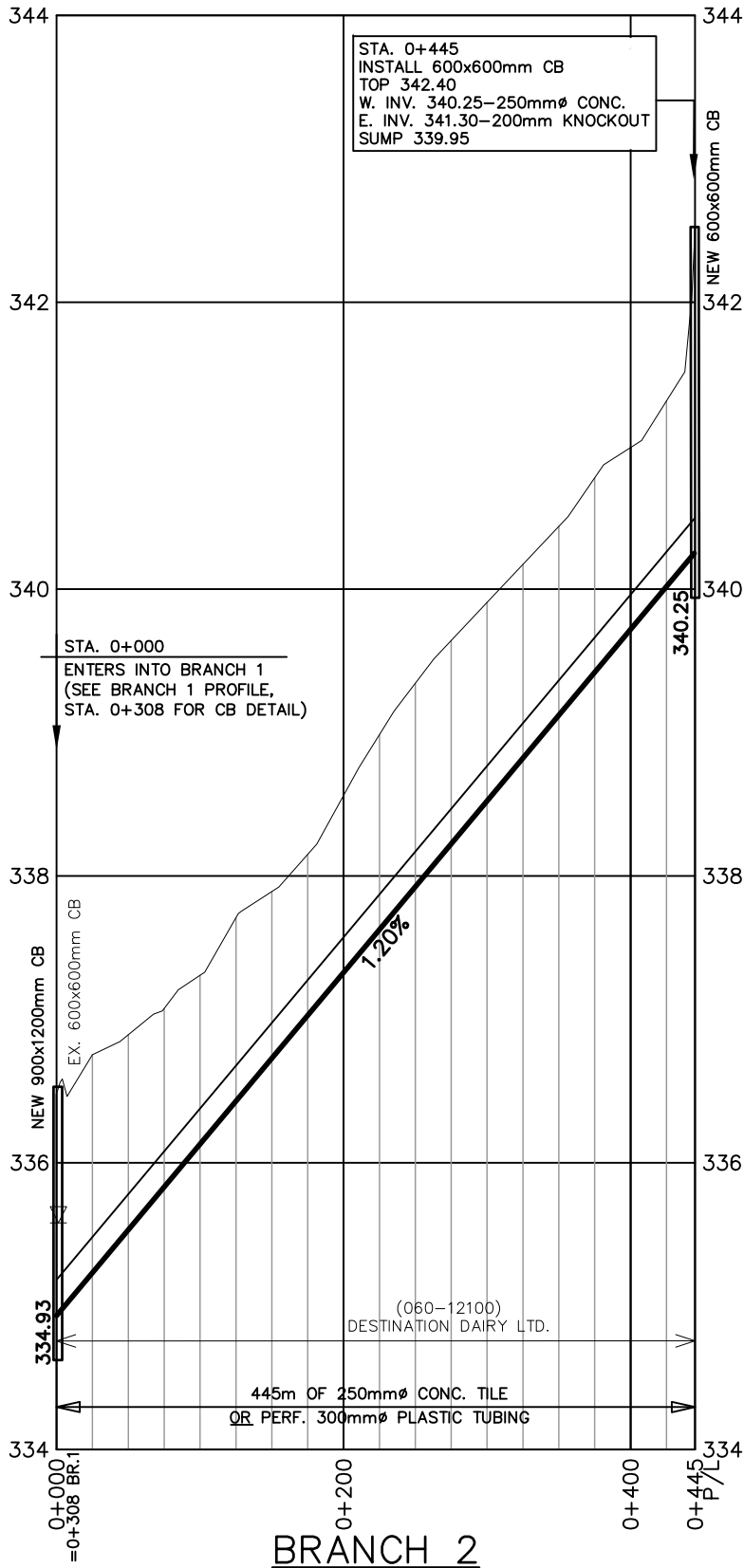
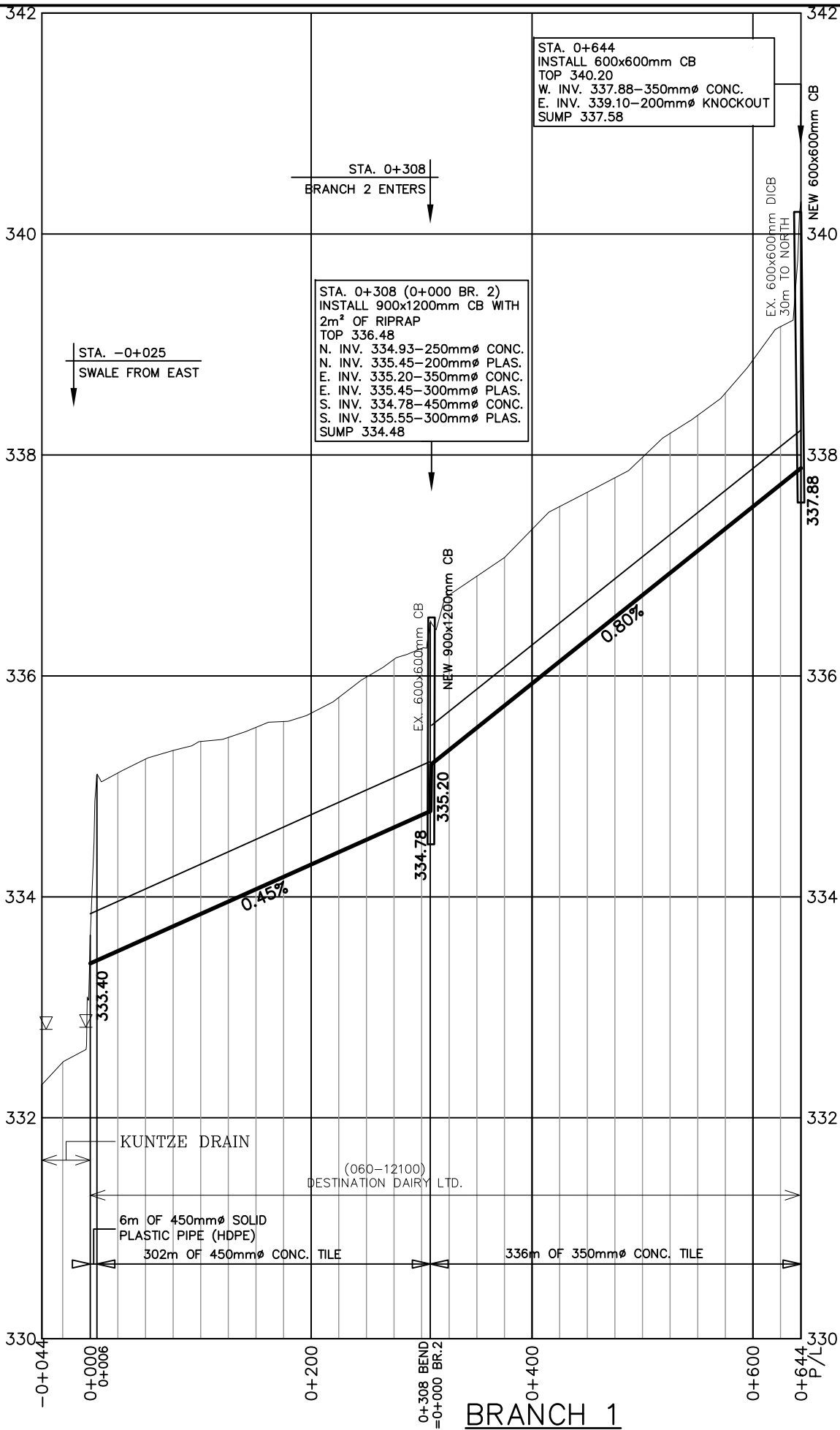
PLAN LEGEND	
	MAJOR WATERSHED
	KUNTZE DRAIN (2001 CULVERT REPORT)
	INTERNAL WATERSHEDS
	PROPOSED WORK
	PROPOSED OFFSET HB
	FUTURE PRIVATE DRAIN (BY OWNER)
	EXISTING DRAIN
	DITCH OR WATERCOURSE
	ACCESS
060-10300	ASSESSMENT ROLL NUMBER
5.2 ha.	HECTARES OWNED
(12.8)	APPROXIMATE HECTARES IN WATERSHED
	BUSH
BM#3	BENCHMARK LOCATION AND NO.
	AREA TILED IN/OUT OF WATERSHED (ASSESSED AT 1/2 RATE)
	DENOTES PROPERTY OWNERSHIP ON BOTH SIDES OF LOT LINE
	EXISTING SURFACE WATER CULVERT



GEOGRAPHIC TOWNSHIP OF  
EAST ZORRA (WARD 2)

DESIGNED BY: T.B.J.		SCALE 0 100m 200m 1:10,000 (ON 11"x17")
CHECKED BY: C.J.M.		
DRAWN BY: V.E.S.		
CHECKED BY: C.J.M.		
<b>WITZEL DRAIN</b> COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK COUNTY OF PERTH TOWNSHIP OF PERTH EAST		
<b>WATERSHED PLAN</b>		<b>MAY 30, 2022</b>
	REVISED:	
	JOB NUMBER: <b>20-329</b>	
	DRAWING <b>1 OF 11</b>	

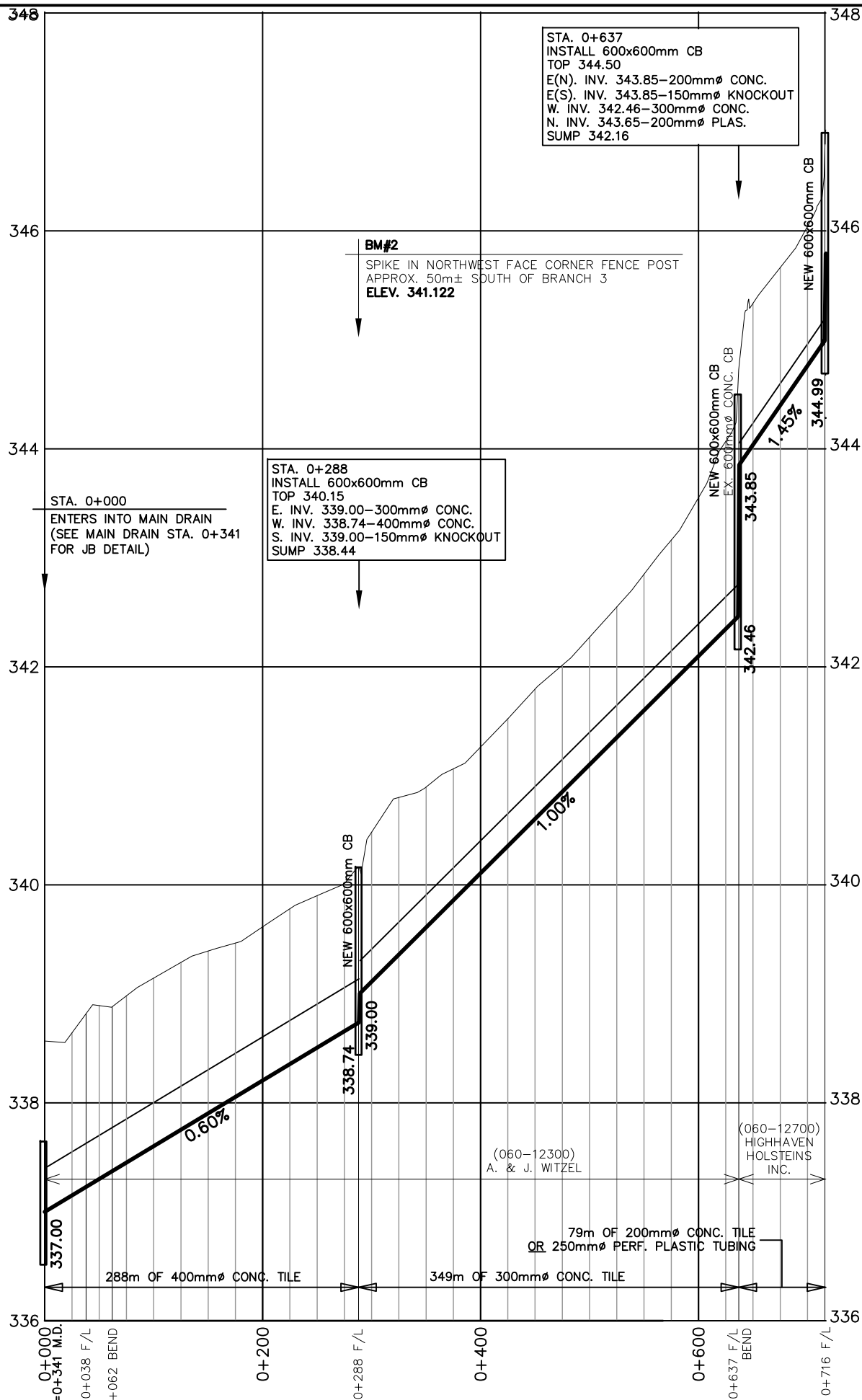




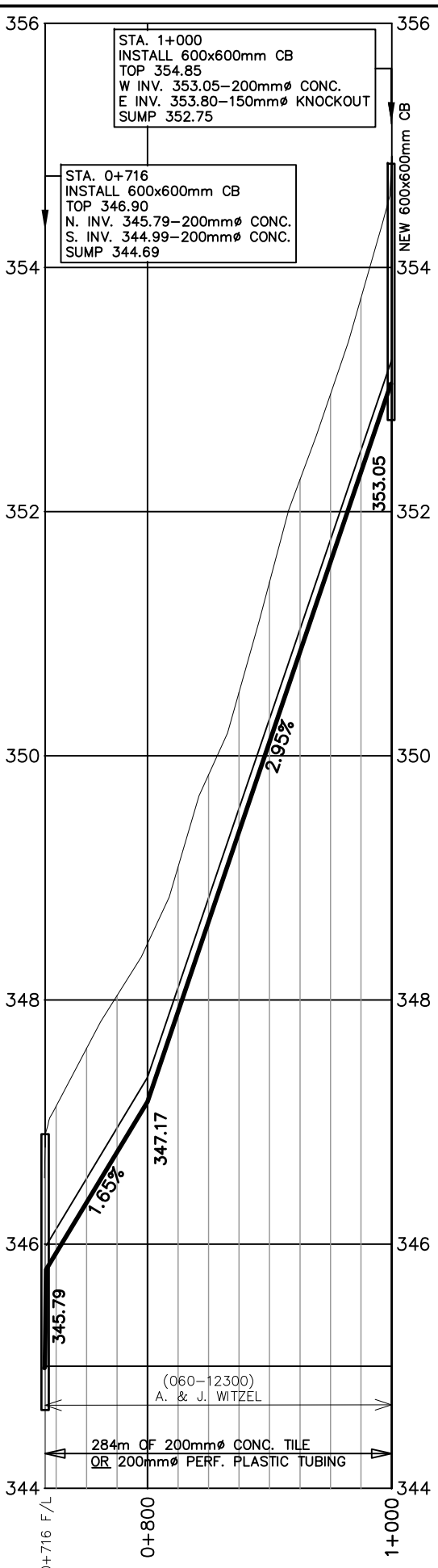


DESIGNED BY: T.B.J.		0 50 100m ( SCALE 1 : 5000 ) HORZ.
CHECKED BY: C.J.M.		0 0.5 1m ( SCALE 1 : 50 ) VERT.
DRAWN BY: V.E.S.		SCALE (ON 11x17)
CHECKED BY: C.J.M.		
<b>WITZEL DRAIN</b>		
COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK COUNTY OF PERTH TOWNSHIP OF PERTH EAST		
<b>PROFILE: BRANCHES 1 AND 2</b>		<b>MAY 30, 2022</b>
 <b>K. SMART ASSOCIATES LIMITED</b> CONSULTING ENGINEERS AND PLANNERS KITCHENER SUDBURY		REVISED: JOB NUMBER: <b>20-329</b> DRAWING <b>3 OF 11</b>

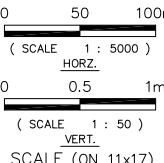





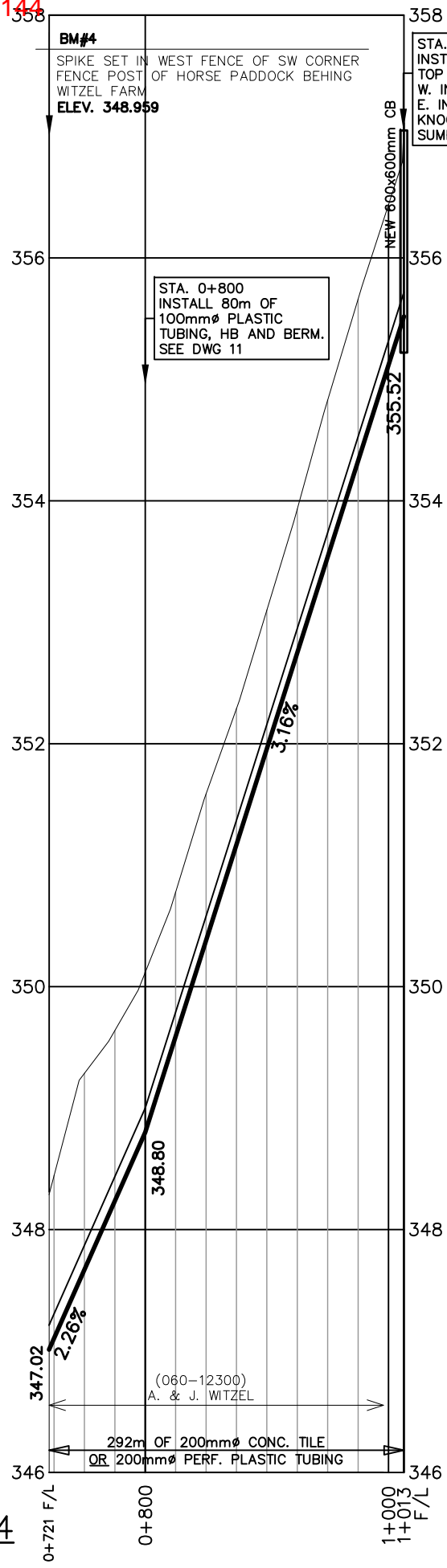
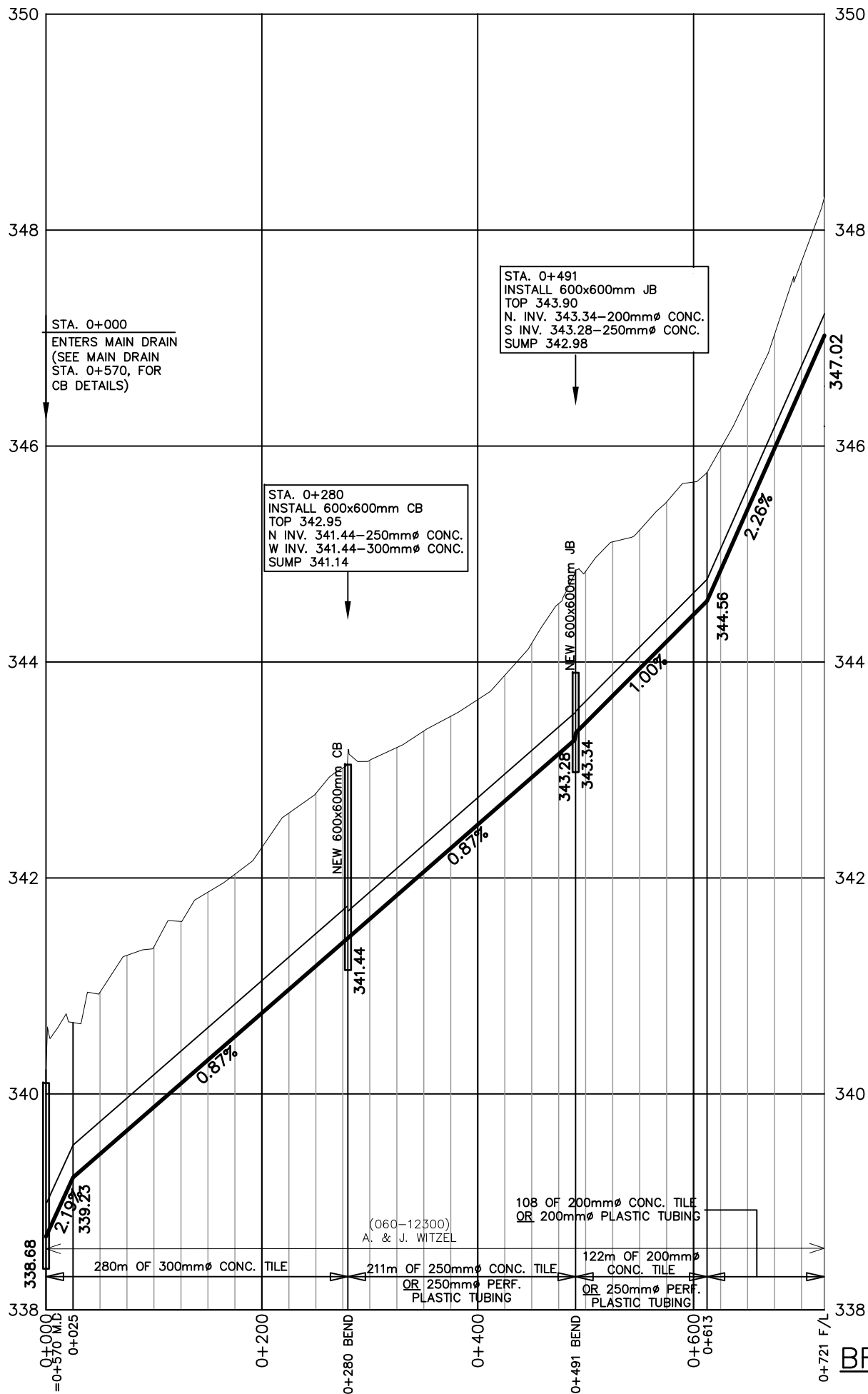
BRANCH 3



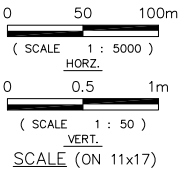
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DRAWN BY: V.E.S.  
CHECKED BY: C.J.M.




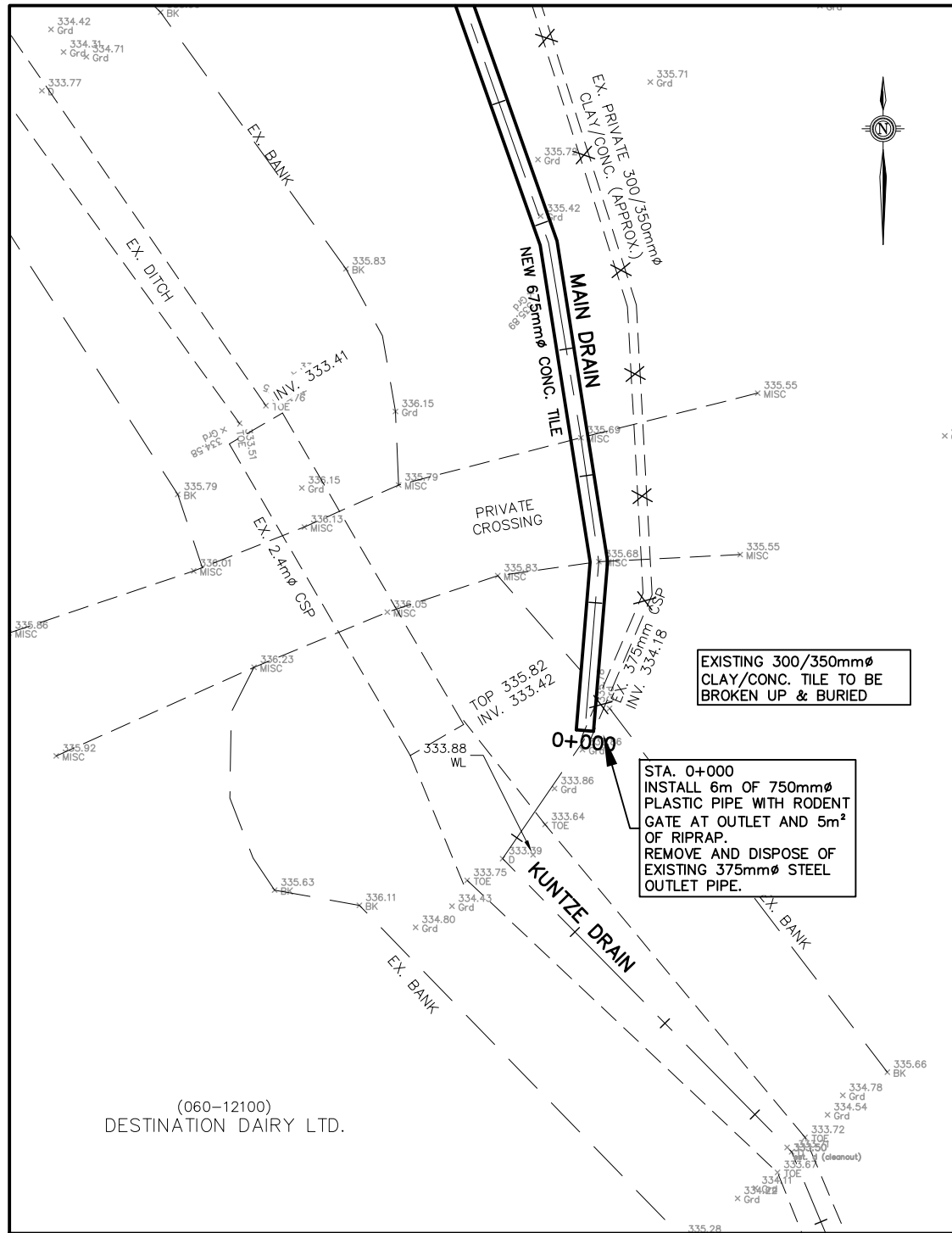
<b>WITZEL DRAIN</b>	
COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK COUNTY OF PERTH TOWNSHIP OF PERTH EAST	
<b>PROFILE: BRANCH 3</b>	<b>MAY 30, 2022</b>
 <b>K. SMART ASSOCIATES LIMITED</b> CONSULTING ENGINEERS AND PLANNERS KITCHENER SUDBURY	REVISED:
	JOB NUMBER: <b>20-329</b>
	DRAWING <b>4 OF 11</b>



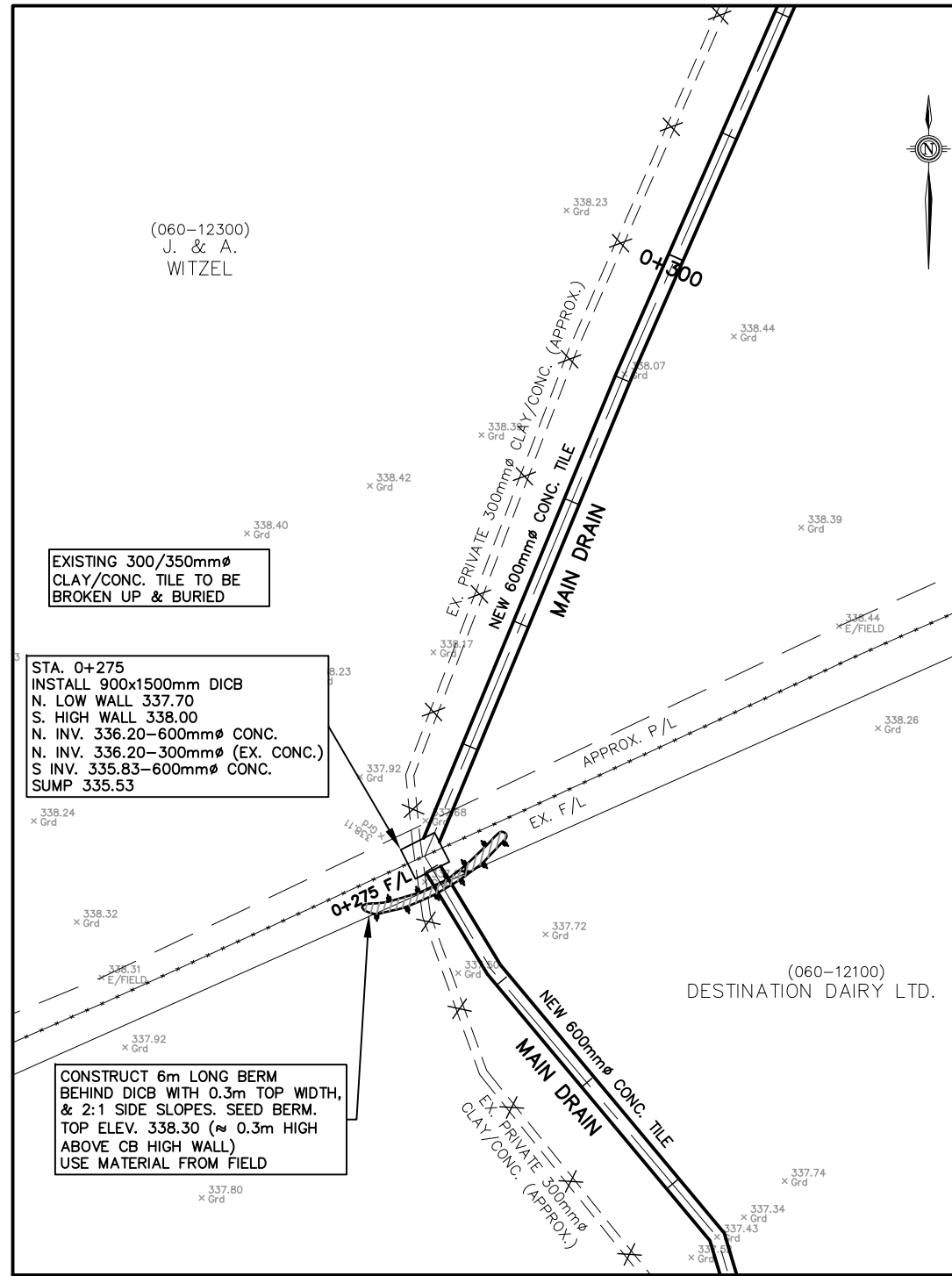
DESIGNED BY: T.B.J.  
CHECKED BY: C.J.M.  
DRAWN BY: V.E.S.  
CHECKED BY: C.J.M.



<b>WITZEL DRAIN</b>	
COUNTY OF OXFORD      TOWNSHIP OF EAST ZORRA-TAVISTOCK COUNTY OF PERTH      TOWNSHIP OF PERTH EAST	
<b>PROFILE: BRANCH 4</b>	<b>MAY 30, 2022</b>
 <b>K. SMART ASSOCIATES LIMITED</b> CONSULTING ENGINEERS AND PLANNERS KITCHENER      SUDBURY	REVISED:
	JOB NUMBER: <b>20-329</b>
	DRAWING <b>5 OF 11</b>



MAIN DRAIN STA. 0+000



MAIN DRAIN STA. 0+275

### 300) SPECIAL PROVISIONS

### 300.1) CONSTRUCTION SPECIFICATIONS – GENERAL NOTES

1. WORKING AREA  
FOR A CLOSED DRAIN UP TO 2m DEEP THE WORKING AREA SHALL BE A 10m WIDTH ON EITHER SIDE OF THE TRENCH OR ANY COMBINATION NOT EXCEEDING 20m. FOR CLOSED DRAINS DEEPER THAN 2m THE WORKING AREA SHALL BE INCREASED TO 30m. IF ANY PART OF THE DRAIN IS CLOSE TO A PROPERTY LINE THEN THE PROPERTY LINE SHALL BE ONE OF THE LIMITS OF THE WORK AREA. WHERE ANY PART OF THE DRAIN IS ON A ROAD ALLOWANCE, THE ROAD ALLOWANCE SHALL BE THE WORKING AREA. RESTRICTED OR INCREASED WORKING AREAS WILL BE DESCRIBED IN DETAIL IN THE SPECIFIC CONSTRUCTION NOTES.
2. ACCESS  
ACCESS TO THE WORKING AREA SHALL BE FROM ROAD ALLOWANCES AND AS DESIGNATED ON THE DRAWINGS AND/OR SPECIFIC NOTES. NO OTHER ACCESS ROUTES SHALL BE USED UNLESS FIRST APPROVED BY THE ENGINEER AND THE AFFECTED LANDOWNER. SPECIFICATIONS RELATED TO CONSTRUCTION WILL APPLY TO THE ACCESS ROUTES. CONTRACTOR SHALL MAKE GOOD ANY DAMAGES CAUSED BY USING THE DESIGNATED ACCESS ROUTES. THE CONTRACTOR SHALL CONTACT EACH OWNER PRIOR COMMENCING CONSTRUCTION ON EACH PROPERTY.

### 300.1) CONSTRUCTION SPECIFICATIONS – SPECIFIC NOTES

### TYPICAL NOTES FOR EACH NEW TILE LENGTH

1. ON STRAIGHT RUNS, ENSURE TILE JOINTS ARE PARALLEL (MAXIMUM 12mm ( $\frac{1}{2}$ ") GAP), and TILE WRAP IS FLAT, COVERS JOINT EVENLY AND HAS OVERLAP.
2. ON CURVED RUNS, ENSURE TILE JOINTS ARE TOUCHING ON ONE SIDE WITH MAXIMUM GAP OF 12mm ( $\frac{1}{2}$ ") ON OPPOSITE SIDE. BEVEL CUT TILE OR USE INTERLOCKING SECTION WHERE CURVE IS GREATER. TILE WRAP TO BE FLAT, COVER JOINTS EVENLY AND HAVE OVERLAP.
3. ALL INTERCEPTED LATERAL TILE ARE TO BE FLAGGED AT THE CONNECTION TO THE ENGINEER CAN GPS.

MAIN DRAIN

## DESTINATION DIARY (060-12100)

0+000	<p>—KUNTZE DRAIN DITCH RECENTLY CLEANED OUT (AFTER SURVEY). SPOT CLEANOUT AT PROPOSED DRAIN OUTLET MAY STILL BE REQUIRED.</p>
0+000 TO 0+006	<p>—INSTALL 6m OF 750mmØ SOLID PLASTIC PIPE AT OUTLET WITH RODENT GATE AND 5m<sup>2</sup> OF RIPRAP.</p> <p>—REMOVE AND DISPOSE OF EXISTING 375mmØ CSP OUTLET PIPE.</p>
0+006 TO 0+180	<p>—INSTALL 174m OF 675mmØ CONCRETE TILE WITH JOINT WRAP.</p> <p>—BREAK UP AND BURY EXISTING 300mm/350mmØ CLAY/CONC. TILE.</p>
0+180 TO 0+275	<p>—INSTALL 95m OF 600mmØ CONCRETE TILE WITH JOINT WRAP.</p> <p>—BREAK UP AND BURY EXISTING 300mm/350mmØ CLAY/CONC. TILE.</p>
0+275	<p>—CONSTRUCT 6m LONG BERM AS PER DETAIL AND NOTES</p>


## J. &amp; A. WITZEL (060-12300)

0+275	-CONSTRUCT 900x1500mm CONCRETE DICB, INCLUDING CONNECTIONS AND BIRDCAGE GRATE.
0+275 TO 0+933	-SEE DETAIL AND NOTES ON DWG. 7

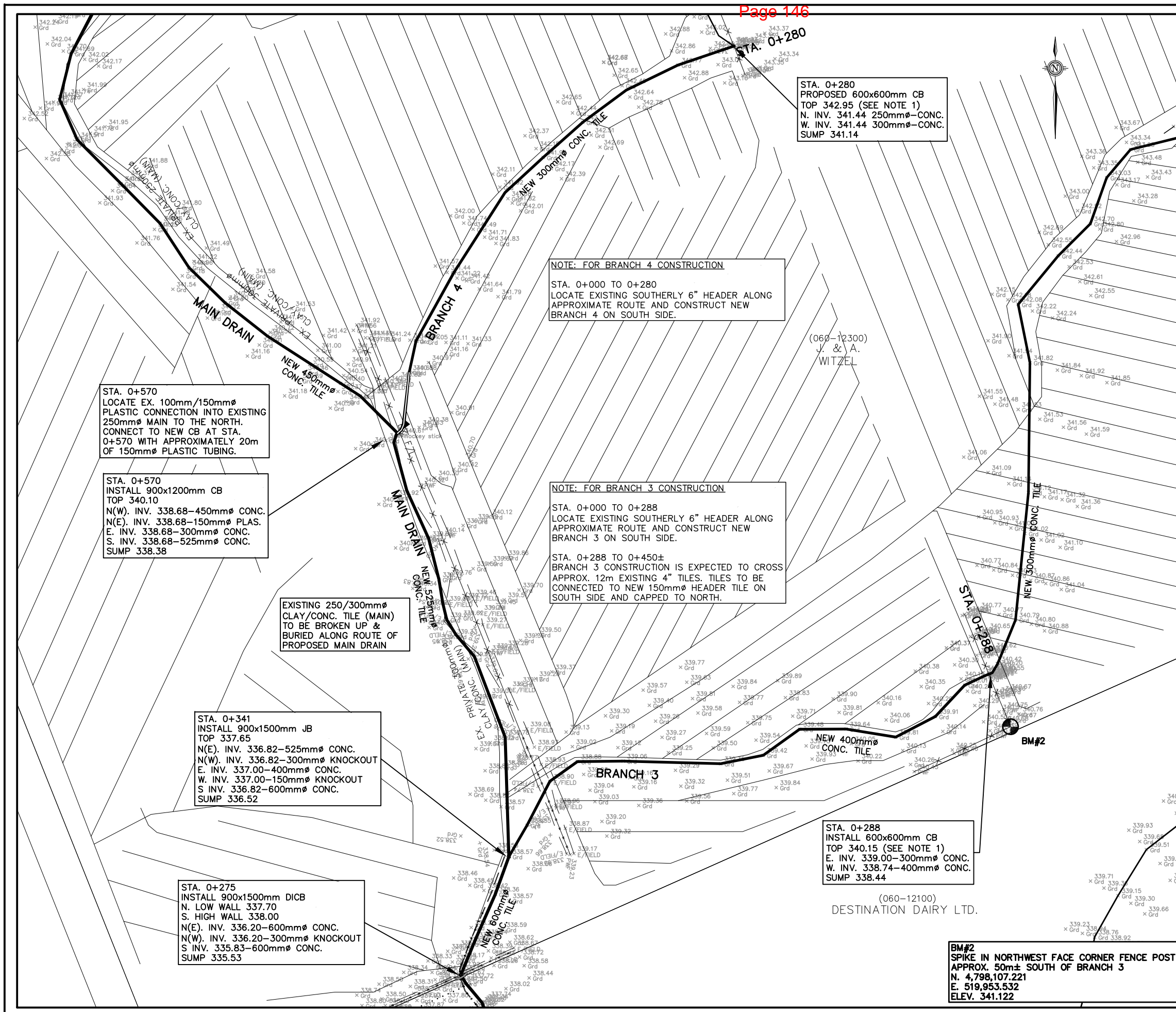
DESIGNED BY: T.B.J.		0
CHECKED BY: C.J.M.		( SCALE 1 : 2,000 )
DRAWN BY: V.E.S.		<u>SCALE</u>
CHECKED BY: C.J.M.		

## WITZEL DRAIN

COUNTY OF OXFORD                      TOWNSHIP OF EAST ZORRA-TAVISTOCK  
COUNTY OF PERTH                      TOWNSHIP OF PERTH EAST

<b>DETAILS: MAIN DRAIN</b> <b>STA. 0+000 AND STA. 0+275</b>		<b>MAY 30, 202</b>
 <b>K. SMART ASSOCIATES LIMITED</b> CONSULTING ENGINEERS AND PLANNERS KITCHENER SUDBURY	REVISED:	JOB NUMBER: <b>20-329</b>
	DRAWING	6 OF 11
	6 OF 11	





### 300) SPECIAL PROVISIONS

### 300.1) CONSTRUCTION SPECIFICATIONS – GENERAL NOTES

1. WORKING AREA  
 FOR A CLOSED DRAIN UP TO 2m DEEP THE WORKING AREA SHALL BE A 10m WIDTH ON EITHER SIDE OF THE TRENCH OR ANY COMBINATION NOT EXCEEDING 20m. FOR CLOSED DRAINS DEEPER THAN 2m THE WORKING AREA SHALL BE INCREASED TO 30m. ANY PART OF THE DRAIN CLOSE TO THE PROPERTY LINE THAT THE PROPERTY LINE SHALL BE ONE OF THE LIMITS OF THE WORK AREA. WHERE ANY PART OF THE DRAIN IS ON A ROAD ALLOWANCE, THE ROAD ALLOWANCE SHALL BE THE WORKING AREA. RESTRICTED OR INCREASED WORKING AREAS WILL BE DESCRIBED IN DETAIL IN THE SPECIFIC CONSTRUCTION NOTES.

2. ACCESS  
ACCESS TO THE WORKING AREA SHALL BE FROM ROAD ALLOWANCES AND AS DESIGNATED ON THE DRAWINGS AND/OR SPECIFIC NOTES. NO OTHER ACCESS ROUTES SHALL BE USED UNLESS FIRST APPROVED BY THE ENGINEER AND THE AFFECTED LANDOWNER. SPECIFICATIONS RELATED TO CONSTRUCTION WILL APPLY TO THE ACCESS ROUTES. CONTRACTOR SHALL MAKE GOOD ANY DAMAGES CAUSED BY USING THE DESIGNATED ACCESS ROUTES. THE CONTRACTOR SHALL CONTACT EACH OWNER PRIOR COMMENCING CONSTRUCTION ON EACH PROPERTY.

### 300.1) CONSTRUCTION SPECIFICATIONS – SPECIFIC NOTES

TYPICAL NOTES FOR EACH NEW TILE LENGTH

1. ON STRAIGHT RUNS, ENSURE TILE JOINTS ARE PARALLEL (MAXIMUM 12mm (½") GAP), AND TILE WRAP IS FLAT, COVERS JOINT EVENLY AND HAS OVERLAP.
2. ON CURVED RUNS, ENSURE TILE JOINTS ARE TOUCHING ON ONE SIDE WITH MAXIMUM GAP OF 12mm (½") ON OPPOSITE SIDE. BEVEL CUT TILE OR USE ELBOW SECTIONS WHERE CURVES ARE GREATER. TILE WRAP TO BE FLAT, COVER JOINTS EVENLY AND HAVE OVERLAP.
3. ALL INTERCEPTED LATERAL TILE ARE TO BE FLAGGED AT THE CONNECTION SO THE ENGINEER CAN GPS.

MAIN DRAIN

J. & A. WITZEL (060-12300)

0+275 TO 0+341	-INSTALL 66m OF 600mmØ CONCRETE TILE WITH JOINT WRAP. -BREAK UP AND BURY EXISTING 300mmØ CLAY/CONC. TILE.
0+341	-CONSTRUCT 900x1500mm JUNCTION BOX INCLUDING CONNECTIONS.
0+341 TO 0+570	-INSTALL 229m OF 525mmØ CONCRETE TILE WITH JOINT WRAP. -BREAK UP AND BURY EXISTING 300mmØ CLAY/CONC. TILE.
0+570	-CONSTRUCT 900x1200mm CATCHBASIN, INCLUDING CONNECTIONS AND BIRDCAGE GRATE. SEE NOTE 1 BELOW. -LOCATE EX. 100mm/150mmØ PLASTIC CONNECTION INTO EXISTING 250mmØ MAIN, APPROX. 20m NORTH OF PROPOSED CB. CONNECT TO NEW CB WITH APPROX. 20m OF 150mmØ PLASTIC TUBING ON EAST SIDE OF MAIN DRAIN.
0+570 TO 0+933	-INSTALL 363m OF 450mmØ CONCRETE TILE WITH JOINT WRAP. -BREAK UP AND BURY EXISTING 300mmØ CLAY/CONC. TILE.
0+933+	-SEE NOTES ON DRAWING 8.

## BRANCH 3

J. & A. WITZEL (060-12300)

0+000 TO 0+288	INSTALL 288m OF 400mmØ CONCRETE TILE WITH JOINT WRAP. EXISTING (6") PRIVATE HEADER TILE TO NORTH TO BE PRE-LOCATED AND PRESERVED.
0+288	-CONSTRUCT 600x600mm CATCHBASIN, INCLUDING CONNECTIONS AND BIRDCAGE GRATE. SEE NOTE 1 BELOW.
0+288 TO 0+637	-INSTALL 349m OF 300mmØ CONCRETE TILE WITH JOINT WRAP.
0+288 TO 0+458±	-INSTALL APPROX. 170m± OF 150mmØ (6") PLASTIC TUBING HEADER TILE ALONG EAST SIDE OF PROPOSED DRAIN WITH APPROX. 12±-4" TILE CONNECTIONS FROM SOUTHEAST.
	HEADER TILE ENDS WHEN EXISTING 150mmØ (6") HEADER TILE IS REACHED. TILE PLAN WILL BE PROVIDED.
0+637+	-SEE NOTES ON DRAWING 10.

BRANCH 4

J. & A. WITZEL (060-12300)

0+000 TO 0+280	-INSTALL 280m OF 300mmØ CONCRETE TILE WITH JOINT WRAP. EXISTING 150mm (6") PRIVATE HEADER TILE TO NORTH TO BE PRE-LOCATED AND PRESERVED.
0+280+	-SEE NOTES ON DRAWING 11.

NOTE 1	- IF POSSIBLE, MANUFACTURER TO SET TOP COMPONENT OF CB TO BE 0.6m TALL SO OWNER MAY ELECT TO REMOVE AND CONVERT TO JUNCTION BOX IN FUTURE.
NOTE 2	- EXISTING TILE PATTERN SHOWN IS AN APPROXIMATE RECREATION USING TILE PLANS RECEIVED BY OWNER AND OXFORD COUNTY AERIALS.

DESIGNED BY: T.B.J.

CHECKED BY: C.J.M.

DRAWN BY: V.E.S.

CHECKED BY: C.J.M.



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

## WITZEL DRAIN

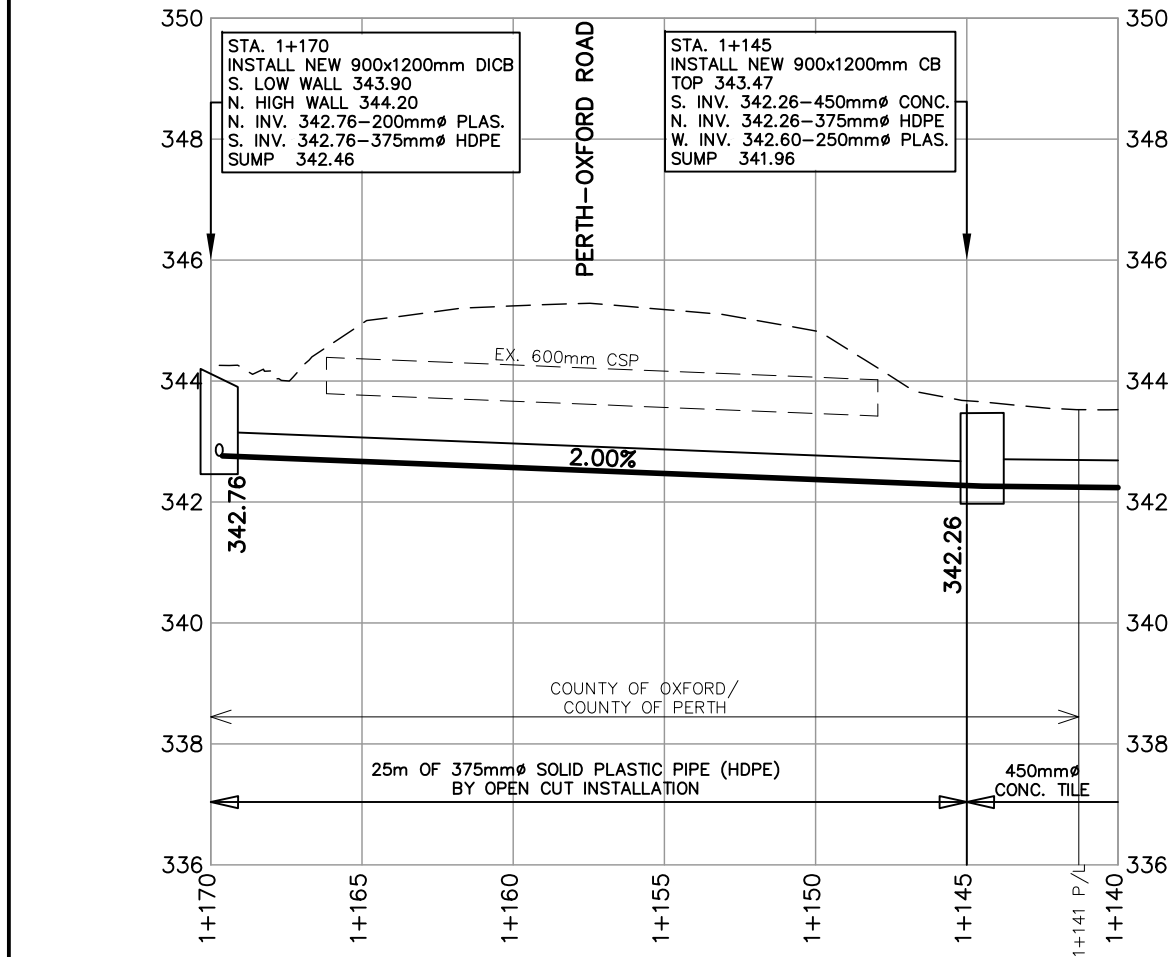
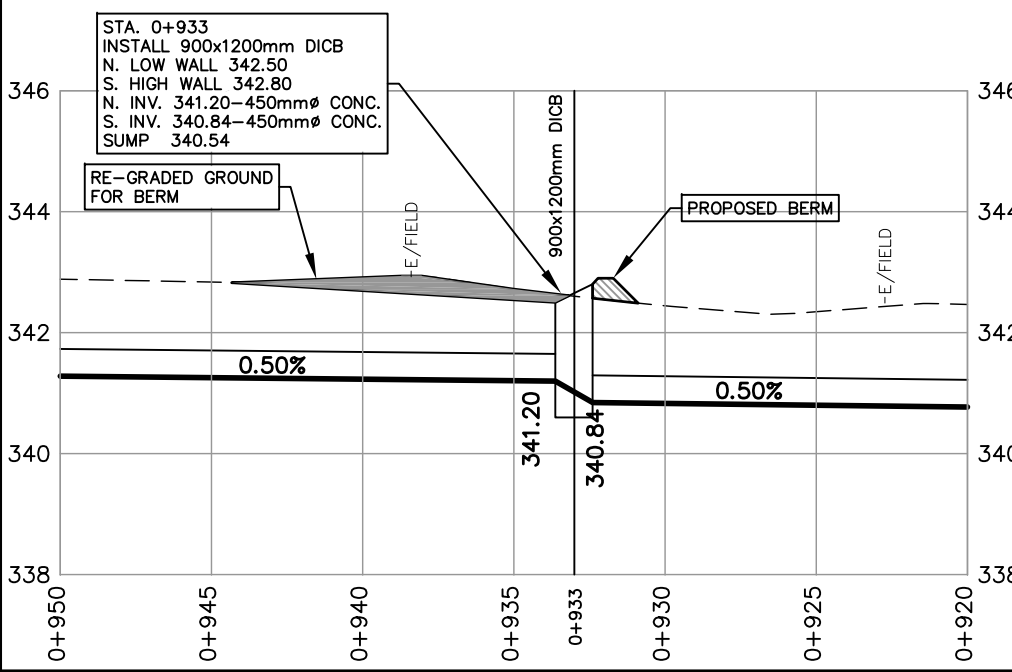
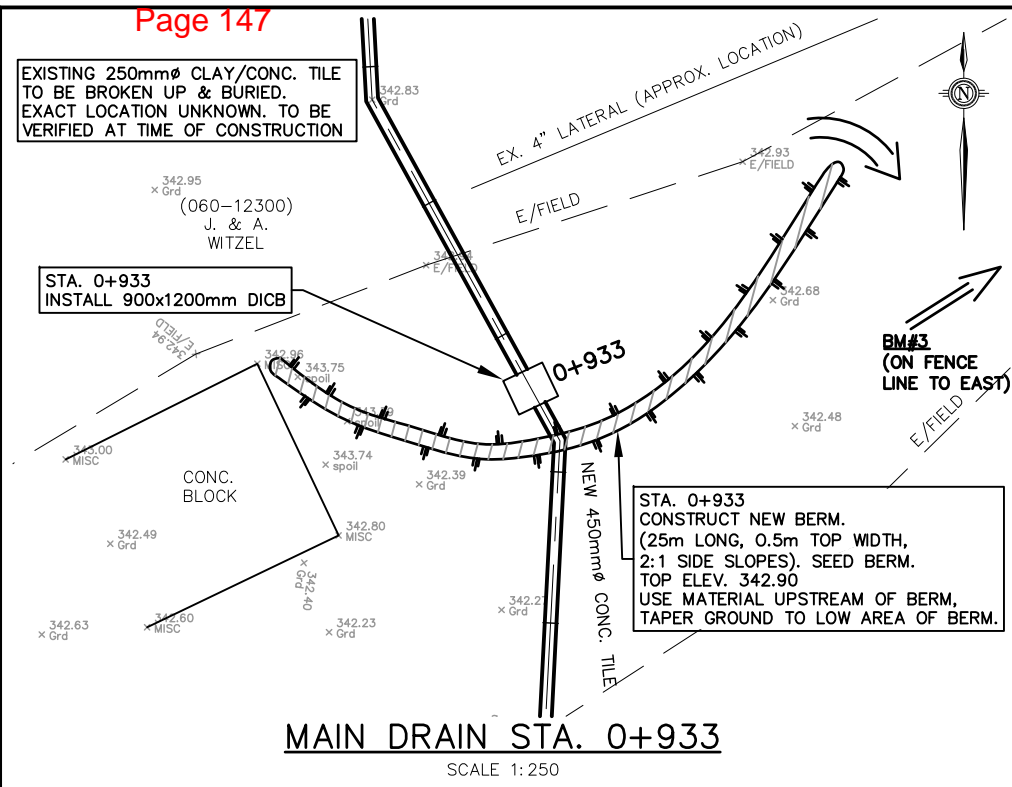
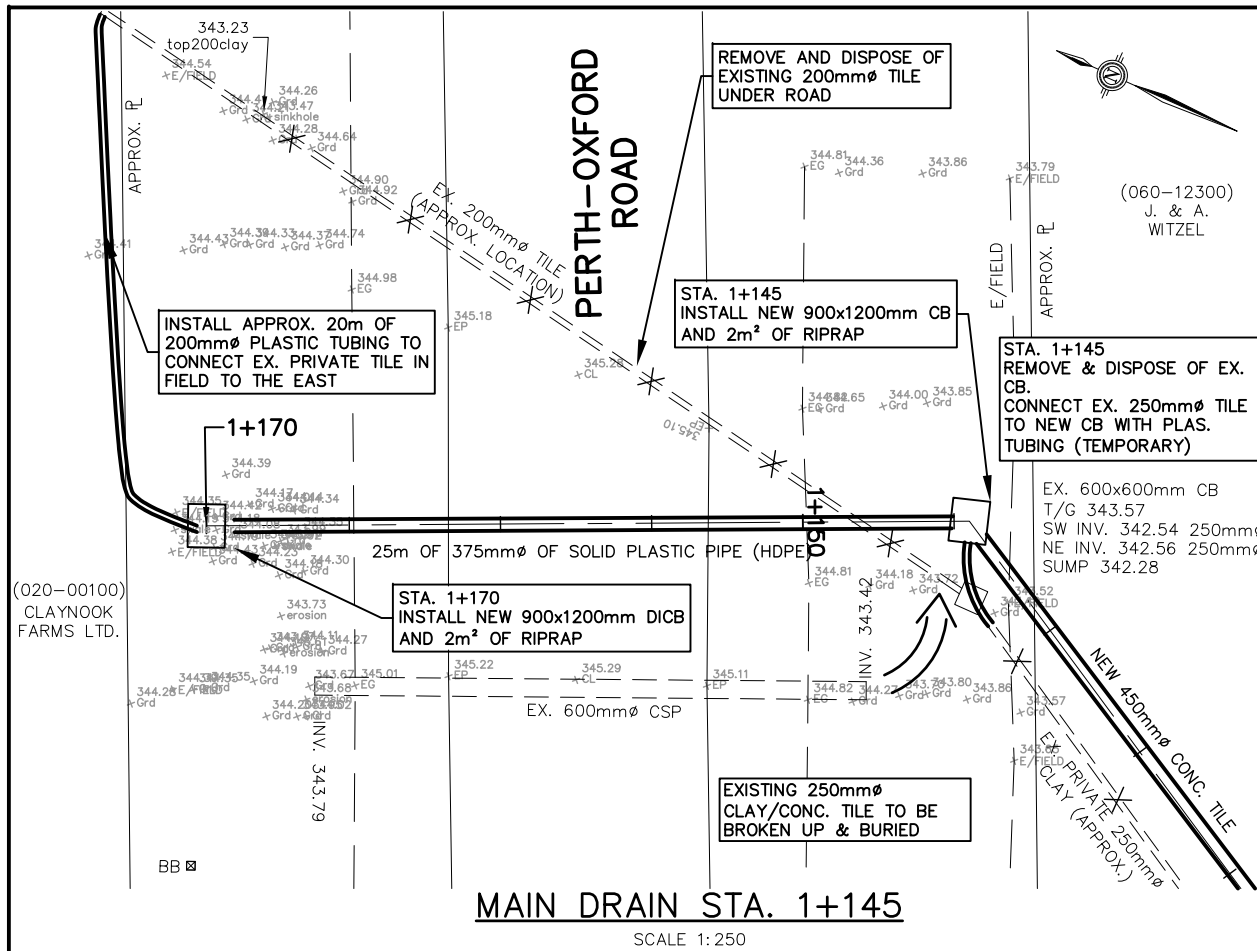
COUNTY OF OXFORD	TOWNSHIP OF EAST ZORRA-TAVISTOCK
COUNTY OF PERTH	TOWNSHIP OF PERTH EAST

**ENLARGEMENT: MAIN DRAIN,  
BRANCH 3 AND 4**

MAY 30, 2022

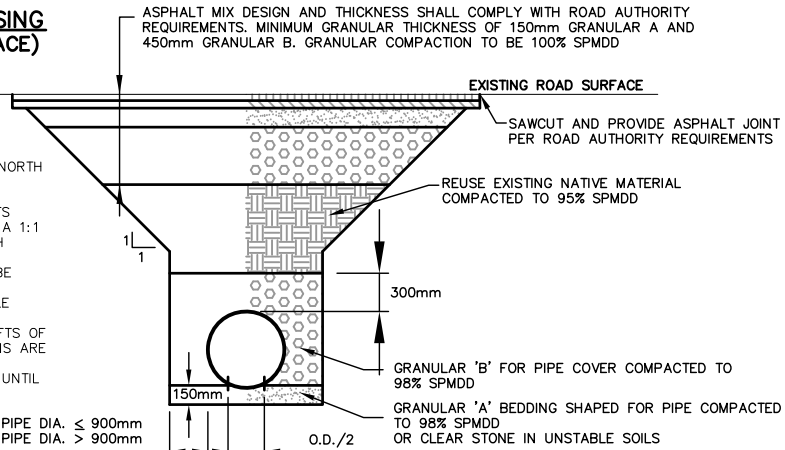
**K. SMART ASSOCIATES LIMITED**  
CONSULTING ENGINEERS AND PLANNERS  
KITCHENER SUDBURY

REVISED:
JOB NUMBER: <b>20-329</b>
DRAWING
<b>7 OF 11</b>



SD-13  
OPEN CUT ROAD CROSSING  
(PAVED OR GRAVEL SURFACE)  
NOT TO SCALE

- NOTES FOR ROAD CROSSING:
- EXISTING TILE LOCATION AND DEPTH ON NORTH SIDE OF ROAD TO BE VERIFIED BEFORE COMPLETING ROAD CROSSING.
  - BACKFILL AND COMPACTION REQUIREMENTS ALSO APPLY BEYOND THE SHOULDER AT A 1:1 SLOPE DOWN TO THE BOTTOM OF TRENCH EXCAVATION.
  - ALL SURPLUS EXCAVATED MATERIAL TO BE HAULED AWAY.
  - ASPHALT SHALL COMPLY WITH APPLICABLE OPSS MATERIAL SPECIFICATIONS.
  - IN INITIAL CONSTRUCTION SEASON ALL LIFTS OF ASPHALT SHALL BE PLACED IF CONDITIONS ARE SUITABLE. IF CONDITIONS ARE POOR, TEMPORARY ASPHALT MAY BE REQUIRED UNTIL FOLLOWING CONSTRUCTION YEAR.



300) SPECIAL PROVISIONS

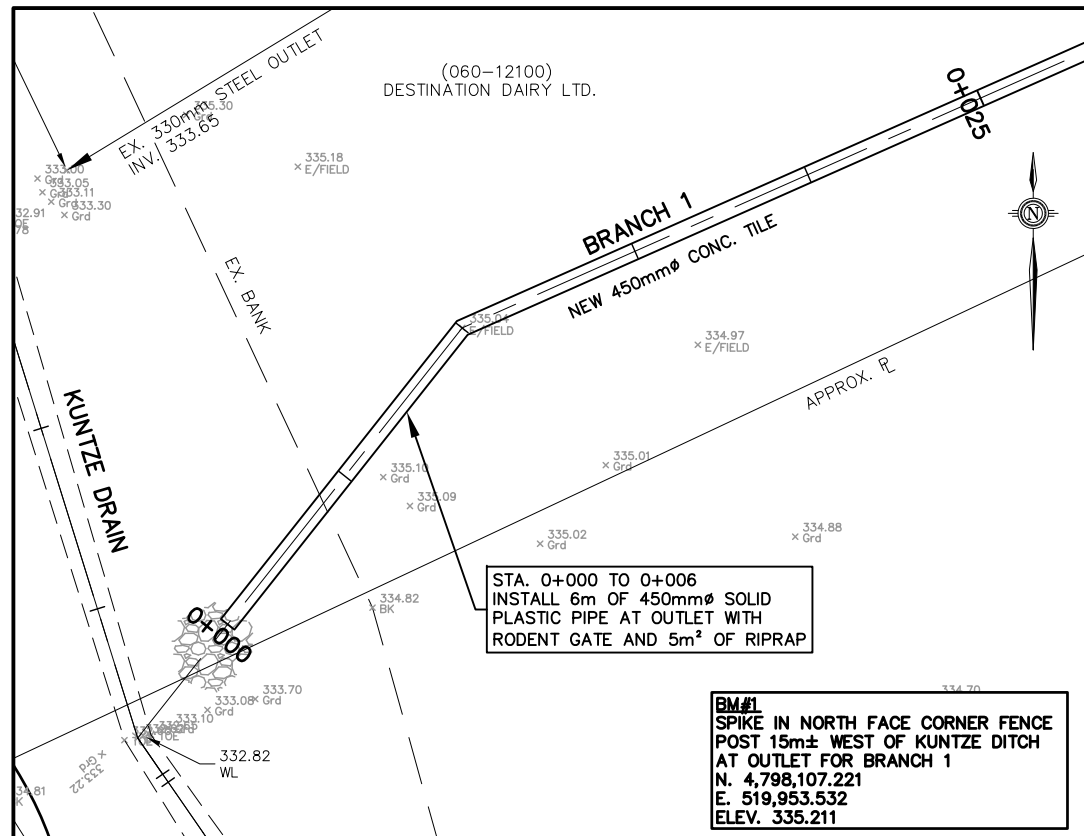
- 300.1) CONSTRUCTION SPECIFICATIONS- GENERAL NOTES
- WORKING AREA**  
FOR A CLOSED DRAIN UP TO 2m DEEP THE WORKING AREA SHALL BE A 10m WIDTH ON EITHER SIDE OF THE TRENCH OR ANY COMBINATION NOT EXCEEDING 20m. FOR CLOSED DRAINS DEEPER THAN 2m THE WORKING AREA SHALL BE INCREASED TO 30m. IF ANY PART OF THE DRAIN IS CLOSE TO A PROPERTY LINE THEN THE PROPERTY LINE SHALL BE ONE OF THE LIMITS OF THE WORK AREA. WHERE ANY PART OF THE DRAIN IS ON A ROAD ALLOWANCE, THE ROAD ALLOWANCE SHALL BE THE WORKING AREA. RESTRICTED OR INCREASED WORKING AREAS WILL BE DESCRIBED IN DETAIL IN THE SPECIFIC CONSTRUCTION NOTES.
  - ACCESS**  
ACCESS TO THE WORKING AREA SHALL BE FROM ROAD ALLOWANCES AND AS DESIGNATED ON THE DRAWINGS AND/OR SPECIFIC NOTES. NO OTHER ACCESS ROUTES SHALL BE USED UNLESS FIRST APPROVED BY THE ENGINEER AND THE AFFECTED LANDOWNER. SPECIFICATIONS RELATED TO CONSTRUCTION WILL APPLY TO THE ACCESS ROUTES. CONTRACTOR SHALL MAKE GOOD ANY DAMAGES CAUSED BY USING THE DESIGNATED ACCESS ROUTES. THE CONTRACTOR SHALL CONTACT EACH OWNER PRIOR COMMENCING CONSTRUCTION ON EACH PROPERTY.
- 300.2) CONSTRUCTION SPECIFICATIONS - SPECIFIC NOTES
- TYPICAL NOTES FOR EACH NEW TILE LENGTH
- ON STRAIGHT RUNS, ENSURE TILE JOINTS ARE PARALLEL (MAXIMUM 12mm (1/2") GAP), AND TILE WRAP IS FLAT, COVERS JOINT EVENLY AND HAS OVERLAP.
  - ON CURVED RUNS, ENSURE TILE JOINTS ARE TOUCHING ON ONE SIDE WITH MAXIMUM GAP OF 12mm (1/2") ON OPPOSITE SIDE. BEVEL CUT TILE OR USE ELBOW SECTIONS WHERE CURVES ARE GREATER. TILE WRAP TO BE FLAT, COVER JOINTS EVENLY AND HAVE OVERLAP.
  - ALL INTERCEPTED LATERAL TILE ARE TO BE FLAGGED AT THE CONNECTION SO THE ENGINEER CAN GPS.
- MAIN DRAIN  
J. & A. WITZEL (060-12300)
- 0+933 -CONSTRUCT 900x1200mm DICB, INCLUDING CONNECTIONS AND BIRDCAGE GRATE.
- CONSTRUCT 25m LONG BERM AS PER DETAIL AND NOTES. BERM AND DISTURBED GROUND IN FRONT OF BERM TO BE SEEDED.
- 0+933 TO 1+145 -INSTALL 212m OF 450mm CONCRETE TILE WITH JOINT WRAP.
- EXISTING 250mm CLAY/CONC. TILE TO BE BROKEN UP AND BURIED.
- OXFORD COUNTY & PERTH COUNTY
- 1+145 -CONSTRUCT 900x1200mm CONCRETE CB, INCLUDING CONNECTIONS, BIRDCAGE GRATE AND 2m² OF RIPRAP.
- CONNECT EX. 250mm TILE TO NEW CB WITH 3m OF 250mm PLAS. TUBING (TEMPORARY CONNECTION ASSUMING ROAD CROSSING COMPLETED BEFORE NEW DOWNSTREAM MAIN DRAIN).
- 1+145 TO 1+170 -INSTALL 25m OF 375mm SOLID PLASTIC (HDPE) PIPE CROSSING OF PERTH-OXFORD ROAD BY OPEN CUT.
- BEDDING, BACKFILL AND ROAD RESTORATION TO MEET THE SAME COUNTY OF OXFORD REQUIREMENTS FOR CULVERT REPLACEMENT CONTRACT OR OTHERWISE TO BE COMPLETED AS PER K. SMART ASSOCIATES SD-13.
- REMOVE AND DISPOSE OF EXISTING 200mm TILE UNDER ROAD FROM EXISTING CATCHBASIN ON SOUTH SIDE OF ROAD TO POINT WHERE TILE IS OUT OF THE BASE OF ROAD.
- 1+170 -CONSTRUCT 900x1200mm CONCRETE DICB, INCLUDING CONNECTIONS, BIRDCAGE GRATE AND 2m² OF RIPRAP.
- INSTALL APPROX. 20m OF 200mm PLASTIC TUBING TO CONNECT THE EXISTING 200mm IN FIELD TO NEW CATCHBASIN. DEPTH AND LOCATION OF EXISTING TILE TO BE VERIFIED PRIOR TO ROAD CROSSING INSTALLATION.

BM#3  
SPIKE SET IN W. FACE OF 2ND LAST  
FENCE POST S/SIDE ROAD ALLOWANCE  
N. 4,799,082.570  
E. 519,632.581  
ELEV. 343.711

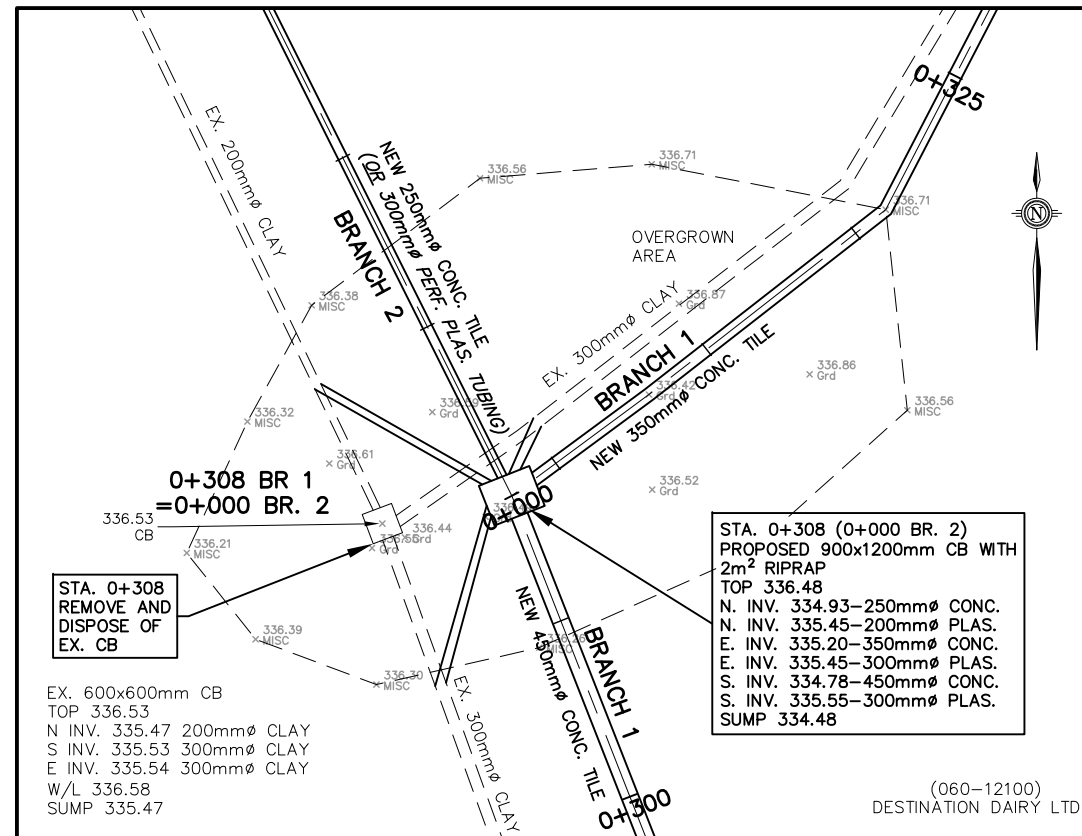
DESIGNED BY: T.B.J.		0 2.5 5m ( SCALE 1 : 250 ) HORZ.
CHECKED BY: C.J.M.		0 2.5m ( SCALE 1 : 125 ) VERT.
DRAWN BY: V.E.S.		SCALE (ON 11x17)
CHECKED BY: C.J.M.		

WITZEL DRAIN	
COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK COUNTY OF PERTH TOWNSHIP OF PERTH EAST	
DETAILS: MAIN DRAIN STA. 0+930 AND STA. 1+145	MAY 30, 2022
	REVISED:
	JOB NUMBER: 20-329
	DRAWING
KITCHENER	SUDBURY
8 OF 11	

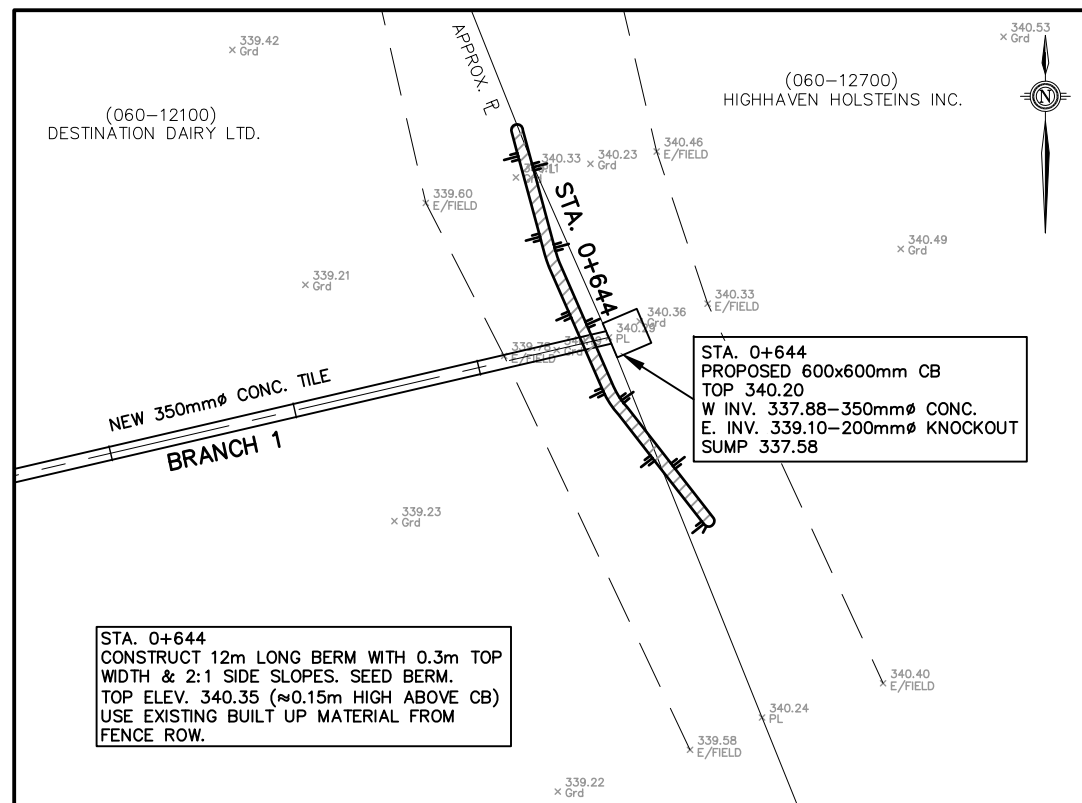




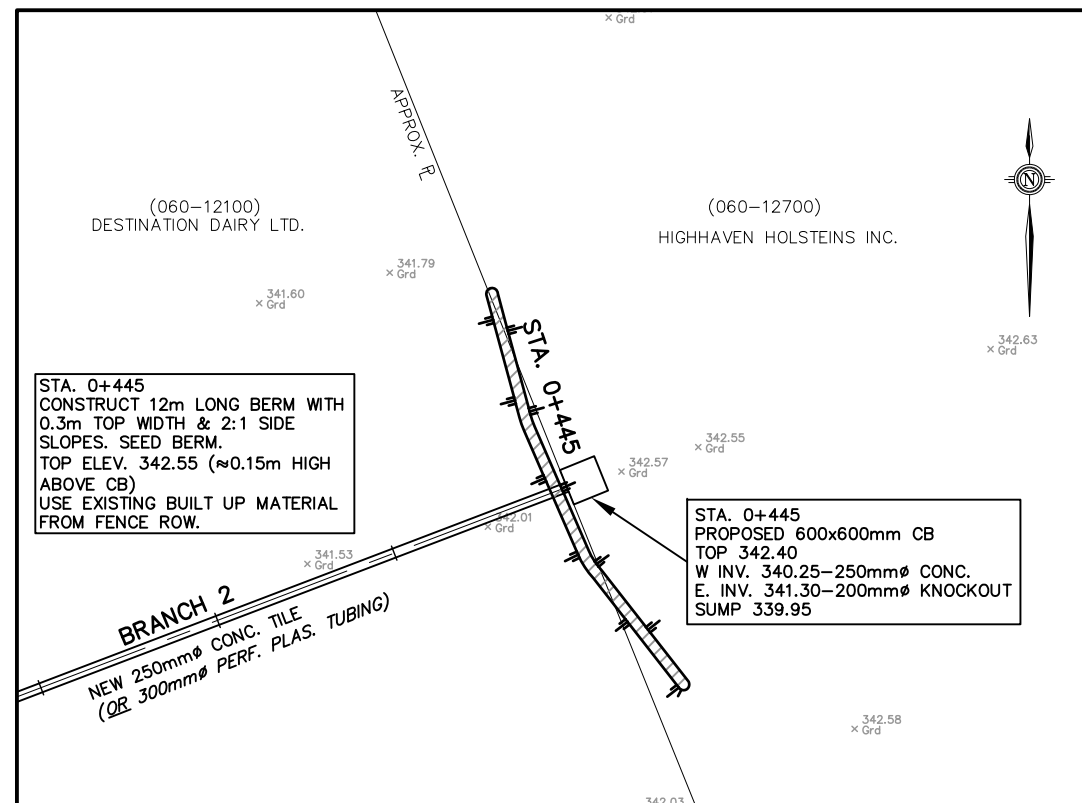
BRANCH 1 STA. 0+308 = STA. 0+000 BR. 2



BRANCH 1 STA. 0+308 = STA. 0+000 BR. 2



BRANCH 1 STA. 0+634



BRANCH 2 STA. 0+445

### 300) SPECIAL PROVISIONS

### 300.1) CONSTRUCTION SPECIFICATIONS- GENERAL NOTES

1. WORKING AREA  
FOR A CLOSED DRAIN UP TO 2m DEEP THE WORKING AREA SHALL BE A 10m WIDTH ON EITHER SIDE OF THE TRENCH OR ANY COMBINATION NOT EXCEEDING 20m. FOR CLOSED DRAINS DEEPER THAN 2m THE WORKING AREA SHALL BE INCREASED TO 30m. ANY PART OF THE DRAIN IS CLOSE TO A PROPERTY LINE THEN THE PROPERTY LINE SHALL BE ONE OF THE LIMITS OF THE WORK AREA. WHERE ANY PART OF THE DRAIN IS ON A ROAD ALLOWANCE, THE ROAD ALLOWANCE SHALL BE THE WORKING AREA. RESTRICTED OR INCREASED WORKING AREAS WILL BE DESCRIBED IN DETAIL IN THE SPECIFIC CONSTRUCTION NOTES.

2. ACCESS TO THE WORKING AREA SHALL BE FROM ROAD ALLOWANCES AND AS DESIGNATED ON THE DRAWINGS AND/OR SPECIFIC NOTES. NO OTHER ACCESS ROUTES SHALL BE USED UNLESS FIRST APPROVED BY THE ENGINEER AND THE AFFECTED LANDOWNER. SPECIFICATIONS RELATED TO CONSTRUCTION WILL APPLY TO THE ACCESS ROUTES. CONTRACTOR SHALL MAKE GOOD ANY DAMAGES CAUSED BY USING THE DESIGNATED ACCESS ROUTES. THE CONTRACTOR SHALL CONTACT EACH OWNER PRIOR COMMENCING CONSTRUCTION ON EACH PROPERTY.

### 300.2) CONSTRUCTION SPECIFICATIONS – SPECIFIC NOTES

TYPICAL NOTES FOR EACH NEW TILE LENGTH

1. ON STRAIGHT RUNS, ENSURE TILE JOINTS ARE PARALLEL (MAXIMUM 12mm ( $\frac{1}{2}$ ") GAP) AND TILE WRAP FLAT, COVERS JOINT EVENLY AND HAS OVERLAP.
2. ON CURVED RUNS, ENSURE TILE JOINTS ARE TOUCHING ON ONE SIDE WITH A MAXIMUM GAP OF 12mm ( $\frac{1}{2}$ ") ON OPPOSITE SIDE. BEVEL CUT TILE OR USE ELBOW SECTIONS WHERE CURVES ARE GREATER. TILE WRAP TO BE FLAT, COVER JOINTS EVENLY AND HAVE OVERLAP.
3. ALL INTERCEPTED LATERAL TILE ARE TO BE FLAGGED AT THE CONNECTION SO THE ENGINEER CAN GPS.

BRANCH 1  
DESTINATION DAIRY (060-12100)

- |                |  |
|----------------|--|
| 0+000 TO 0+006 | INSTALL 6m OF 450mm $\varnothing$ SOLID PLASTIC PIPE AT OUTLET WITH RODENT GATE AND 5m <sup>2</sup> OF RIPRAP.                                 |
| 0+006 TO 0+308 | —INSTALL 302m OF 450mm $\varnothing$ CONCRETE TILE WITH JOINT WRAP. EXISTING 300mm $\varnothing$ PRIVATE TILE TO BE PRE-LOCATED AND PRESERVED. |
| 0+308          | —CONSTRUCT 900x1200mm CB, INCLUDING CONNECTIONS, BIRDCAE GRATE AND 2m <sup>2</sup> OF RIPRAP.  |
| 0+308 TO 0+644 | —INSTALL 336m OF 350mm $\varnothing$ CONCRETE TILE WITH JOINT WRAP. EXISTING 300mm $\varnothing$ PRIVATE TILE TO BE PRE-LOCATED AND PRESERVED. |
| 0+644          | —CONSTRUCT 12m LONG BERM AS PER DETAIL AND NOTES.  |

HIGHHAVEN HOLSTEINS INC. (060-12700)


- 0+644 -CONSTRUCT 600x600mm CB, INCLUDING CONNECTIONS  
AND BIRDCAGE GRATE.

BRANCH 2  
DESTINATION DAIRY LTD. (060+12700)

- |                |  |
|----------------|--|
| 0+000 TO 0+445 | -INSTALL 445m OF 250mmØ CONCRETE TILE WITH JOINT WRAP <u>OR</u> 300mmØ PERFORATED PLASTIC TUBING WITH FILTER SOCK. |
| 0+445          | -CONSTRUCT 12m LONG BERM AS PER DETAIL AND NOTES.  |

HIGHHAVEN HOLSTEINS INC. (060-12700)

- 0+445 -CONSTRUCT 600x600mm CB INCLUDING CONNECTIONS AND BIRDCAGE GRATE.

DESIGNED BY: T.B.J.		 ( SCALE 1 : 200 )
CHECKED BY: C.J.M.		<u>SCALE</u> (ON 11x17)
DRAWN BY: V.E.S.		
CHECKED BY: C.J.M.		

## WITZEL DRAIN

COUNTY OF OXFORD	TOWNSHIP OF EAST ZORRA-TAVISTOCK
COUNTY OF PERTH	TOWNSHIP OF PERTH EAST

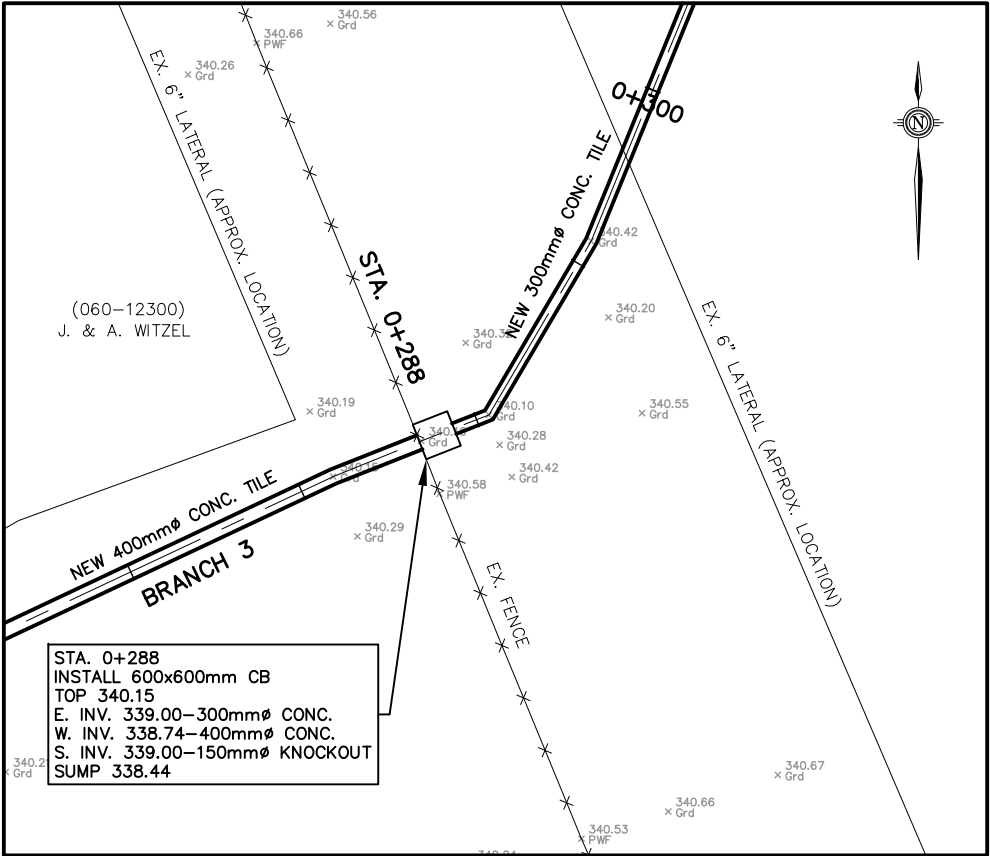
### DETAILS: BRANCH 1 & BRANCH 2

MAY 30, 2022



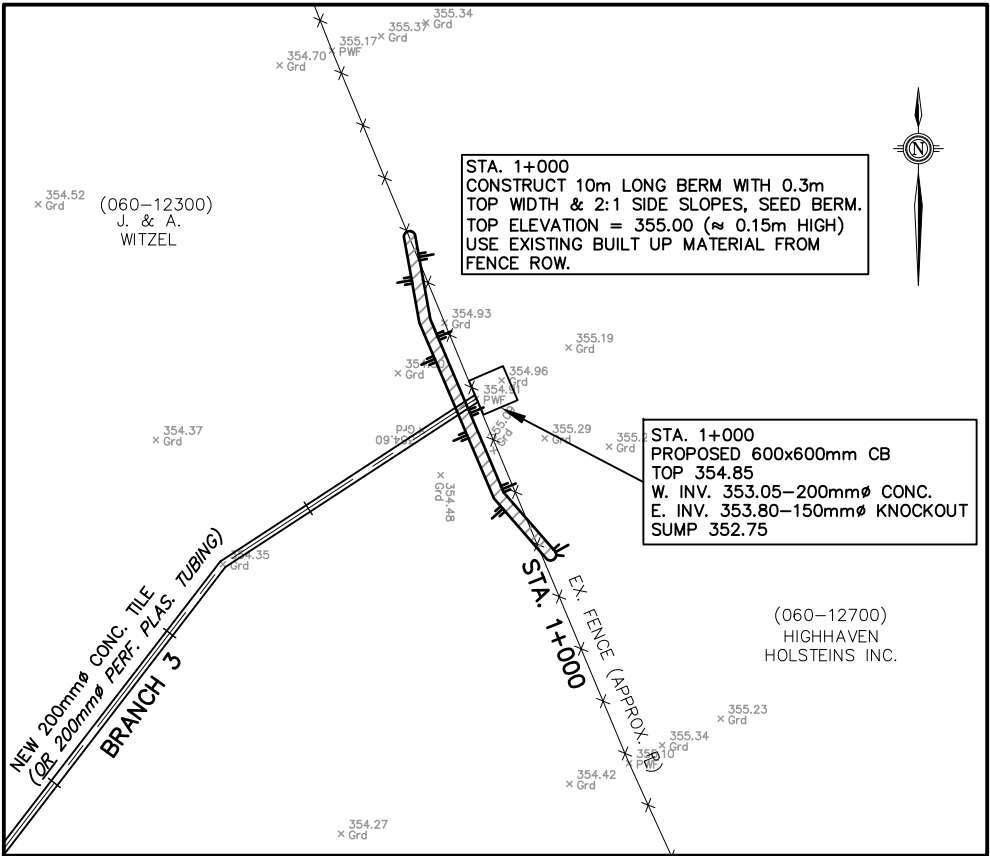
**K. SMART ASSOCIATES LIMITED**  
CONSULTING ENGINEERS AND PLANNERS  
KITCHENER SUDBURY

REVISED:
JOB NUMBER: <b>20-329</b>
DRAWING <b>9 OF 11</b>



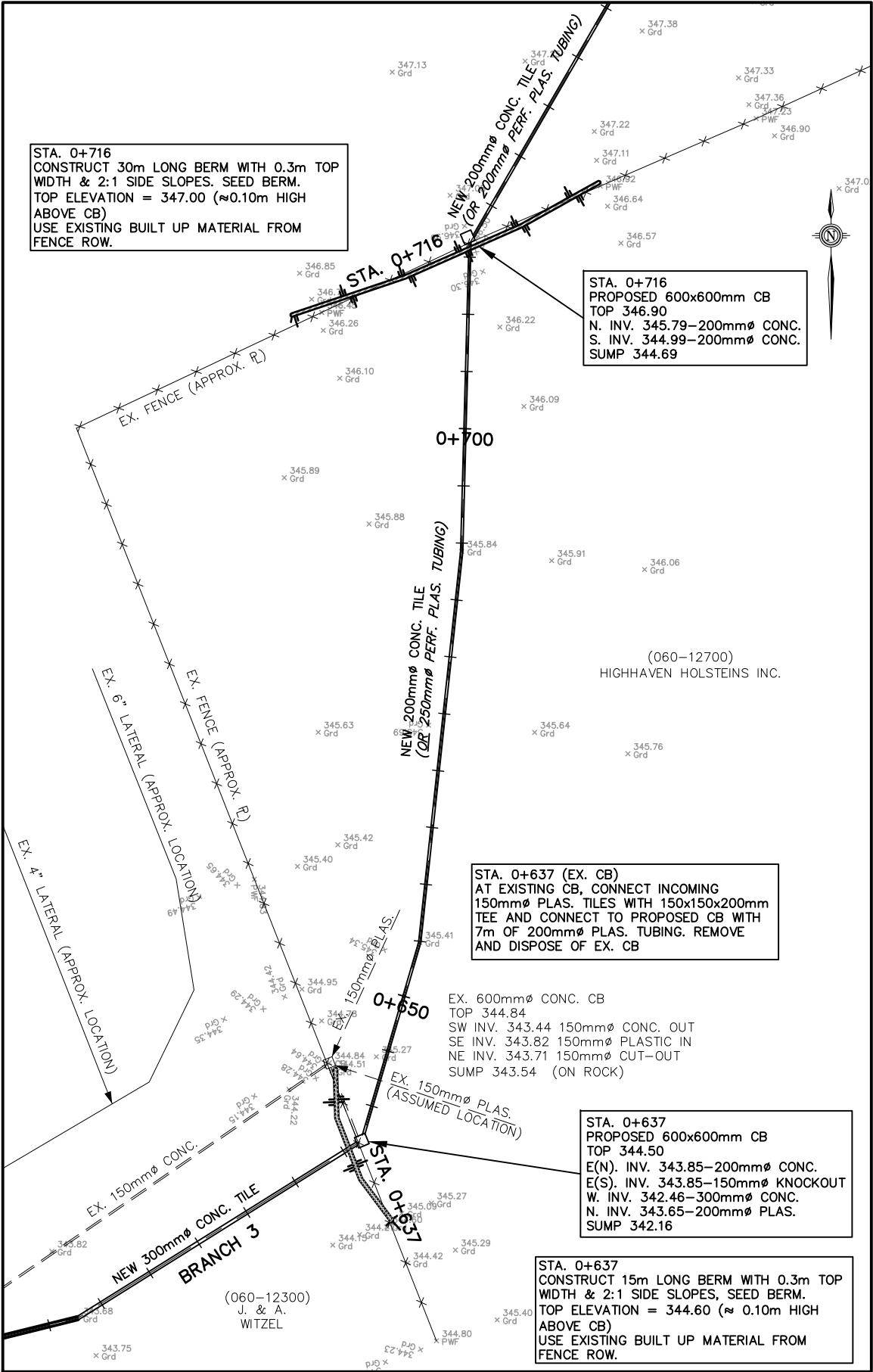
BRANCH 3 STA. 0+288

SCALE 1:200



BRANCH 3 STA. 1+000

SCALE 1:200



BRANCH 3 STA. 0+630 TO 0+725

SCALE 1:500

300) SPECIAL PROVISIONS

300.1) CONSTRUCTION SPECIFICATIONS- GENERAL NOTES

- WORKING AREA**  
FOR A CLOSED DRAIN UP TO 2m DEEP THE WORKING AREA SHALL BE A 10m WIDTH ON EITHER SIDE OF THE TRENCH OR ANY COMBINATION NOT EXCEEDING 20m. FOR CLOSED DRAINS DEEPER THAN 2m THE WORKING AREA SHALL BE INCREASED TO 30m. IF ANY PART OF THE DRAIN IS CLOSE TO A PROPERTY LINE THEN THE PROPERTY LINE SHALL BE ONE OF THE LIMITS OF THE WORK AREA. WHERE ANY PART OF THE DRAIN IS ON A ROAD ALLOWANCE, THE ROAD ALLOWANCE SHALL BE THE WORKING AREA. RESTRICTED OR INCREASED WORKING AREAS WILL BE DESCRIBED IN DETAIL IN THE SPECIFIC CONSTRUCTION NOTES.
- ACCESS**  
ACCESS TO THE WORKING AREA SHALL BE FROM ROAD ALLOWANCES AND AS DESIGNATED ON THE DRAWINGS AND/OR SPECIFIC NOTES. NO OTHER ACCESS ROUTES SHALL BE USED UNLESS FIRST APPROVED BY THE ENGINEER AND THE AFFECTED LANDOWNER. SPECIFICATIONS RELATED TO CONSTRUCTION WILL APPLY TO THE ACCESS ROUTES. CONTRACTOR SHALL MAKE GOOD ANY DAMAGES CAUSED BY USING THE DESIGNATED ACCESS ROUTES. THE CONTRACTOR SHALL CONTACT EACH OWNER PRIOR COMMENCING CONSTRUCTION ON EACH PROPERTY.

300.2) CONSTRUCTION SPECIFICATIONS - SPECIFIC NOTES

- TYPICAL NOTES FOR EACH NEW TILE LENGTH
- ON STRAIGHT RUNS, ENSURE TILE JOINTS ARE PARALLEL (MAXIMUM 12mm ( $\frac{1}{2}$ ") GAP), AND TILE WRAP IS FLAT, COVERS JOINT EVENLY AND HAS OVERLAP.
  - ON CURVED RUNS, ENSURE TILE JOINTS ARE TOUCHING ON ONE SIDE WITH MAXIMUM GAP OF 12mm ( $\frac{1}{2}$ ") ON OPPOSITE SIDE. BEVEL CUT TILE OR USE ELBOW SECTIONS WHERE CURVES ARE GREATER. TILE WRAP TO BE FLAT, COVER JOINTS EVENLY AND HAVE OVERLAP.
  - ALL INTERCEPTED LATERAL TILE ARE TO BE FLAGGED AT THE CONNECTION SO THE ENGINEER CAN GPS.

BRANCH 3  
J. & A. WITZEL (060-12300)

- 0+000 TO 0+288 -SEE NOTES ON DRAWING 7
- 0+288 -CONSTRUCT 600x600mm CATCHBASIN, INCLUDING CONNECTIONS AND BIRDCAGE GRATE. SEE NOTE 1 BELOW.
- 0+288 TO 0+637 -INSTALL 349m OF 300mm $\varnothing$  CONCRETE TILE WITH JOINT WRAP.
- 0+288 TO 0+458 $\pm$  -INSTALL APPROX. 170m $\pm$  OF 150mm (6") PLASTIC TUBING HEADER TILE ALONG EAST SIDE OF PROPOSED DRAIN WITH APPROX. 12 $\pm$ -4" TILE CONNECTIONS FROM SOUTHEAST. HEADER TILE ENDS WHEN EXISTING 150mm (6") HEADER TILE IS REACHED. TILE PLAN WILL BE PROVIDED.
- 0+637 -CONSTRUCT 15m LONG BERM AS PER DETAIL AND NOTES.

HIGHHAVEN HOLSTEINS (060-12700)

- 0+637 -CONSTRUCT 600x600mm CB INCLUDING CONNECTIONS AND BIRDCAGE GRATE.  
-AT EXISTING CB, CONNECT INCOMING 150mm $\varnothing$  PLAS. TILES WITH 150x150x200mm TEE AND CONNECT TO PROPOSED CB WITH 7m OF 200mm $\varnothing$  PLAS. TUBING. IF EX. 150mm $\varnothing$  PLAS. TILE FROM SOUTHEAST IS CROSSED BY BRANCH 3 THEN CONNECT TO PROPOSED TILE USING TEE INSTEAD.  
-REMOVE AND DISPOSE OF EXISTING CB.
- 0+637 TO 0+716 -79m OF 200mm $\varnothing$  CONCRETE TILE WITH JOINT WRAP OR 250mm $\varnothing$  PERFORATED PLASTIC TUBING WITH FILTER SOCK.
- 0+716 -CONSTRUCT 30m LONG BERM AS PER DETAIL AND NOTES.
- J. & A. WITZEL (060-12300)
- 0+716 -CONSTRUCT 600x600mm CB INCLUDING CONNECTIONS AND BIRDCAGE GRATE.
- 0+716 TO 1+000 -284m OF 200mm $\varnothing$  CONCRETE TILE WITH JOINT WRAP OR 200mm $\varnothing$  PERFORATED PLASTIC TUBING WITH FILTER SOCK.
- 1+000 -CONSTRUCT 10m LONG BERM AS PER DETAIL AND NOTES.

HIGHHAVEN HOLSTEINS (060-12700)

- 1+000 -CONSTRUCT 600x600mm CB INCLUDING CONNECTIONS AND BIRDCAGE GRATE.
- NOTE 1 - IF POSSIBLE, MANUFACTURER TO SET TOP COMPONENT OF CB TO BE 0.6m TALL SO OWNER MAY ELECT TO REMOVE AND CONVERT TO JUNCTION BOX IN FUTURE.

DESIGNED BY: T.B.J.

CHECKED BY: C.J.M.

DRAWN BY: V.E.S.

CHECKED BY: C.J.M.



AS SHOWN  
SCALE (ON 11x17)

WITZEL DRAIN

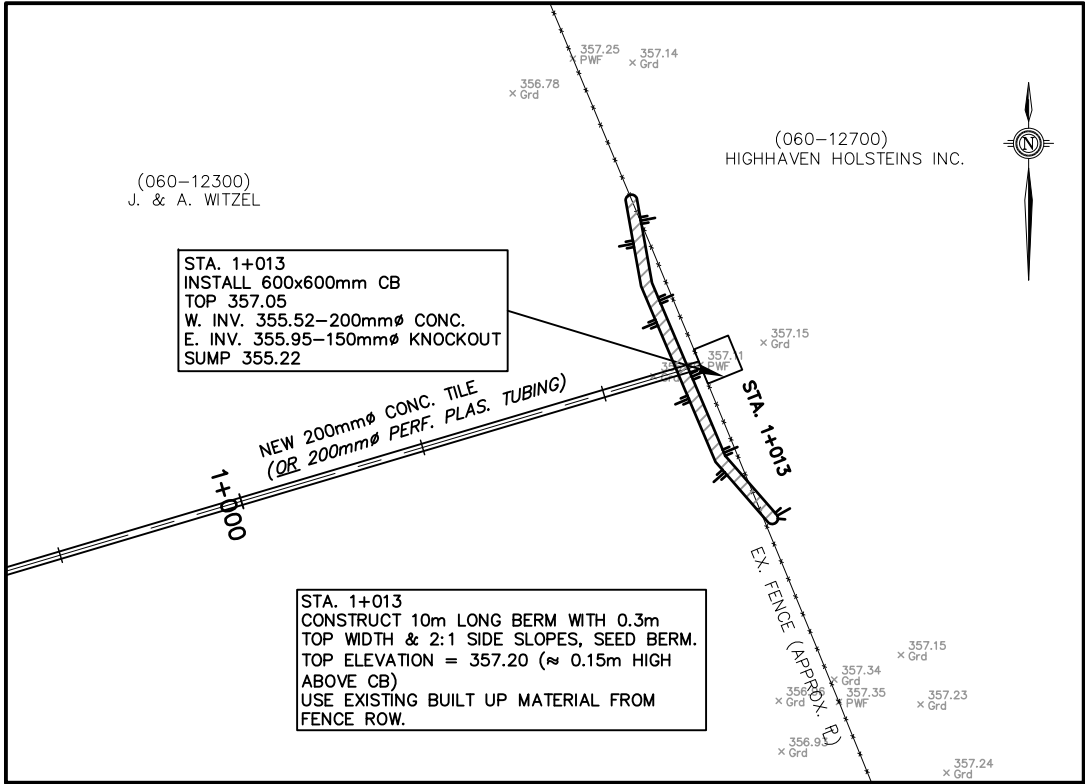
COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK  
COUNTY OF PERTH TOWNSHIP OF PERTH EAST

DETAILS: BRANCH 3

MAY 30, 2022

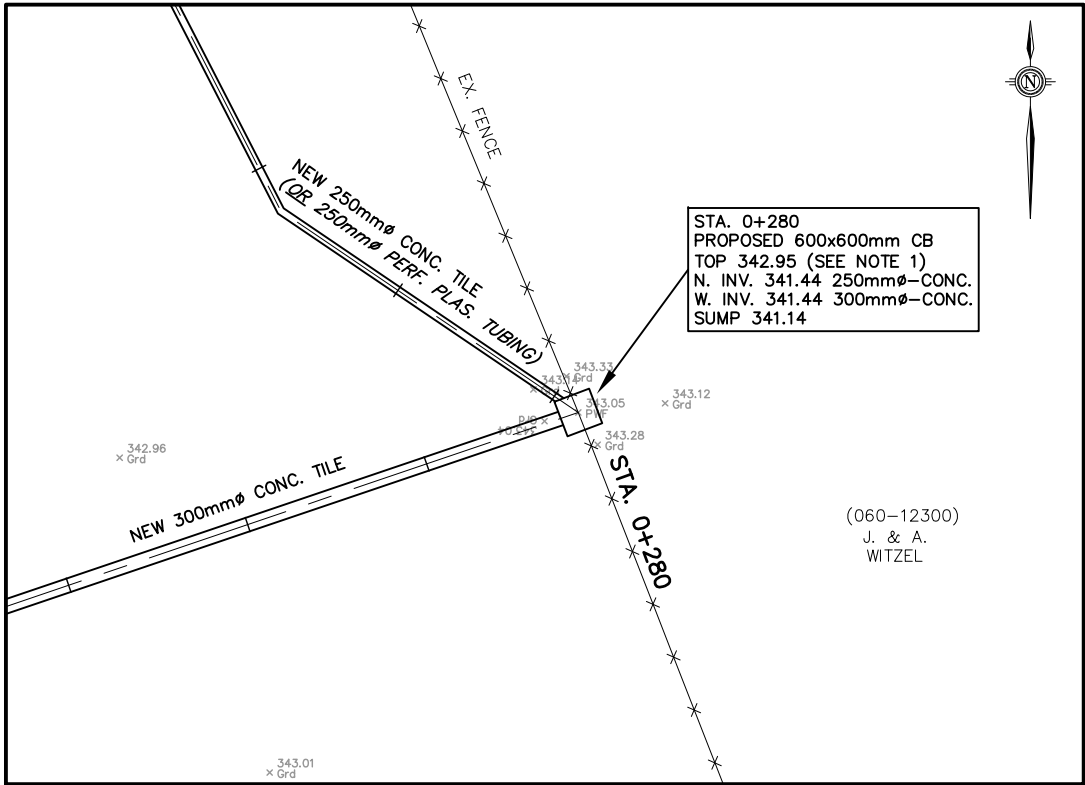
**K. SMART ASSOCIATES LIMITED**  
CONSULTING ENGINEERS AND PLANNERS  
KITCHENER SUDBURY

REVISED:  
JOB NUMBER: **20-329**  
DRAWING  
**10 OF 11**



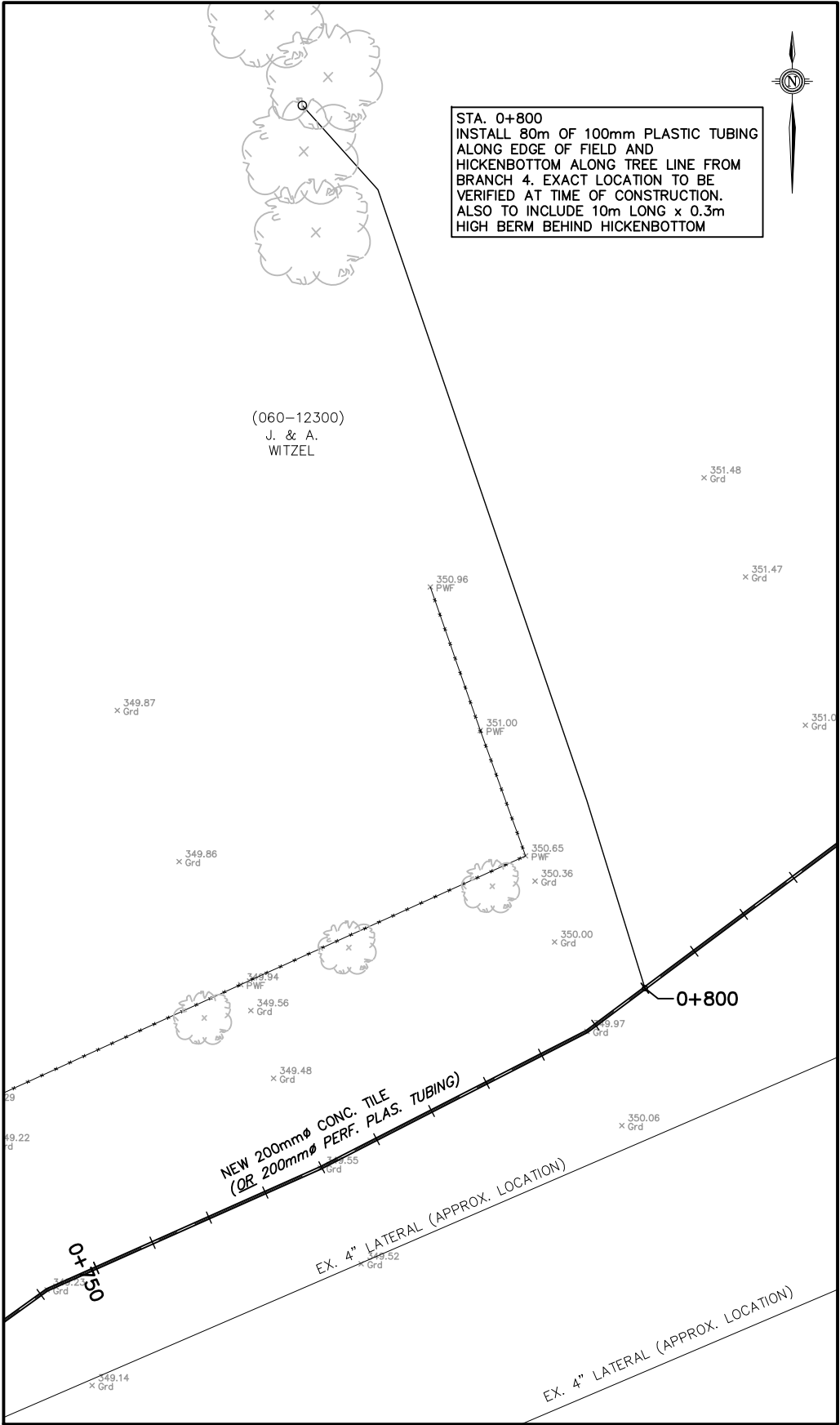
BRANCH 4 STA. 1+013

SCALE 1:200



BRANCH 4 STA. 0+280

SCALE 1:200



BRANCH 4 STA. 0+800

SCALE 1:500

300) SPECIAL PROVISIONS

300.1) CONSTRUCTION SPECIFICATIONS- GENERAL NOTES

1. **WORKING AREA**  
FOR A CLOSED DRAIN UP TO 2m DEEP THE WORKING AREA SHALL BE A 10m WIDTH ON EITHER SIDE OF THE TRENCH OR ANY COMBINATION NOT EXCEEDING 20m. FOR CLOSED DRAINS DEEPER THAN 2m THE WORKING AREA SHALL BE INCREASED TO 30m. IF ANY PART OF THE DRAIN IS CLOSE TO A PROPERTY LINE THEN THE PROPERTY LINE SHALL BE ONE OF THE LIMITS OF THE WORK AREA. WHERE ANY PART OF THE DRAIN IS ON A ROAD ALLOWANCE, THE ROAD ALLOWANCE SHALL BE THE WORKING AREA. RESTRICTED OR INCREASED WORKING AREAS WILL BE DESCRIBED IN DETAIL IN THE SPECIFIC CONSTRUCTION NOTES.
2. **ACCESS**  
ACCESS TO THE WORKING AREA SHALL BE FROM ROAD ALLOWANCES AND AS DESIGNATED ON THE DRAWINGS AND/OR SPECIFIC NOTES. NO OTHER ACCESS ROUTES SHALL BE USED UNLESS FIRST APPROVED BY THE ENGINEER AND THE AFFECTED LANDOWNER. SPECIFICATIONS RELATED TO CONSTRUCTION WILL APPLY TO THE ACCESS ROUTES. CONTRACTOR SHALL MAKE GOOD ANY DAMAGES CAUSED BY USING THE DESIGNATED ACCESS ROUTES. THE CONTRACTOR SHALL CONTACT EACH OWNER PRIOR COMMENCING CONSTRUCTION ON EACH PROPERTY.

300.2) CONSTRUCTION SPECIFICATIONS - SPECIFIC NOTES

- TYPICAL NOTES FOR EACH NEW TILE LENGTH
- ON STRAIGHT RUNS, ENSURE TILE JOINTS ARE PARALLEL (MAXIMUM 12mm (1/2") GAP), AND TILE WRAP IS FLAT, COVERS JOINT EVENLY AND HAS OVERLAP.
  - ON CURVED RUNS, ENSURE TILE JOINTS ARE TOUCHING ON ONE SIDE WITH MAXIMUM GAP OF 12mm (1/2") ON OPPOSITE SIDE. BEVEL CUT TILE OR USE ELBOW SECTIONS WHERE CURVES ARE GREATER. TILE WRAP TO BE FLAT, COVER JOINTS EVENLY AND HAVE OVERLAP.
  - ALL INTERCEPTED LATERAL TILE ARE TO BE FLAGGED AT THE CONNECTION SO THE ENGINEER CAN GPS.

J. & A. WITZEL (060-12300)

- 0+000 TO 0+280 -SEE NOTES ON DRAWING 7
- 0+280 -CONSTRUCT 600x600mm CONCRETE CB, INCLUDING CONNECTIONS AND BIRDCAGE GRATE. SEE NOTE 1 BELOW.
- 0+280 TO 0+491 -INSTALL 211m OF 250mmØ CONCRETE TILE WITH JOINT WRAP OR 250mmØ PERFORATED PLASTIC TUBING WITH FILTER SOCK.
- 0+491 -CONSTRUCT 600x600mm JUNCTION BOX INCLUDING CONNECTIONS.
- 0+491 TO 0+613 -INSTALL 122m OF 200mmØ CONCRETE TILE WITH JOINT WRAP OR 250mmØ PERFORATED PLASTIC TUBING WITH FILTER SOCK.
- 0+613 TO 1+013 -INSTALL 400m OF 200mmØ CONCRETE TILE WITH JOINT WRAP OR 200mmØ PERFORATED PLASTIC TUBING WITH FILTER SOCK.
- 0+800 -INSTALL 80m OF 100mmØ PLASTIC TUBING AND HICKENBOTTOM OFFSET FROM BRANCH 4. SEE DETAIL.
- 1+013 -CONSTRUCT 10m LONG BERM AS PER DETAIL AND NOTES.

HIGHHAVEN HOLSTEINS INC. (060-12700)

- 1+013 -CONSTRUCT 600x600mm CONCRETE CB, INCLUDING CONNECTIONS AND BIRDCAGE GRATE.
- NOTE 1 - IF POSSIBLE, MANUFACTURER TO SET TOP COMPONENT OF CB TO BE 0.6m TALL SO OWNER MAY ELECT TO REMOVE AND CONVERT TO JUNCTION BOX IN FUTURE.

DESIGNED BY: T.B.J.

CHECKED BY: C.J.M.

DRAWN BY: V.E.S.

CHECKED BY: C.J.M.



AS SHOWN  
SCALE (ON 11x17)

WITZEL DRAIN

COUNTY OF OXFORD TOWNSHIP OF EAST ZORRA-TAVISTOCK  
COUNTY OF PERTH TOWNSHIP OF PERTH EAST

DETAILS: BRANCH 4

MAY 30, 2022

**K. SMART ASSOCIATES LIMITED**  
CONSULTING ENGINEERS AND PLANNERS  
KITCHENER SUDBURY

REVISED:  
JOB NUMBER: **20-329**  
DRAWING  
**11 OF 11**



**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](http://www.oxfordcounty.ca)

Our File: **A07-22**

**APPLICATION FOR MINOR VARIANCE**

**TO:** Township of East Zorra-Tavistock Committee of Adjustment

**MEETING:** July 6, 2022

**REPORT NUMBER:** CP 2022-252

**OWNERS:** Aaron Phinney & Lauren Haesler  
125 Hope Street East, Tavistock, ON N0B 2R0

**REQUESTED VARIANCES:**

1. Relief from **Section 12.2, Table 12.2 – R1 Zone Provisions** to allow for a reduction to the minimum required setback from the centreline of a County Road from the required 22 m. (72.2 ft.) to 12 m. (39.4 ft.);
2. Relief from **Section 5.32.1, Table 5.32.1 – Permitted Projections into Required Yards**, to allow for a reduction of the minimum required setback from an uncovered deck/steps and a front lot line from the required 5 m. (16.4 ft.) to 3 m. (9.8 ft.).

**LOCATION:**

The subject lands are legally described as Pt Lot 8, Plan 307, in the Township of East Zorra-Tavistock. The property is located on the northeast corner of Elizabeth Street and Hope Street East and is municipally known as 125 Hope Street East in the Village of Tavistock.

**BACKGROUND INFORMATION:**

COUNTY OF OXFORD OFFICIAL PLAN:

Schedule “C-3”	County of Oxford Settlement Strategy Plan	Serviced Village
Schedule “E-1”	Township of East Zorra-Tavistock Land Use Plan	Settlement
Schedule “E-2”	Village of Tavistock Land Use Plan	Low Density Residential

## TOWNSHIP ZONING BY-LAW 2003-18:

## Residential Type 1 Zone (R1)

## SURROUNDING USES:

Surrounding uses are predominantly single detached dwellings.

**COMMENTS:**(a) Purpose of the Application:

The application for minor variance has been requested to facilitate the construction of a 10 m<sup>2</sup> (108.6 ft<sup>2</sup>) uncovered deck in the front yard of the subject lands that will project into the required front yard with a proposed setback from the front lot line of 3 m (9.8 ft). The applicants have indicated that proposed deck is to improve the current entrance from a safety standpoint.

The subject lands are approximately 685.5 m<sup>2</sup> (7,378.6 ft<sup>2</sup>) in size, with approximately 14.7 m (48.5 ft) of frontage on Hope Street East and approximately 55.5 m (182.4 ft) of frontage on Elizabeth Street. The subject lands contain an existing single detached dwelling, with driveway access on Hope Street East and surrounding land uses are predominately single detached dwellings.

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

Plate 2, Existing Zoning & Aerial Map, provides an aerial photo of the existing development on the subject lands.

Plates, Applicants' Sketch, illustrates the location and dimensions of the proposed deck on the subject lands, as submitted by the applicant.

(b) Agency Comments:

The application was circulated to a number of public agencies considered to have an interest in the proposal. The following comments were received:

The Township Chief Building Official has indicated that the existing stairs were re-built without a building permit between 2014 and 2013 and that neither the old stairs or the new stairs conform to the Ontario Building Code. Any development should not increase the deficiency of the required legal parking spots.

The Township Public Works Manager has indicated that no new structure is permitted within the municipal sight line. Any trees or shrubs that are impeding the sight line will need to be trimmed to clear the sight line.

The Township's Fire Chief, and the Oxford County Public Works Department has indicated no concerns.

(c) Public Consultation:

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



from the public.

(d) Intent and Purpose of the Official Plan:

The subject lands are designated 'Low Density Residential' according to the Village of Tavistock Land Use Plan, as contained in the County Official Plan. Low Density Residential Areas are those lands that are primarily developed or planned for a variety of low rise, low density housing forms including single detached dwellings, semi-detached dwellings, duplexes, converted dwellings, townhouses and low density cluster development.

The application for minor variance has been requested to permit an uncovered deck on an existing single detached dwelling. Planning staff are generally satisfied that the construction of a deck on an existing single detached dwelling is in-keeping with the general purpose and intent of the Official Plan with respect to permitted uses on lands designated for low density development.

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

The subject lands are zoned as 'Residential Zone 1 (R1)' in the Township's Zoning By-law, which permits single detached dwellings and requires a minimum front yard depth of 7 m (23 ft).

Section 5.32.1 of the Zoning By-law provides that uncovered decks and steps are permitted to project into the required front yard, but that a minimum of 5 m (16.4 ft) must be maintained between the proposed projection and the front lot line.

It is the intent of the front yard depth provision to ensure that adequate separation is maintained between development on private property and the public right-of-way to provide sufficient space for typical road maintenance efforts and to ensure that adequate sight lines are maintained for vehicle and pedestrian safety, particularly at intersecting streets. This provision also assists in ensuring adequate space is available for off-street parking and private amenity space without interference with pedestrian use of the road allowance.

The application proposes the construction of an uncovered deck in the front yard of the subject lands, which would project into the required front yard and would be setback from the front lot line 3 m (9.8 ft). Planning staff are generally satisfied that the proposed deck will not result in visibility concerns as it will be located outside of the required sight triangle at the corner of Elizabeth Street and Hope Street East. Staff are further satisfied that there will be sufficient setback to the public road allowance to allow for typical road maintenance efforts as the Oxford County Public Works Department have indicated no concern. Further, the proposed deck will not compromise existing off-street parking for the subject lands, which is located in the front and interior side yard of the property.

In light of the foregoing, Planning staff are satisfied the proposal maintains the intent of the Township's Zoning By-law.

(f) Desirable Development/Use:

It is the opinion of the Community Planning Office that the applicants' request for relief from the permitted projection requirements of the Zoning By-law can be considered minor and desirable for the development of the subject lands.

Specifically staff are satisfied that approval of the applicants' request can be considered a minor variance to the development provisions of the Zoning By-law that is not anticipated to negatively impact surrounding land owners or the adjacent right-of-way and no comments of concern have been received from any of the neighbouring property owners or public agencies.

In light of the foregoing, it is the opinion of Planning staff that the subject application can be given favourable consideration.

**RECOMMENDATION:**

That the Township of East Zorra-Tavistock Committee of Adjustment **approve** Application File A07-22, submitted by Aaron Phinney and Lauren Haesler for lands described as Pt Lot 8, Plan 307, being municipally known as 125 Hope Street East in the Township of East Zorra-Tavistock as it relates to:

1. Relief from **Section 12.2, Table 12.2 – R1 Zone Provisions** to allow for a reduction to the minimum required setback from the centreline of a County Road from the required 22 m. (72.2 ft.) to the requested 12 m. (39.4 ft.); and,
2. Relief from **Section 5.32.1, Table 5.32.1 – Permitted Projections into Required Yards**, to allow for a reduction of the minimum required setback from an uncovered deck/steps and a front lot line from the required 5 m. (16.4 ft.) to 3 m. (9.8 ft.).

Subject to the following condition:

- i. That the proposed relief shall only apply to a deck of the approximate size and location as depicted on Plate 3 of Report CP 2022-252.

As the variances requested are considered to be:

- i) in keeping with the general intent and purpose of the County's Official Plan;
- ii) minor variances 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:**

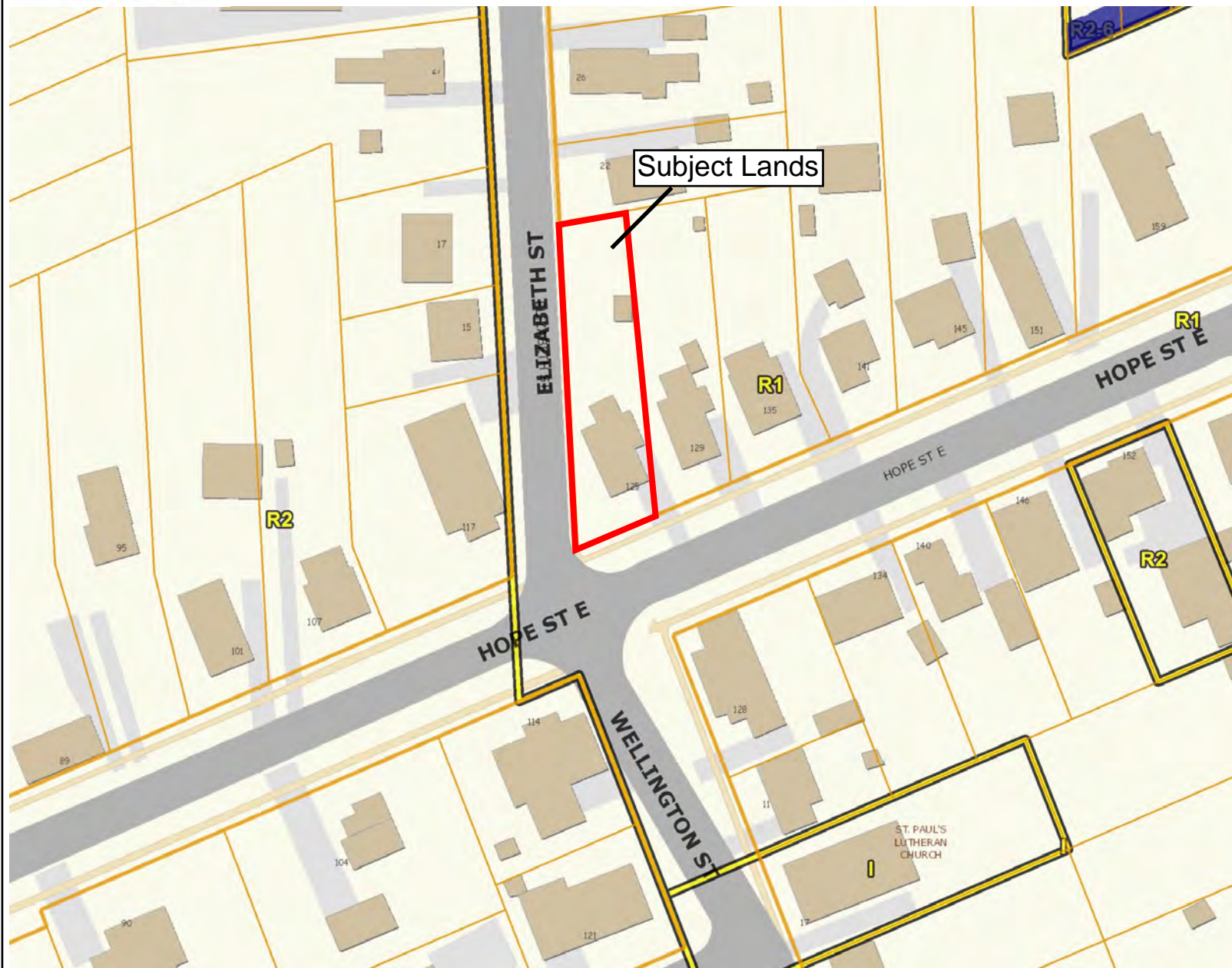
*"Original Signed by"*

Dustin Robson, MCIP, RPP  
Development Planner

**Approved for submission by:**

*"Original Signed by"*

Eric Gilbert, MCIP, RPP  
Senior Planner



### Legend

- Parcel Lines
  - Property Boundary
  - Assessment Boundary
  - Unit
  - Road
  - Municipal Boundary
- Property Fabric Easement
- Property Fabric One Foot Reserve
- Enbridge Pipeline Easement (incomplete)
- Union Gas Easement
- 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 26 51 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

June 6, 2022





## 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



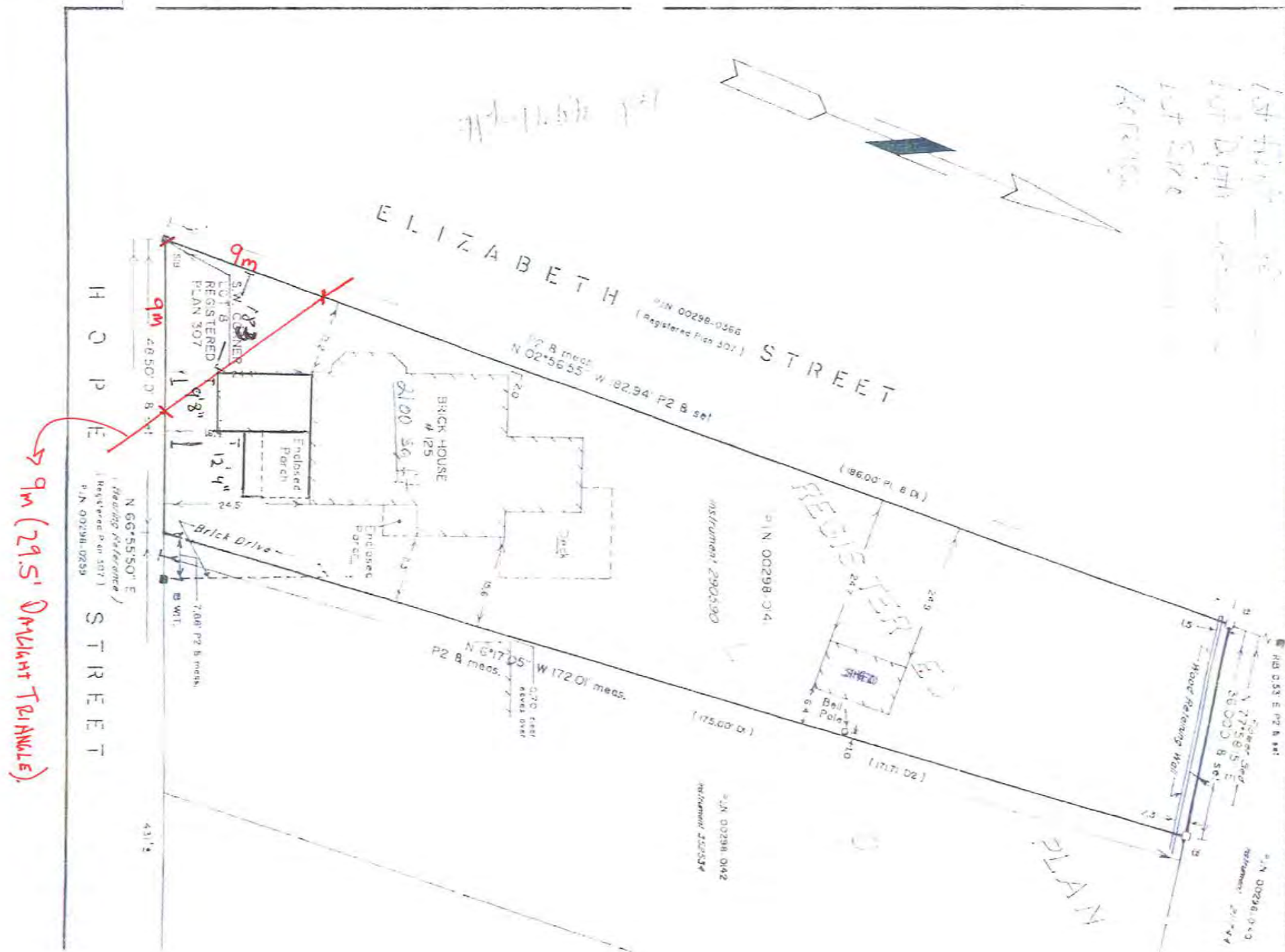
0 26 51 Meters

NAD\_1983\_UTM\_Zone\_17N



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June 8, 2022





OXFORD COUNTY

# ADDITIONAL RESIDENTIAL UNITS TOWNSHIPS

TOWNSHIP OF  
EAST ZORRA-TAVISTOCK  
COUNCIL MEETING

JULY 6, 2022

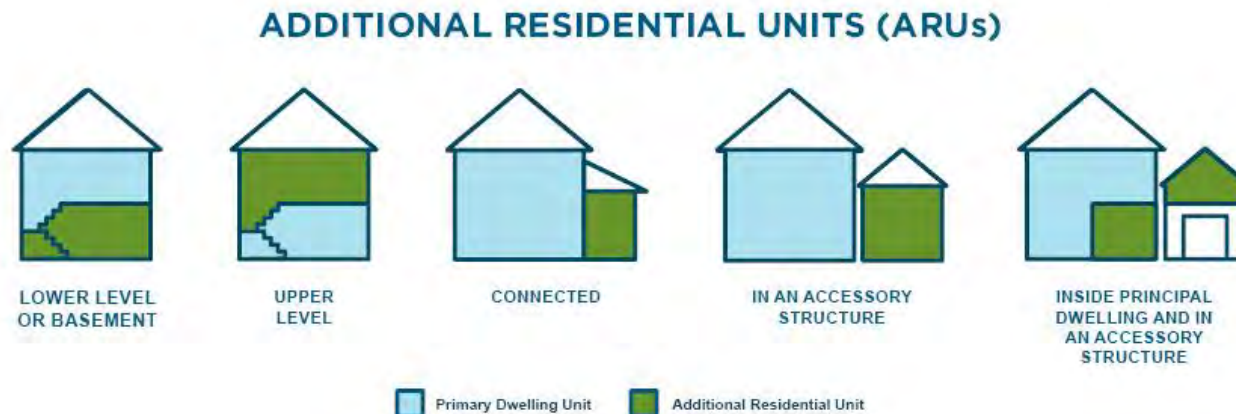


- The *Planning Act* directs municipalities to have Official Plan policies and Zoning provisions that allow for the an Additional Residential Unit (ARU) in:
  - a single detached, semi-detached or row house dwelling; and,
  - within a building or structure ancillary to such dwellings.
- County Council directed staff to proceed with drafting amended Official Plan policies for consultation with the public and Townships
- New policies have been drafted and are attached to the staff report
- Also a draft zoning template to illustrate policy implementation

# WHAT IS AN ARU?

Page 160

- Additional Residential Units (ARUs) are self-contained dwelling units
- ARUs can be within a house or in a detached structure on the same property
- Various forms and names - accessory dwelling units, second units, secondary suites, apartments, lofts, coach houses, tiny homes, etc.





Definition approved by County Council:  
(OPA 271, February 23, 2022)

*Additional Residential Unit (ARU) means a separate, self-contained dwelling unit located within a single detached, semi-detached or street townhouse dwelling, or within a detached building ancillary to such dwelling, and which is located on the same lot as, and is clearly subordinate to the principal dwelling*

- up to two ARUs per lot (i.e. one in the principal dwelling and/or one in an ancillary structure)
- municipal water and wastewater services – must confirm adequate capacity and connect to available services
- other detailed development criteria



- one ARU per lot in the principal dwelling or in an ancillary (detached) structure in residential designations
- minimum lot area of 0.6 ha (1.48 ac) for unit in ancillary structure
- no wastewater services in these areas – must demonstrate adequate private services (i.e., septic disposal)
- some areas have municipal water supply – must confirm adequate capacity and connect to available services
- other detailed development criteria

- up to two ARUs per lot (i.e. one in the principal dwelling and/or one in an ancillary structure)
- minimum lot area of 0.6 ha (1.48 ac) for unit in ancillary structure
- lots containing more than one existing residential dwelling would only be permitted to have ARU(s) associated with one house (i.e., maximum two ARUs per farm unit)
- all ARUs in an ancillary structure on a farm would be subject to approval of the Committee of Adjustment
- other detailed development criteria

- ARU(s) must be clearly secondary
- maximum gross floor area of all ARUs is 50% of the gross floor area of the principal dwelling on the lot, with a maximum gross floor area of 100 m<sup>2</sup> (1076 ft<sup>2</sup>)
- adequate lot area for parking, landscaping, controlling stormwater runoff, and outdoor amenity space
- share driveway and parking area
- access for occupants and emergency response

# CRITERIA FOR ARUS IN ANCILLARY BUILDING

Page 166

- structure to be located in rear or interior side yard
- minimize impacts to adjacent properties
- maximum distance for ARU from principal dwelling on a farm and must not result in impacts to agricultural operations on the farm or nearby farms
- meet MDS I

- Townships may require site plan approval
- discourage site specific zone change applications in zones that are not included in comprehensive zoning review
- ARUs can not be severed from the principal dwelling
- revise Garden Suite polices to permit up to 20 years as permitted by the Planning Act



# PROCESS AND NEXT STEPS

Page 168

1. County Council direction to initiate Official Plan Amendment (OPA) and consultation – Jan. 26, 2022
2. Consultation with Townships and public regarding draft OP policies and associated zoning implementation
3. Public Meeting and County Council approval of OPA
4. Consultation with Townships and the public regarding draft zoning provisions
5. Public Meeting and Township Council approval of ZBA

OXFORD COUNTY

# ADDITIONAL RESIDENTIAL UNITS TOWNSHIPS

QUESTIONS



**To: Mayor and Members of Township of East Zorra-Tavistock Council**

**From: Meghan House, Development Planner, Community Planning**

## **Official Plan Amendments to Implement Additional Residential Units (ARUs) in Rural Areas**

### **REPORT HIGHLIGHTS**

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- The Planning Act requires municipalities to establish Official Plan policies and Zoning By-law provisions to permit an 'additional residential unit' (ARU) in single detached, semi-detached and rowhouse dwellings, and/or in a structure ancillary to such dwellings.
- County Council directed Planning staff to initiate an amendment to the County Official Plan with respect to additional residential units in the County's rural areas on January 26, 2022 (Report CP 2022-16). County Council also directed Planning staff to initiate consultation with the five Townships regarding related local zoning considerations as part of the policy review process.
- This report outlines the key changes to the Official Plan policies that are currently being proposed by Planning staff to reflect the provincial direction. A proposed draft of the amended policies is attached as Attachment 1 to this report.
- The direction and feedback from Township Council with respect to the proposed amendments will be forwarded to County Council to inform their consideration of the proposed Official Plan amendments. Individual Townships will be responsible for implementing the Official Plan policies through their Zoning By-law and a template for the proposed zoning amendments has been developed and included with this report to facilitate discussion.

### **DISCUSSION**

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#### **Background**

County Council directed Planning staff to initiate an amendment to the County Official Plan with respect to additional residential units (ARUs) in the County's rural areas (i.e. the five townships) on January 26, 2022 (Report CP 2022-16). County Council also directed Planning staff to initiate consultation with the Townships regarding related local zoning considerations as part of the policy review process.

Planning staff had initial discussions with staff from each Township and County Public Works to discuss the implementation of Additional Residential Units (ARUs) in the rural areas. Draft policies were later circulated for review and comment to Township staff, Oxford County Public Works, and Oxford County Manager of Housing Development. Comments have been incorporated into the attached draft policies and zoning template.

This report outlines the key changes to the Official Plan policies that are currently being proposed by Planning staff. Township staff and councils will have further opportunities to discuss and develop zoning provisions following any approval of the proposed policies. Direction and feedback from Township council with respect to the proposed amendments is being sought and will be forwarded to County Council as part of the formal Official Plan Amendment process.

The following commentary provides an overview of the legislative and policy framework that applies to Additional Residential Units (ARUs), a description of the proposed policies and further implementation considerations.

### PLANNING ACT

The Planning Act provisions require that Official Plans shall contain policies that authorize the use of additional residential units by authorizing:

- The use of two residential units in a detached house, semi-detached house or rowhouse; and,
- The use of a residential unit in a building or structure ancillary to a detached house, semi-detached house or rowhouse.

The Act also requires that each local municipality ensure that their zoning bylaws give effect to the policies described above. The Planning Act does not specifically define 'additional residential units'. Further, the Planning Act restricts appeals of ARU official plan policies and zoning by-law provisions so that only the Minister of Municipal Affairs and Housing has the right to appeal municipal decisions on such matters to the Ontario Land Tribunal (OLT).

The accompanying Planning Act regulations (O. Reg. 299/19) set out specific requirements and standards with respect to additional residential units, as follows:

- Each additional residential unit shall have one parking space that is provided and maintained for the sole use of the occupant of the additional residential unit and it may be a tandem space;
- An additional residential unit may be occupied by any person regardless of whether the person who occupies the additional residential unit is related to the person who occupies the primary residential unit and whether the person who occupies either the primary or additional residential unit is the owner of the lot; and
- Where the use of additional residential units is authorized, an additional residential unit is permitted, regardless of the date of construction of the primary residential unit.

### 2020 PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS) provides policy direction on matters of provincial interest related to land use planning and development. Under Section 3 of the Planning Act, where a municipality is exercising its authority affecting a planning matter, such decisions "shall be consistent with" all policy statements issued under the Act.

The 2020 amendments to the PPS introduced a number of new and updated policies intended to increase the supply and mix of housing, including:

- Requiring that a range of housing options and densities be planned for in order to meet projected housing demand;
- Added references to the terms 'affordable' and 'market-based' in the policies pertaining to the determination of housing need;
- Requiring that planning decisions be aligned with local housing and homelessness plans; and,



- Adding specific references to the term 'additional residential units' in the housing policies.

The term 'additional residential units' is specifically referenced in two sections of the PPS (Sections 1.1 and 1.4). However, the latter policies are the most relevant in terms of providing direction on Provincial expectations:

Section 1.4 - Housing - Planning authorities shall provide for an appropriate range and mix of housing options and densities to meet projected market-based and affordable housing needs of current and future residents of the regional market area by permitting and facilitating all types of residential intensification, including additional residential units, and redevelopment in accordance with policy 1.1.3.3.

The PPS does not include a definition of Additional Residential Unit, but includes the term within the definitions of 'Housing Options' and 'Residential Intensification' as follows.

*Housing Options* - means a range of housing types such as, but not limited to single detached, semi-detached, rowhouses, townhouses, stacked townhouses, multiplexes, additional residential units, tiny homes, multi-residential buildings. The term can also refer to a variety of housing arrangements and forms such as, but not limited to life lease housing, co-ownership housing, co-operative housing, community land trusts, land lease community homes, affordable housing, housing for people with special needs, and housing related to employment, institutional or educational uses.

*Residential Intensification* - includes the conversion or expansion of existing residential buildings to create new residential units or accommodation, including accessory apartments, additional residential units, rooming houses, and other housing options.

The above noted PPS policies generally require that municipalities provide for an appropriate range and mix of housing options and densities to meet projected need in appropriate locations (e.g. fully serviced settlement areas), by permitting and facilitating all types of residential intensification, including additional residential units. However, this direction also needs to be balanced with various other PPS policies pertaining to such matters as the protection of prime agricultural areas and other natural resources, land use compatibility, consideration of natural and man-made hazards, ensuring development is appropriately serviced, and directing growth and development to settlement areas.

#### OFFICIAL PLAN

The existing Official Plan policies do not specifically address the current Provincial direction with respect to Additional Residential Units (ARUs). However, the Plan does contain policies that support various forms of residential intensification in rural settlements, including converted dwellings and backyard infill, and, to some extent, outside of settlements through the conversion of an existing dwelling into two dwelling units. The existing Official Plan policies that are applicable to intensification in the form of an additional dwelling unit in a principal dwelling and/or in a structure ancillary are summarized below.

#### **Additional Units in Rural Settlements**

Section 6.1 – Rural Settlement Strategy, contains policies that promote a range and mix of housing and appropriate infill development and intensification of land and buildings in rural settlements consistent with the level of municipal services available and taking into consideration



various other matters, such as environmental features and constraints and compatibility with existing or planned development.

More specifically, the policies of Section 6.2.2.2 – Converted Dwellings, permit Township Council to zone areas or properties to permit single detached dwellings within Rural Cluster and Village designations to be converted into two residential units in accordance with the following criteria:

- Existing municipal services or private services will be adequate to accommodate the proposed conversion;
- Lot sizes are sufficient to accommodate the required off-street parking without detracting from the visual character of the area; and,
- Existing dwellings are generally of a size sufficient to accommodate the creation of an additional dwelling unit.

Within Low Density Residential areas of Serviced Villages, Area Council may zone areas to permit detached, semi-detached, duplex and townhouse dwellings to be converted into two residential units. These policies also state that Area Council may zone areas to permit the conversion of dwellings for more than two dwelling units in accordance with the following criteria:

- that the area is characterized by a mixture of dwelling types;
- lot sizes are generally sufficient to accommodate the required parking without detracting from the visual character of the area; and
- the existing dwellings are generally of sufficient size to accommodate the creation of additional dwelling units.

The Zoning By-law may limit the number of units that may be contained in a converted dwelling and specify minimum lot and/or dwelling size requirements for conversion. Further, the Zoning By-law may also limit the extent of structural changes or additions that may be permitted in order to maintain the external character of the dwelling. In addition, the policies state that converted dwellings with more than two dwelling units may be subject to site plan control.

With respect to policies pertaining to the establishment of a dwelling unit in an accessory residential structure, Section 6.2.2.1 – Infill Housing contains policies with respect to backyard infilling that apply to residential areas in all rural settlements. These policies allow for various forms of residential development in a rear yard, such as the construction of a residential structure behind a building facing a street, the conversion of secondary structures for residential purposes and establishment of a granny flat or garden suite. However, in Villages and Rural Clusters, residential development involving more than two units is not permitted due to reliance on private or partial water and wastewater services.

Various development criteria are provided for evaluating such infill proposals, including siting of buildings and parking areas, parking and access, adequacy of services and application of site plan control.

### **Additional Units in Other Rural Areas**

Section 4.2.2.1 – Rural Area applies to the lands in the County that are located outside of a designated settlement. This section contains policies that permit converted dwellings, to a maximum of two units per dwelling, on a farm unit or non-farm lot in the Agricultural Reserve, Open Space and Future Urban Growth designations. The policies indicate that Area Council may zone an area or property to permit the conversion of dwellings for two dwelling units, subject to addressing criteria pertaining to such matters as adequacy of servicing, Minimum Distance Separation Formula, parking, lot and dwelling size and impact on environmental resources.

These policies also state that the Zoning By-Law may specify minimum lot or dwelling size requirements for conversion. To maintain the external character of the dwelling, the Zoning By-Law may also limit the extent of structural additions or changes that would be permitted.

The current Official Plan policies also allow for the establishment of a garden suite as a temporary use on a farm or non-farm lot containing a dwelling, in accordance with the policies contained in Section 10.3.9., which set out various development criteria relating to servicing, location, buffering, MDS, minimum lot area, etc.

The current Official Plan, and the amendments approved by County Council through the agricultural policy review, also contain policies that allow for the establishment of an additional accessory dwelling on a farm for the purposes of accommodating full-time farm help, where it is demonstrated to be necessary to support the farm operation. The policies and development criteria for the establishment additional accessory dwelling(s) on a farm will remain distinct and separate from the proposed ARU policies.

In summary, the existing Official Plan policies already allow Township Councils to zone properties or areas to allow for the establishment of an additional unit in a principal dwelling (i.e. converted dwelling) and/or an accessory residential structure (i.e. backyard infill policies) in a fully serviced Village and, to a lesser extent, in other settlement and rural areas, subject to meeting various development criteria. These existing policies provide a framework for the incorporation of specific ARU policies into the Official Plan and should be amended to ensure that they clearly reflect the current Provincial direction on ARUs.

#### TOWNSHIP ZONING BY-LAWS

Much of the Provincial and Official Plan policy direction with respect to ARUs will be implemented through the provisions of the Area Municipal Zoning By-laws. As such, each Township Zoning By-law will also require review and update to ensure the permitted uses and provisions address the current Provincial direction and updated Official Plan policies, as well as any local constraints or objectives for such units.

The majority of the zones in the Township that permit a single-detached dwelling also permit a 'converted dwelling', with the exception of the 'Highway Commercial Zone (HC)', and a temporary 'garden suite' is permitted in agricultural zones (i.e., A1 and A2), rural residential zones (i.e., RE, RR and ER), and 'Residential Type 1 Zone (R1)', subject to a site specific zone change application and compliance with the provisions for such units set out in the General Provisions of the By-law. The Zoning By-law does not currently contain any provisions that would address the establishment of a permanent dwelling unit in a structure ancillary to a residential use.

The existing 'Residential Type 2 (R2) Zone' permits buildings containing two units (i.e., duplexes and semi-detached dwellings) and the 'Residential Type 3 Zone (R3)' permits a variety of multiple unit buildings. These zones are generally applied to residential lots in Serviced Villages.

Further, an additional single detached dwelling is permitted in agricultural zones (i.e., A1 and A2), subject to approval by the Committee of Adjustment. These dwellings are intended for accommodating full-time farm help, where it is demonstrated to be necessary to support the farm operation and are distinct from ARUs.

The current requirement for a site specific zone change for converted dwellings and garden suites allows for review and confirmation of adequate on-site sewage disposal and/or water services

and compliance with other applicable development criteria (i.e. minimum lot and dwelling size, location on the lot, MDS etc.), prior to allowing for such units to be established on a lot.

If a more 'as of right' zoning approach for the establishment of 'additional residential units', is to be considered, as generally encouraged by the Province, the County and Townships would need to ensure that any applicable Official Plan development criteria (i.e. adequacy of servicing, access, layout, compatibility etc.) for such units could be adequately addressed through zoning provisions and the building permit review process. A draft zoning template has also been developed and attached as Attachment 2 to this report to illustrate how the proposed Official Plan policies could be addressed in an amendment to the Township Zoning By-law. Townships will still have the opportunity to consider local objectives and review the detailed zoning provisions following any approval of amended Official Plan policies through the zoning by-law amendment process. Planning staff will continue to assist and advise the Township in this regard.

#### Agency Comments

Planning staff had initial discussions with staff from each Township and County Public Works to discuss the implementation of Additional Residential Units (ARUs) in the rural areas. Subsequently, draft policies were circulated for review and comment to Township staff, Oxford County Public Works, and Oxford County Manager of Housing Development and changes were made in response to comments received.

In general, Township of East Zorra-Tavistock staff indicated that priorities are: adequate parking for new units without impacting the function and maintenance of municipal streets and stormwater management system (e.g., no new driveways, maintain maximum coverage for buildings and parking areas, require minimum parking and landscaping); having access to units in case of an emergency; and, managing increased demands on municipal water and wastewater systems. Township staff noted that some of the proposed Official Plan policies (e.g., maximum distance of 20 m from the principal dwelling on a farm and maximum gross floor area of 100 m<sup>2</sup>) may not permit enough flexibility to recognize existing farm layouts and typical proposals for larger dwelling units in the rural areas.

County of Oxford Public Works indicated that the rural Townships comprise several small drinking water systems and wastewater collection and treatment facilities, some of which are at or nearing capacity and have limited potential for expansion. It was further identified that older lots may have outdated or deteriorating connections and lot level infrastructure (e.g., small pipe diameter), as the water and sewer connections must be shared by all units, this could result in poor performance or required upgrades for property owners. The attached draft policies require confirmation of servicing capacity prior to development of ARUs so that increased demands on municipal water and wastewater systems can be managed and/or monitored. Discussions are ongoing regarding establishment of a formal process for confirming servicing capacity prior to approval of ARUs in settlements that have municipal water and/or wastewater services.

The County of Oxford Manager of Housing Development indicated support for policies to permit the establishment of additional residential units in the rural townships as a way to increase the supply and range of rental housing across the County. Additional residential units make homeownership more affordable by providing additional income to property owners, increase independent accommodation options for seniors, and leverage private housing stock to increase the supply of 'missing middle' housing. Overall, flexible policies and provisions to support the creation of ARUs can assist to provide more opportunities to address the current lack of rental housing supply across the entire County.

Comments have been incorporated in the attached draft policies and zoning template where appropriate and/or noted for future discussions during the development of zoning provisions.

### Public Consultation

A Speak Up Oxford page has been created and all information regarding implementation of ARUs in the rural Townships will be made available on that page. Examples of information to be posted includes: staff contact information; comment submission forms and/or surveys; staff reports and presentations; infosheets (under development); dates for Township Council consultation meetings; and the date of the formal Public Meeting to be held at County Council. Staff has also been compiling a list of interested property owners and members of the public who will be contacted directly to address any questions and obtain feedback.

### **Planning Analysis**

Under the Planning Act, the Official Plan must contain policies that authorize the use of an 'additional residential unit' in a detached, semi-detached or rowhouse dwelling and/or in a structure ancillary to such dwelling types. In Oxford, this will involve updating the Official Plan to include specific policies to enable and guide the establishment of ARUs in each of the Area Municipalities, consistent with the applicable Planning Act and PPS direction. Each of the Area Municipalities in the County would then be responsible for enacting applicable Zoning By-Law provisions, and any other tools and measures they may feel are necessary, to implement the Provincial direction and Official Plan policies for ARUs at the local level. The attached draft Official Plan policies (Attachment 1) provide the basis for permitting ARUs while addressing other County-wide interests, but Townships may choose to establish more detailed local requirements for such units.

Planning staff's current understanding of the Provincial direction on ARUs is that such units are largely expected to be permitted 'as of right', unless there is a clear planning basis for not doing so. Permitting units 'as of right' generally means that no planning application process would be required (i.e. only compliance with applicable zoning and building permit requirements). However, it is also understood that municipalities are permitted to develop reasonable local standards and minimum requirements that will need to be met for such units to be established.

Planning staff have reviewed various other municipal approaches with respect to Official Plan policies for the establishment of ARUs and it appears most have taken a relatively high level, permissive approach, particularly for ARUs located within the principal dwelling in fully serviced settlements. Municipal approaches to allowing for ARUs in an ancillary residential structure and/or in privately/partially serviced settlements and rural areas vary considerably, from 'as of right' type approaches to not being permitted. All municipalities reviewed have established specific standards for the development of ARUs. Although the level of detail varies considerably depending on local interests (e.g., urban versus rural, municipal/organizational structure, presence of environmental and servicing constraints), it appears that all municipalities limit the size and location of ARUs to so that they remain secondary to the principal dwelling.

### Proposed Amendments to Official Plan Policies

Planning staff have prepared the attached 'consultation draft' of amendments as Attachment 1 to this report. The proposed amendments primarily affect Sections 4.2.2.1 (Growth Management - Rural Area) and 6.2 (Residential Uses in Rural Settlements), with some minor amendments to Sections 3.1 (Agricultural Area) and 6.3 (Commercial Uses in Rural Settlements) to reflect new terminology and clarify that severing ARUs from the principal dwelling would not be permitted. The latter sections have not been included in Attachment 1 as they comprise references to the main amendments in Section 4.2 and 6.2 and are spread out throughout the sections. Housekeeping amendments with respect to garden suites in Section 10.3.9 (Temporary Use) are also proposed, as the Planning Act provisions were changed to permit garden suites to remain for up to twenty years.

The general intent of the proposed amendments is to ensure consistency with the current Provincial direction on ARUs, while also establishing appropriate review criteria to inform and support the development of appropriate zoning provisions for each Township. The proposed approach would also allow for each Township to utilize other local implementation measures, such as licensing, property standards, and site plan control, where deemed to be appropriate.

In general, the expectation is that the specific details as to where these units will be permitted and what local development standards will apply will be largely determined at the Area Municipal level based the Official Plan policy criteria, local land use context and adequacy of private services.

The overall policy approach currently being proposed by Planning staff is described as follows:

- Establish a definition for 'additional residential units' and specifically reference that term in the updated policies, including replacement of all instances of the term 'converted dwellings' throughout the rural sections of the Plan. A definition of ARU(s) was added through recent amendments to Official Plan policies for the City of Woodstock and this definition would also apply to any updated policies for the rural Townships. The following definition of an ARU was approved by County Council (OPA 271), on February 23, 2022:  
*Additional Residential Unit (ARU)* means a separate, self-contained dwelling unit located within a single detached, semi-detached or street townhouse dwelling, or within a detached building ancillary to such dwelling, and which is located on the same lot as, and is clearly subordinate to the principal dwelling.
- Require that each Township establish appropriate zoning provisions to allow for ARUs in single detached, semi-detached and townhouse dwellings and/or in an ancillary structure, where they are satisfied various development review criteria can be met;
- Maximum number of ARUs permitted per lot:
  - the Official Plan policies would provide upper limit of number of ARUs per lot. The Township could further limit the number or type of ARUs permitted by zone and/or limit or prohibit ARUs in specific areas where there are known servicing or other constraints. The draft policies permit the following:
    - up to two ARUs per lot (i.e. one in the principal dwelling and/or one in an ancillary structure) in a Serviced Village, subject to confirmation of available water and wastewater servicing capacity;
    - one ARU per lot in the principal dwelling or in an ancillary structure in other settlements (i.e. Rural Clusters and Villages without full services); and,
    - up to two ARUs per lot (i.e. one in the principal dwelling and/or in an ancillary structure) on an agricultural or rural residential lot. Agricultural properties (i.e., farm units) that already contain more than one dwelling would be limited to two ARUs total. It is proposed that an ARU in an ancillary structure on a farm would



be subject to approval by the Committee of Adjustment to confirm that the location of the unit and servicing meets the policies. Retaining an approval process in this case is intended to provide the opportunity to evaluate proposals against the policy criteria and apply conditions rather having rigid standard zoning provisions.

- **Criteria for all ARUs:**
  - the ARUs shall be clearly secondary and subordinate to the principal dwelling on the lot and have a cumulative gross floor area no greater than 50% of the gross floor area of the principal dwelling on the lot, to a maximum of 100 m<sup>2</sup> (1076 ft<sup>2</sup>), except that the entire basement or cellar of the principal dwelling may be used;
  - ARUs would not be permitted on a lot that already contains other accessory units/uses, including a boarding/lodging house, group home, or farm labour housing, or a home occupation that is characterized by higher occupancy, including a bed and breakfast or a farm vacation rental;
  - combinations of ARUs, garden suites and/or existing converted dwellings may be permitted provided that the total number of additional dwelling units does not conflict with the other ARU policies;
  - centralized waste water and water supply and/or individual on-site water supply and sewage services are demonstrated to be adequate to serve the proposed use;
  - dwellings and lots are large enough to accommodate the ARU and provide for adequate parking, landscaping, stormwater management, and outdoor amenity areas;
  - any new buildings, additions and/or exterior alterations/features will maintain the general architectural character of the principal dwelling and surrounding area;
  - principal dwelling must have direct, individual vehicular access to a public street and all ARUs shall use the same driveway and parking area;
  - there is adequate access from the front lot line and parking area to each ARU for both occupant use and emergency response;
  - to the extent feasible, existing trees and other desirable vegetation are preserved to help maintain the character of the lot and area;
  - stormwater run-off will be adequately controlled; and,
  - potential impacts on environmental and/or heritage resources and any environmental constraints or land use compatibility issues can be satisfactorily addressed.
- **Additional criteria for ARUs in a detached ancillary structure:**
  - the ancillary structure must be located in the rear or interior side yard;
  - the siting, design and orientation of the ancillary structure, parking area and outdoor amenity areas will allow for privacy for occupants of the ARU, principle dwelling and abutting residential properties and minimize visual and shadowing impacts on adjacent residential uses; and,
  - an ARU in an ancillary structure on a farm must be located within the residential area on the lot (i.e. the area comprising the principal dwelling and accessory residential structures, driveway, outdoor amenity areas and individual on-site services). An additional residential unit in a new ancillary building shall be located a maximum distance of 20 m from the principal dwelling and should share individual on-site water supply and sewage services and utility services with the principal dwelling, where possible. The cumulative area of the lot utilized for residential purposes shall be minimized to the extent feasible and not exceed 0.8 ha (2 ac). Further, the location of the additional residential unit and/or new services shall not result in the removal of agricultural land from production and/or create impediments to the function of the farm or an adjacent farm.
- **Proposals outside of settlement areas must meet, or not further reduce, Minimum Distance Separation (MDS I) requirements;**

- Site plan control may be applied to ARUs;
- Zoning provisions for ARUs are to be implemented through a comprehensive Township initiated amendment to the Zoning by-law, except where otherwise specifically noted in the policies (i.e. where a zone change process is required to confirm adequacy of servicing or address other review criteria). Other privately initiated amendments to the Zoning by-law to permit an ARU will not generally be permitted; and
- An ARU cannot be severed from the lot containing the principal dwelling.

In addition to the draft Official Plan policies, Planning staff have developed a discussion draft of the associated zoning provisions to illustrate how the policies can be implemented and to serve as a template for the necessary updates to the Township Zoning By-Laws. As noted above, the draft policies authorize townships to use site plan control for ARUs, or specific types of ARUs, and townships may also wish to use other tools, such as licensing, registration, and development agreements. There has already been discussion of how certain existing processes could be customized for ARUs to streamline and lower the typical costs, while still achieving local objectives. For example, if a township wishes to use site plan control to review the design, implementation and ongoing use of a shared parking area, the process could be scoped to require a simple site plan drawing, lower or waived application fee, and a shortened review period.

In general, Planning staff anticipate that certain areas, such as residential areas in fully serviced villages with adequate servicing capacity, would be pre-zoned to allow ARUs 'as of right' subject to specific zoning provisions/criteria. In other cases, such as for units in an ancillary structure and/or on a lot located in an un-serviced settlement, or a settlement where servicing capacity is a concern, a site specific zoning amendment process or approval by the Committee of Adjustment may still be required.

For the establishment of ARUs on lots located outside of a settlement area (i.e. in the prime agricultural area) there are additional Provincial and Official Plan policy requirements that must be taken into consideration. In particular, the need to ensure that the establishment of such units will not hinder or negatively impact agricultural operations; that prime agricultural areas are protected for long term agriculture; and that Minimum Distance Separation Formulae can be met. Accordingly, approval from the Committee of Adjustment for ARUs in ancillary structures on farms has been included in the draft policies as a process for townships to review individual applications.

### Conclusions

The intent of this report is to provide Township Council with an overview of the amended Official Plan policies currently being proposed by Planning staff to implement ARUs within the County's rural settlements/areas (i.e. the five Townships). The full draft policies are attached to this report and Planning staff are seeking direction and input from Township Council to convey to County Council in their consideration of the proposed amendments.

Further, Planning staff have also developed a draft zoning provisions template for ARUs to illustrate to the Townships and other stakeholders how the Official Plan policies may be implemented, such as where such units may potentially be established and what local development requirements will need to be addressed. These draft zoning provisions are also anticipated to serve as a starting point for consultation on the necessary amendments to Township Zoning By-Laws.

Once consultation with all five Townships on the proposed Official Plan policy amendments has been completed and local feedback and input considered, a statutory public meeting will be scheduled at a County Council meeting to consider a 'final draft' of the proposed amendments

and any final public input. County Council would then be in a position to adopt the proposed amendments at that meeting, if they are satisfied that no further review or revision is required to address any of the final comments received.

Once County Council has approved the necessary Official Plan amendments to implement the ARU policies for the Rural Settlements and Areas, each of the Townships would then be in a position to proceed with any amendments to their Zoning By-Laws and/or other local tools deemed to be necessary to establish appropriate local direction and requirements for the establishment of ARUs.

## RECOMMENDATIONS

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That the Council of the Township of East Zorra-Tavistock receive report CP 2022-287;

And further, that the Council of the Township of East Zorra-Tavistock advise County Council that the Township supports the proposed draft Official Plan policies to implement additional residential units in the rural townships and that County Planning staff proceed with finalizing the consultation draft of the Official Plan policies based on consideration of the comments received and initiating the formal Official Plan Amendment process and related public and agency consultation; and,

And further, that the Council of the Township of East Zorra-Tavistock directs Township staff to proceed with initiating amendments to the Township Zoning By-law following approval of the Official Plan amendment by County Council.

## SIGNATURES

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**Authored by:** *original signed by*

Meghan House, MCIP, RPP  
Development Planner - Policy Focus

**Review by:** *original signed by*

Paul Michiels, Manager of Planning Policy

### Attachments:

**Attachment 1** – Excerpts from County of Oxford Official Plan with proposed draft amendments regarding Additional Residential Units (ARUs) in the Rural Townships

**Attachment 2** – Draft Township Zoning Template

**Excerpts from County of Oxford Official Plan with proposed draft amendments  
regarding Additional Residential Units (ARUs) in the Rural Townships**  
For consultation (June 2022)

The definition of an ARU was approved by County Council (OPA 271) on February 23, 2022:

Additional Residential Unit (ARU) means a separate, self-contained dwelling unit located within a single detached, semi-detached or street townhouse dwelling, or within a detached building ancillary to such dwelling, and which is located on the same lot as, and is clearly subordinate to the principal dwelling.

#### **4.2.2 Growth Strategy**

##### INTRODUCTION

Lands which have been designated for *settlement* and employment purposes in accordance with the policies of this Chapter and Chapters 6 through 9, Land Use Policies, are anticipated to be adequate to meet growth expectations for the planning period and include a margin of surplus to provide for effective market operation and competition. In addition, lands have been designated to identify areas where long term urban level *development* is feasible.

The policies of this Plan have been structured to provide opportunities for environmentally responsible growth which protects and prevents conflicts with the County's natural resources in all Area Municipalities. Consequently, different levels of growth are planned for the following areas:

- Rural Clusters
- Villages without *centralized waste water and water supply facilities*
- Serviced Villages
- Large Urban Settlements
- Future Urban Growth Areas

Schedule C-3, Settlement Strategy Plan, identifies these areas.

##### **4.2.2.1 Rural Area**

Growth outside of the *Settlements* designated on Schedule C-3 will be in accordance with the following policies:

##### NON-FARM RELATED DEVELOPMENT

Residential and employment growth which is not related to agriculture is directed to established Rural Clusters and designated villages as set out on Schedule C-3, Settlement Strategy Plan. Non-farm uses proposed outside of these areas will comply with the policies of Section 3.1.5.4.



ADDITIONAL  
RESIDENTIAL  
UNITS (ARUs)

In the Agricultural Reserve designation, *additional residential units* (ARUs) are permitted within a single detached dwelling and in a structure ancillary to such dwelling, where a lot is zoned for agricultural and rural residential uses that permit a dwelling, in accordance with the policies of this subsection.

Notwithstanding the number of dwellings on a *farm unit*, a maximum of two *additional residential units* is permitted on each *farm unit* and an *additional residential unit* in an ancillary structure shall only be permitted through a minor variance granted by the Area Committee of Adjustment.

In the Open Space and Future Urban Growth designations *additional residential units* are only permitted within an existing single detached, semi-detached, or street townhouse dwelling.

Policies for *additional residential units* in Rural Cluster, Village and Serviced Village designations are contained in Section 6.2.2.2.

POLICIES FOR ALL  
ARUs OUTSIDE OF  
A SETTLEMENT

The Area Municipal Zoning By-law shall identify the areas and/or zones where *additional residential units* may be established and contain zoning provisions to regulate the establishment of such units, in accordance with the following policies:

- the *additional residential unit(s)* shall be clearly secondary and subordinate to the principal dwelling on the lot and have a cumulative gross floor area no greater than 50% of the gross floor area of the principal dwelling on the lot, to a maximum of 100 m<sup>2</sup> (1076 ft<sup>2</sup>), except that the entire basement of the principal dwelling may be used;
- *additional residential units* are not permitted where a lot or dwelling already contains other accessory residential dwellings/uses, including: a boarding/lodging house, group home, or farm labour housing, or a home occupation that is characterized by higher occupancy, such as a bed and breakfast, a farm vacation rental, or other similar use;
- an *additional residential unit* may be permitted on the same property as a garden suite or converted dwelling where all other policies of this section can be met;
- *individual on-site water supply and sewage services* are demonstrated to be adequate to serve the proposed use, in accordance with the applicable policies of Section 3.3, Water Quality and Quantity and 5.5, County Servicing Policy;

- the existing principal dwelling and the lot are of sufficient size to accommodate the creation of *additional residential unit(s)* and to provide adequate off-street parking, landscaping, stormwater management, and amenity areas without detracting from the visual character of the lot or area;
- any new or expanded structures and/or exterior alterations to accommodate an *additional residential unit* will maintain the general built form and architectural character of the principal dwelling and the surrounding area;
- the principal dwelling must have direct, individual vehicular access to a public street and all ARUs shall use the same driveway and parking area as the principal dwelling;
- there is adequate access from the front lot line and parking area to each *additional residential unit* for both occupant use and emergency response;
- to the extent feasible, existing trees and other desirable vegetation are preserved to help maintain the character of the lot and area;
- stormwater run-off will be adequately controlled; and,
- the location of the proposed *additional residential unit* and related services and amenities shall comply with all other applicable policies including: Section 3.2, Environmental Resource Policies and Section 3.3, Cultural Resource Policies.

ARUs IN  
ANCILLARY  
STRUCTURES

The following additional policies shall apply to the establishment of an *additional residential unit* in a detached ancillary structure:

- the minimum lot size is 0.6 ha (1.48 ac);
- the ancillary structure must be located in a rear or interior side yard;
- the siting, design and orientation of the ancillary structure, parking area and outdoor amenity area will allow for privacy for the occupants of the *additional residential unit*, principal dwelling and abutting residential properties and minimize potential visual and shadowing impacts on adjacent residential uses;

- an *additional residential unit* in an ancillary structure on a farm must be located within the residential area on the lot (i.e. the area comprising the principal dwelling and accessory residential structures, driveway, outdoor amenity areas and individual on-site services). An *additional residential unit* in a new ancillary building shall be located a maximum distance of 20 m from the principal dwelling and should share *individual on-site water supply and sewage services* and utility services with the principal dwelling, where possible.

The cumulative area of the lot utilized for residential purposes shall be minimized to the extent feasible to a maximum of 0.8 ha (2 ac) and the location of the *additional residential unit* and/or new services shall not result in the removal of agricultural land from production and/or create impediments to the function of the farm or an adjacent farm;

- an *additional residential unit* will satisfy *MDS I*, or not further reduce an existing insufficient *MDS I* setback; and,
- all other municipal requirements, such as servicing, stormwater management, waste management and emergency access, can be adequately addressed.

SITE PLAN  
CONTROL

All *additional residential units*, particularly new dwelling units located in ancillary structures, may be subject to site plan control.

SITE SPECIFIC  
ZONING  
AMENDMENTS

Where the Area Municipality has comprehensively amended their Zoning By-law to identify areas where *additional residential units* are permitted and include specific provisions for such units, site specific zoning amendments to permit *additional residential units* in other areas, or to amend specific zoning provisions, will generally not be supported.

NO NEW LOT CREATION

An *additional residential unit* shall not be severed from the lot containing the principal dwelling or converted into a separately transferrable unit through plan of condominium.

RESIDENTIAL  
CONVERSIONS IN  
RURAL AREAS

Converted dwellings are permitted to a maximum of two units per dwelling on a *farm unit* or on a non-farm lot in the Agricultural Reserve, Open Space, and Future Urban Growth designations. The Area Council may zone an area or property to permit the conversion of dwellings for two dwelling units in accordance with the following criteria:

AMENDMENT NO. 27

CRITERIA FOR 2  
UNITS

- ~~private water and on-site sewage facilities are determined to be adequate in accordance with the requirements of the County and the Board of Health and the policies contained in Section 3.2, relating to water quality, as appropriate;~~
- ~~the proposal is compatible with surrounding land uses and is able to satisfy the *Minimum Distance Separation Formula 1* from adjacent livestock operations;~~
- ~~the lot size is sufficient to accommodate the required off-street parking without detracting from the visual character of the area;~~
- ~~existing dwellings are generally of a size sufficient to accommodate the creation of an additional dwelling unit;~~
- ~~the proposal complies with the policies of Section 3.2, Environmental Resource Policies of this Plan.~~

ZONING

~~The Zoning By-Law may specify minimum lot or dwelling size requirements for conversion. To maintain the external character of the dwelling, the Zoning By-Law may also limit the extent of structural additions or changes that would be permitted.~~

GARDEN SUITES

Area Council may consider allowing one *garden suite* on a *farm unit* or on a non-farm rural residential lot in the Agricultural Reserve, Open Space or Future Urban Growth designations in accordance with the policies of Section 10.3.9.

#### 4.2.2.2 *Rural Clusters*

DESCRIPTION

For the purposes of this Plan a Rural Cluster is the existence of a compact grouping of non-farm related *development* which is of insufficient size to be considered a village. Rural Clusters are designated on Schedule C-3, Settlement Strategy Plan and shown on the Land Use Schedules for the rural municipalities.

In order to be considered a Rural Cluster there must be a grouping of at least ten non-farm residential lots with each lot separated from the adjoining lot by a distance of no more than 50 metres (164 feet) and servicing must be by an existing communal well or by private individual wells and private sewage treatment systems. Rural Clusters may include *development* on either side of a public road and/or around corners. A Rural Cluster designation is also contingent on the grouping of lots satisfying the following criteria:

All uses permitted in Low Density Residential areas will comply with the Environmental Resource Protection policies and Environmental Constraints policies of Section 3.2.

DENSITY

Within the Serviced Village designation, the maximum *net residential density* for an individual *development* in a Low Density Residential area is 22 units per hectare (9 units per acre) and no building shall exceed three stories in height at grade.

Within areas of new Low Density Residential development in the Serviced Village designation, the minimum overall *net residential density* shall be 15 units per hectare (6 units per acre) throughout each of the Serviced Villages.

Within the Rural Cluster and Village designation, the density of *development* will be restricted by the land area required for the proper operation of individual private septic systems.

#### **6.2.2.1 Infill Housing**

For the purposes of this Plan, infill housing is defined as the placement of new residential *development* into established built-up areas on vacant or underutilized sites. In order to efficiently utilize designated residential land and any municipal servicing *infrastructure*, infill housing will be supported in Villages and in the Low Density Residential areas of Serviced Villages. Backyard infill and street oriented infill will be supported in Rural Clusters. The County Land Division Committee and Area Council will be guided by the following policies when considering proposals for infill *development* in Low Density Residential areas.

##### **6.2.2.1.1 Street Oriented Infill**

The introduction of new residential housing into an established streetscape pattern will only be permitted if the proposal is consistent with the characteristics of existing *development* in the immediate area. In order that the street oriented infill projects are sensitive to the continuity of the existing residential streetscape, the Area Council and the County Land Division Committee will ensure that:

- the proposal is ~~consistent~~-compatible with the street frontage, setbacks, lot area and spacing of existing *development* within the immediate residential area;



- for proposals involving more than two dwelling units in the Serviced Villages, the exterior design in terms of height, bulk, scale and layout of the proposed building is consistent with present land uses in the area.

Street-oriented infill proposals will comply with the requirements of Section 6.2.2.1.4.

#### 6.2.2.1.2 Backyard Infill

~~Backyard infill development may involve the construction of a residential structure behind a building facing a street, the conversion of secondary structures for residential purposes, new residential development behind an existing building facing a street, on a vacant~~ on lots with minimal street frontage ~~(e.g., flag shaped lots)~~ or on small vacant remnant parcels of land which cannot be integrated into a plan of subdivision.

Backyard infill may involve ~~the development on~~ existing lots ~~of record, or the creation of new lots by consent or the development of a garden suite or granny flat.~~ Additional residential units and gGarden suites/granny flats may also be permitted as backyard infill development to the rear of an existing dwelling on a lot subject to the criteria of this Section in accordance with the policies of Section 6.2.2.2 and 10.3.9 respectively.

EVALUATION  
CRITERIA

When considering proposals for backyard infilling, ~~the Area Council and the County Land Division Committee~~ and the Area Municipal Council will be guided by the following ~~criteria~~ policies as well as the policies of Section 6.2.2.1.4:

- the siting of any buildings and parking areas in relation to the size, configuration and topography of the lot is such that impact on light, view and privacy of adjacent backyards is minimal;
- for proposals involving more than two dwelling units, the exterior design in terms of height, bulk, scale and layout of the proposed building is consistent with present land uses in the area;
- direct vehicular access to a public street will be required and driveways will have sufficient width to allow efficient vehicular use and turning of both private and emergency vehicles and to provide for snow storage.

~~Backyard infill proposals will comply with the requirements of Section 6.2.2.1.4.~~

#### 6.2.2.1.3 Infill Subdivisions

In addition to the policies of Section 6.2.2.1.4 and 10.3.3, where infill *development* is proposed on vacant or underutilized sites within established residential areas by plan of subdivision, the Area Council and County Council will ensure that:

- the nature of the proposed residential *development* will be evaluated having regard to the type of housing found in the surrounding residential neighbourhood;
- any new residential lots with direct exposure to an established residential street will be consistent with the size of lots within the immediate area and new residential *development* will maintain setbacks and spacing between dwellings consistent with the established built pattern;
- measures will be incorporated into the subdivision design to buffer and screen existing residential uses from the new *development*; and
- stormwater run-off from the proposal will be adequately controlled in accordance with the stormwater management policies of Section 3.2.7.2.1 and will not *negatively affect* adjacent properties.

~~Infill Subdivision proposals will comply with the requirements of Section 6.2.2.1.4.~~

#### 6.2.2.1.4 All Infill Proposals

In addition to the specific infill policies of this Section, the following ~~policies~~ criteria will apply to all ~~proposals for~~ infill ~~development~~ proposals:

- stormwater run-off from the proposal will be adequately controlled and will not *negatively affect* adjacent properties;
- adequate off-street parking and outdoor amenity areas will be provided;
- the location of vehicular access points, the likely impact of traffic generated by the proposal on public streets and potential traffic impacts on pedestrian and vehicular safety and surrounding properties is acceptable;

- existing municipal services or private services and community facilities will be adequate to accommodate the proposed infill project;
- the extent to which the proposed *development* provides for the retention of any desirable vegetation or natural resources that contribute to the visual character of the surrounding area;
- all infill proposals will be evaluated as to the environmental impacts and constraints associated with the proposed *development* in accordance with Section 3.2, as well as to the potential effect of the *development* on *heritage resources* (Section 3.2.7.5);
- compliance of the proposed *development* with the provisions of the Zoning By-law of the Area Municipality and other municipal by-laws.

SITE PLAN  
CONTROL

Street oriented infill proposals and backyard infill proposals may be subject to site plan control.

#### **6.2.2.2 Additional Residential Units**

**ADDITIONAL  
RESIDENTIAL  
UNITS**

The development of *additional residential units* (ARUs) within Rural Cluster, Village and Serviced Village designations shall be encouraged, where appropriate, with the objective of increasing the range and availability of *housing options* while maintaining the residential character of the settlement areas and ensuring that appropriate water and wastewater services are provided.

The general intent is to allow for the establishment of *additional residential units* in existing and newly developing residential areas, subject to compliance with applicable zone provisions and development standards.

**ADDITIONAL  
RESIDENTIAL  
UNITS IN RURAL  
CLUSTERS AND  
VILLAGES**

In Rural Cluster and Village designations, an *additional residential unit* is permitted in a single detached, semi-detached, or street townhouse dwelling, or in a structure ancillary to such dwelling, to a maximum of two dwelling units per lot.

**ADDITIONAL  
RESIDENTIAL  
UNITS IN SERVICED  
VILLAGES**

In Serviced Village designations, an *additional residential unit* is permitted in a single detached, semi-detached, or street townhouse dwelling, and/or in a structure ancillary to such dwelling, to a maximum of three dwelling units per lot, where sufficient *centralized waste water and water supply capacity* exists.

POLICIES FOR ALL  
ADDITIONAL  
RESIDENTIAL  
UNITS

In Rural Cluster, Village and Serviced Village designations, Area Municipal Zoning By-laws shall identify areas and/or zones where *additional residential units* may be established and contain zoning provisions to regulate the establishment of such units in accordance with the following policies:

- the *additional residential unit(s)* shall be clearly secondary and subordinate to the principal dwelling on the lot and have a cumulative gross floor area no greater than 50% of the gross floor area of the principal dwelling on the lot, to a maximum of 100 m<sup>2</sup> (1076 ft<sup>2</sup>), except that the entire basement of the principal dwelling may be used;
- *additional residential units* are not permitted where a lot or dwelling already contains other accessory residential dwellings/uses, including: a boarding/lodging house or group home, or a home occupation that is characterized by higher occupancy, such as a bed and breakfast or other similar use;
- an *additional residential unit* may be permitted on the same property as a *garden suite* or converted dwelling where all other policies of this section can be met;
- *centralized waste water and water supply and/or individual on-site water supply and sewage services* are demonstrated to be adequate to serve the proposed use, in accordance with the applicable policies of Section 3.3, Water Quality and 5.5, County Servicing Policy;
- the existing principal dwelling and the lot are of sufficient size to accommodate the creation of *additional residential unit(s)* and to provide adequate off-street parking, landscaping, stormwater management, and outdoor amenity areas without detracting from the visual character of the lot or area;
- any new or expanded structures and/or exterior alterations to accommodate an *additional residential unit* will maintain the general built form and architectural character of the principal dwelling and the surrounding area;
- the principal dwelling must have direct, individual vehicular access to a public street and all ARUs shall use the same driveway and parking area as the principal dwelling;

- there is adequate access from the front lot line and parking area to each *additional residential unit* for both occupant use and emergency response;
- to the extent feasible, existing trees and other desirable vegetation are preserved to help maintain the character of the lot and area;
- stormwater run-off will be adequately controlled;
- any potential increase in on-street parking demand can be adequately accommodated and/or managed;
- the location of the proposed *additional residential unit* and related services and amenities shall comply with all other applicable policies including: Section 3.2, Environmental Resource Policies and Section 3.3, Cultural Resource Policies.

ADDITIONAL  
RESIDENTIAL  
UNITS IN  
ANCILLARY  
STRUCTURES

The following additional policies shall apply to the establishment of an *additional residential unit* in an detached ancillary structure:

- the minimum lot size for a lot with *individual on-site sewage services* is 0.6 ha (1.48 ac);
- the ancillary structure must be located in a rear or interior side yard;
- the siting, design and orientation of the ancillary structure, parking area and outdoor amenity area will allow for privacy for the occupants of the *additional residential unit*, principal dwelling and abutting residential properties and minimize potential visual and shadowing impacts on adjacent residential properties; and
- all other municipal requirements, such as servicing, stormwater management, waste management and emergency access, can be adequately addressed.

SITE PLAN  
CONTROL

All *additional residential units*, particularly new dwelling units located in ancillary structures, may be subject to site plan control.



SITE SPECIFIC  
ZONING  
AMENDMENTS

Where the Area Municipality has comprehensively amended their Zoning By-law to identify areas where additional residential units are permitted and include specific provisions for such units, site specific zoning amendments to permit additional residential units in other areas, or to amend specific zoning provisions, will generally not be supported.

AVAILABILITY OF  
MUNICIPAL  
SERVICES

Additional residential units within a settlement serviced by centralized waste water and/or water supply shall be required to connect to all available services, where adequate capacity exists and County connection standards can be met.

Area Municipal Zoning By-laws shall prohibit the development of additional residential units in settlements and/or areas where the County has determined that the existing and/or planned servicing capacity is not adequate to support such development.

NO NEW LOT CREATION

An additional residential unit shall not be severed from the lot containing the principal dwelling or converted into a separately transferrable unit through plan of condominium.

**6.2.2.2 — Converted Dwellings**

**RURAL CLUSTERS  
AND VILLAGES**

~~Converted dwellings are permitted to a maximum of two units per dwelling in the Rural Cluster and Village designations, with the exception of semi-detached and duplex dwellings where conversions are prohibited. The Area Council may zone an area or property to permit the conversion of dwellings for two dwelling units in accordance with the following criteria:~~

**CRITERIA FOR TWO  
UNITS**

- ~~existing municipal services or private services will be adequate to accommodate the proposed conversion;~~
- ~~lot sizes are sufficient to accommodate the required off-street parking without detracting from the visual character of the area;~~
- ~~existing dwellings are generally of a size sufficient to accommodate the creation of an additional dwelling unit.~~

**ZONING**

~~The Zoning By-Law may specify minimum lot or dwelling size requirements for conversion. To maintain the external character of the dwelling, the Zoning By-Law may also limit the extent of structural additions or changes that would be permitted.~~

**SERVICED  
VILLAGES**

~~Within Low Density Residential areas of the Serviced Villages, the Area Council may zone areas to permit detached, semi-detached, duplex and townhouse dwellings to be converted into two residential units. In addition, the Area Council may zone areas to permit the conversion of dwellings for more than two dwelling units in accordance with the following criteria:~~

**CRITERIA FOR  
MORE THAN TWO  
UNITS**

- ~~• the area is characterized by a mixture of residential dwelling types including detached, semi-detached, townhouse and existing converted dwellings;~~
- ~~• lot sizes are sufficient to accommodate the required off-street parking without detracting from the visual character of the area;~~
- ~~• existing dwellings are generally of a size sufficient to accommodate the creation of additional dwelling units.~~

**ZONING**

~~The Zoning By-Law may limit the number of units that may be contained in a converted dwelling and specify minimum lot or dwelling size requirements for conversion. To maintain the external character of the dwelling the Zoning By-Law may also limit the extent of structural additions or changes that would be permitted.~~

**SITE PLAN  
CONTROL**

~~Converted dwellings with more than two dwelling units may be subject to site plan control.~~

### **6.2.2.3 Special Needs Housing**

It is a policy of County Council to permit housing for people with special needs to be located in the Low Density Residential area in the Serviced Village designation and in the Rural Cluster and Village designations. Accordingly, the Area Councils may implement through the Zoning By-Law, regulations permitting group homes, rooming, boarding and lodging houses and other similar forms of special needs housing in specific residential zones. Proposals to establish new special needs housing not permitted as of right, will require an amendment to the Zoning By-Law of the Area Municipality.

**EVALUATION  
CRITERIA**

When reviewing any proposal to rezone lands for the purposes of establishing, through new construction or conversion of existing structures, a group home, rooming, boarding and lodging house, hostel, temporary shelter, emergency shelter or other similar form of special needs housing, the Area Council shall be satisfied that:

### **10.3.9 Temporary Use**

**TEMPORARY USE  
PROVISIONS**

Notwithstanding the requirement for zoning by-laws to comply with the Official Plan, County Council recognizes that the Official Plan represents the long-term direction to the *development* of the municipality. As such, the Area Council may permit uses for specific temporary periods, up to a maximum of three years, as set out in the Planning Act, which would otherwise not conform to the Official Plan and/or the comprehensive zoning by-law, subject to re-application at 3-year intervals thereafter. *Garden suites* may be permitted up to a maximum of ~~twenty~~ten years, subject to re-application at 3-year intervals thereafter.

Such uses may be permitted upon individual application and careful consideration by the Area Council of the need and appropriateness of a temporary use by-law and to ensure that the objectives and policy direction of the Official Plan are not adversely affected by the temporary use. The Area Council shall also take into consideration the following matters:

**CRITERIA**

- compatibility of the proposed use with surrounding land uses;
- any requirement for temporary buildings or structures in association with the proposed use;
- any requirement for temporary connection to municipal services and utilities;
- the potential impact of the proposed use on transportation facilities and traffic in the immediate area;
- access requirements for the proposed use; and
- parking required for the proposed use, and the ability to provide adequate parking on site.

**EXTENSION**

The Area Council may extend a temporary use by-law beyond the three year time period, as set out in the Planning Act, provided such extension does not exceed a three year time period and does not jeopardize the long-term *development* intentions for the subject lands as specified in the Official Plan.

**GARDEN SUITES**

~~Additional residential units may be permitted on a lot in the form of a garden suite in rural or urban areas.~~

**GARDEN SUITES IN  
RURAL AND  
URBAN AREAS**

Area Council may ~~consider allowing~~ permit one *garden suite* on a *farm unit* or on a non-farm rural residential lot in the Agricultural Reserve, Open Space or Future Urban Growth designations. A garden suite may be ~~considered permitted~~ on a residential lot in the Rural Cluster or Village designations or in Low Density Residential designations in Serviced Villages and Large Urban Centres. *Garden Suites* are intended to provide temporary housing will be considered for specified occupant(s), which shall be limited to:

- the retired parents or grandparents of a property owner or their spouse, or the child or grandchild of a retiring/retired property owner, or
- a retiring property owner provided that the principal dwelling is occupied by the child or grandchild of the retiring property owner.

**REZONING  
REQUIRED**

Prior to permitting the construction of a *garden suite*, an amendment to the Zoning By-Law under Section 39 of the Planning Act, which relates to temporary use by-laws, will be required. The temporary use by-law will remain in effect for up to ~~ten~~ twenty years, subject to renewal upon expiry by the Area Council, as required. The zone change will be subject to satisfying the following criteria:

**SERVICING**

The *garden suite* should generally use the existing sanitary sewage disposal, water supply and electrical services of the principal dwelling existing on the lot where the *garden suite* is proposed to be located. Prior to the rezoning, approvals shall be obtained from the authorities responsible for the various services to ensure that the existing servicing systems are adequate for shared use. In situations where the approval authority indicates that one or more of the services are not adequate for shared use, separate services will be required, provided these services can be accommodated on the subject property to the satisfaction of the approval authority.

In the rural areas, Rural Clusters and Villages, it must be demonstrated ~~that the garden suite can be accommodated using private service. On-site sewage and water facilities will satisfy the requirements of the Board of Health and/or the Province and will be consistent with the policies of Section 3.2, Environmental Resource Policies. individual on-site water supply and sewage services are adequate to serve the proposed use, in accordance with the applicable policies of Section 3.3, Water Quality and Quantity and 5.5, County Servicing Policy;~~

# County of Oxford Official Plan

## COMPATIBILITY

The proposal is compatible with the surrounding area and, if applicable, be able to satisfy the *Minimum Distance Separation Formula I* or not further reduce an existing insufficient setback relative to MDS I for adjacent livestock operations. Within the Serviced Village and Large Urban Centres, the proposal should be on a large lot greater than 929 sq. m. (10,000 sq. ft.) in area on full municipal services.

## SUITABILITY

The lot is suitable for an additional temporary dwelling unit with respect to lot area, lot coverage, yard setbacks, and setback from a public road allowance.

## BUFFERING

The implementing Zoning By-Law may contain additional measures to ensure minimal disruption to adjacent land uses, such as the provision of grass strips, the planting of trees and shrubs or the erection of a fence.

## ACCESS

The proposed *garden suite* will generally use the existing access to a permanent public road of reasonable construction maintained year round.

## LOCATION

Generally, the *garden suite* will not be located to the front of the principal dwelling on the lot, although Area Council may give consideration to such siting on a site specific basis.

## AGREEMENT

The owner of the subject property shall be required to enter into an occupancy agreement with the Area Council, specifying the matters related to the temporary use of the *garden suite* as Area Council considers necessary, including, the installation, maintenance and removal of the *garden suite*; the period of occupancy of the *garden suite* by any of the persons named in the agreement; and the monetary or other form of security that Area Council may require for actual or potential costs to the municipality related to the *garden suite*.

## NO SEVERANCE

*Garden suites* are intended to be temporary in nature and as such consent to sever a surplus *garden suite* will not be permitted by the Oxford County Land Division Committee.

## REMOVAL OF GARDEN SUITE

When the *garden suite* is no longer required for the original use intended, it shall be removed from the lot and the temporary use by-law shall be allowed to lapse.



**Draft Township Zoning Template**

For consultation (June 2022)

Section XX - Definitions	Existing	Proposed
ADDITIONAL RESIDENTIAL UNIT (ARU)	None	Add new definition: Additional Residential Unit (ARU) means a dwelling unit that is self-contained, subordinate to and is located within, or as an addition to, a <i>single detached dwelling</i> , <i>semi-detached dwelling</i> , or <i>street fronting townhouse dwelling</i> , or within an <i>accessory</i> structure located on the same lot as the <i>single detached dwelling</i> , <i>semi-detached dwelling</i> , or <i>street fronting townhouse dwelling</i> , known as the <i>principal dwelling</i> .
CONVERTED DWELLING	Converted Dwelling, means a <i>single detached dwelling</i> which has been altered or converted to contain not more than two <i>dwelling units</i> .	Converted Dwelling, means a <i>single detached dwelling</i> which has been altered or converted to contain not more than two <i>dwelling units</i> [prior to the date of passing of ARU by-law].
PRINCIPAL DWELLING	None	Principal Dwelling means a <i>single detached dwelling</i> , <i>semi-detached dwelling</i> , or <i>street fronting townhouse dwelling</i> that has been modified for the establishment of an <i>Additional Residential Unit (ARU)</i> and/or is located on the same property as an <i>ARU</i> in an <i>accessory</i> structure and shall remain the primary residential structure on the property for determining zoning compliance.

**Section XX: General Provisions****Add new subsection:****ADEQUATE MUNICIPAL SERVICES**

No person shall use any land or erect or use any building within a settlement defined in Section XX having full or partial municipal services unless the land is serviced by all available municipal services, including water supply, sanitary sewers, drainage systems and/or a street, which meet municipal standards in effect and which have adequate capacity to service the development. Adequacy of water and sanitary sewer capacity shall be confirmed by the County of Oxford prior to issuance of a Building Permit.

**Amended Subsection****CONVERTED DWELLINGS AND ADDITIONAL RESIDENTIAL UNITS (ARUs)****X.X CONVERTED DWELLINGS AND ADDITIONAL RESIDENTIAL UNITS****X.X.1 CONVERTED DWELLINGS**

Zones with the -C suffix added to the parent Zone permit a *converted dwelling* that was established prior to [date of passing].

**X.X.2 ADDITIONAL RESIDENTIAL UNITS (ARUs)****X.X.2.1 WHERE PERMITTED**

Where listed as a permitted use in the Zone, *Additional Residential Units (ARUs)* are permitted in a *single detached dwelling*, *semi-detached dwelling* or *street fronting townhouse dwelling*, and/or within an *accessory* structure located on the same lot, subject to the provisions of this Section and compliance with all other provisions of the Zone in which the lot is located.

	<p>X.X.2.2 WHERE ARUS NOT PERMITTED</p> <p><i>Additional residential units</i> and associated parking areas shall <u>not</u> be permitted:</p> <ul style="list-style-type: none"> <li>i) within areas identified as the Conservation Authority Regulation Limit on Schedule 'A' unless approved by the Conservation Authority having jurisdiction in accordance with Section XX of this By-law;</li> <li>ii) on any lot that does not have frontage on an <i>improved street</i> in accordance with Section XX of this By-law; or</li> <li>iii) on any lot containing a <i>boarding or lodging house, a group home, a garden suite, a converted dwelling, a duplex dwelling, a mobile home, or a bed and breakfast establishment.</i></li> </ul> <p>Optional Section X.X.2.X ZONING AMENDMENT REQUIRED TO ESTABLISH AN ADDITIONAL RESIDENTIAL UNIT IN AN ACCESSORY STRUCTURE</p> <p>In ___ an <i>additional residential unit</i> within in accessory structure may be permitted subject to a zoning by-law amendment and will be identified in the site specific provisions.</p> <p>X.X.2.3 MINIMUM DISTANCE SEPARATION (MDS)</p> <p>For <i>ARUs</i> located outside of a settlement as defined in Section XX, the <i>dwelling</i> shall be required to satisfy the minimum distance separation requirements, as determined through the application of the <i>Minimum Distance Separation Formula I (MDS I)</i>, in accordance with Section XX.</p> <p><i>ARUs</i> located within a Rural Cluster defined in Section XX shall be required to satisfy the MDS I <u>or</u> not further reduce an <i>existing</i> insufficient <i>setback</i> relative to the MDS I, whichever is the lesser.</p> <p>X.X.2.4 WATER AND WASTEWATER SERVICES</p> <p>For <i>ARUs</i> located within a settlement defined in Section XX having municipal water supply and/or sanitary sewers, the unit(s) shall be serviced by all available services and adequate capacity shall be confirmed by the County of Oxford prior to development.</p> <p>For <i>ARUs</i> located outside of a settlement defined in Section XX or within a settlement defined in Section XX having no municipal water supply and/or sanitary sewers, adequate private water and/or wastewater disposal services shall be required to satisfy the Ontario Building Code.</p> <p>X.X.2.5 PROVISIONS FOR ALL ARUS</p> <p>All <i>ARUs</i> shall comply with all provisions of Table XX and all other provisions of the zone in which such <i>ARU</i> is located.</p>
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TABLE XX – Additional Residential Unit (ARU) Provisions				
Provision	R1, R2, R3, CC and V Zones, where served by both <i>sanitary</i> sewers and public water supply	R1, R2, R3 and V Zones, where <i>sanitary</i> sewers are not available	RE and RR Zones (and ER in EZT) in a settlement	A1*, A2*, RR, and RE (and ER in EZT) Zones outside a settlement
Number of ARUs, Maximum	2	1	1	2
Lot Area, Minimum	In accordance with the provisions of the zone provisions for the <i>principal dwelling</i>			
Lot Frontage, Minimum	In accordance with the provisions of the zone provisions for the <i>principal dwelling</i>			
Gross Floor Area for all ARUs, Maximum	50% of the <i>gross floor area</i> of the principal dwelling, or <b>100 m<sup>2</sup></b> (1076 ft <sup>2</sup> ) of <i>gross floor area</i> , whichever is the lesser, except that the entire <i>basement</i> or <i>cellar</i> of the <i>principal dwelling</i> may be used.			
Alterations to <i>Principal Dwelling</i>	Alterations to the <i>principal dwelling</i> for establishment of an ARU shall not have the effect of increasing the <i>gross floor area</i> of the <i>principal dwelling</i> by more than 25%.			
Parking Spaces, Minimum	1 per ARU, permitted to be tandem			
Location of exterior entrances and stairways	<i>Rear yard</i> or <i>interior side yard</i> of <i>principal dwelling</i>			
ARUs in an Accessory Structure				
Lot Area, Minimum	<b>600 m<sup>2</sup></b> (6,458.5 ft <sup>2</sup> )	<b>0.6 ha</b> (1.48 ac)	<b>0.6 ha</b> (1.48 ac)	<b>0.6 ha</b> (1.48 ac)
Gross Floor Area, Minimum	<b>10 m<sup>2</sup></b> (107.6 ft <sup>2</sup> )			
Permitted Location	<i>Rear yard</i> or <i>interior side yard</i> of <i>principal dwelling</i>			
Rear Yard Setback	In accordance with Table 5.1.X accessory use provisions			
Side Yard Setback	In accordance with Table 5.1.X accessory use provisions, and minimum <b>3 m</b> (9.8 ft) clear of all encroachments along one side			
Lot Coverage, Maximum	In accordance with Table 5.1.X accessory use provisions			
Building Height, Maximum	In accordance with Table 5.1.X accessory use provisions			
Distance from Principal Dwelling, Maximum	No provision	No provision	No provision	<b>20 m</b> (65.6 ft)
Distance from Public Street, Maximum	<b>40 m</b> (147.6 ft)	<b>40 m</b> (147.6 ft)	<b>40 m</b> (147.6 ft)	No provision
Amenity Area, Minimum	<b>20 m<sup>2</sup></b> (215 ft <sup>2</sup> )	<b>20 m<sup>2</sup></b> (215 ft <sup>2</sup> )	<b>20 m<sup>2</sup></b> (215 ft <sup>2</sup> )	No provision
* in A1 and A2 zones, 1 additional residential unit is permitted within the principal dwelling, except that 1 additional residential unit may be also be located in an accessory structure on a farm subject to the approval of the Committee of Adjustment				

AMEND Existing Section	
<b>DWELLING UNITS BELOW GRADE</b>  [The Building Code contains provisions regarding living space in cellars and basements and this section is no longer necessary and may conflict with establishment of ARUs. EZT has already updated their Zoning By-law using the proposed new wording.]	<b>XX DWELLING UNITS BELOW GRADE</b> <del>No dwelling unit shall in its entirety, be located in a cellar. However, a dwelling unit, in its entirety, may be located in a basement provided the finished floor level of such basement is not below the level of any sanitary or storm sewer serving the building or structure in which such basement is located and provided further, that the floor level of such basement is not more than 1 m (3.3 ft) below the adjacent finished grade.</del>  No <del>new</del> dwelling units shall be created in a <del>cellar or</del> basement, where the building or structure is located within the floodplain of any watercourse or municipal drain.

AMEND Existing Section	
<b>GARDEN SUITES</b>	<b>XX ZONING AMENDMENT REQUIRED</b> Prior to placing a garden suite on a lot, an amendment to this Zoning By-Law under Section 39 of the Planning Act, R.S.O. 1990, as amended, will be required. The bylaw will prescribe the period of time, up to <del>ten</del> <b>twenty</b> years, authorizing the temporary use of the garden suite.  <b>XX GARDEN SUITE OCCUPANCY</b> The garden suite shall be occupied by: <ul style="list-style-type: none"> <li>the retired parents or grandparents of a lot owner or the lot owner's spouse, or</li> <li>the retiring lot owner provided that the main dwelling is occupied by the <b>child</b> or grandchild of the retiring lot owner.</li> </ul> <b>XX LOCATION OF GARDEN SUITE</b> A garden suite located on lots outside of a settlement, as defined in Section XX, shall be required to satisfy the minimum distance separation requirements as determined through the application of the Minimum Distance Separation Formula I (MDS I).  A garden suite located within a Rural Cluster, as defined in Section XX, shall be required to satisfy the MDS I or not further reduce an existing insufficient setback relative to the MDS I, whichever is the lesser.  <b>XX ZONE REQUIREMENTS</b> The garden suite shall be placed to the rear or side of the main dwelling on the lot and shall comply with the zone requirements of the zone in which such garden suite is located.  <b>XX HEIGHT AND GROUND FLOOR AREA REQUIREMENTS</b> Notwithstanding the requirements of Section XX, the garden suite shall not exceed one storey in height and shall have a minimum gross floor area of 50 m <sup>2</sup> (538.2 ft <sup>2</sup> ) and a maximum gross floor area of 70 m <sup>2</sup> (753.5 ft <sup>2</sup> ) and shall be portable.

<b>Amend Existing USES PERMITTED in each Zone:</b>	
<p><b>Delete 'Converted dwelling' and add 'Additional residential unit' in USES PERMITTED for the following zones:</b></p> <p>Residential Type 1 (R1)  Residential Type 2 (R2)  Residential Type 3 (R3)  Rural Residential (RR)  Existing Residential (ER)  Estate Residential (ER) in EZT  Limited Agricultural (A1)  General Agricultural (A2)  Central Commercial (CC) *Converted dwellings are not permitted in CC zone in Norwich*  Village (V)</p> <p>Converted dwellings are currently not permitted by all Townships in industrial (MR, MG, ME, MQ, MA), open space (OS), development (D), mobile home park (RMH) or highway commercial (HC) zones. Converted dwellings are currently permitted in Agri-Business (AB), Institutional (I) and Recreation (REC) zones, which otherwise only permit residential dwellings as an accessory use.</p> <p><b>Proposed deleting 'Converted dwelling' and not adding ARUs in USES PERMITTED for the following zones:</b></p> <p>Agri-Business (AB)  Institutional (I)  Recreation (REC)</p>	
<b>Amend Provisions for A1/A2 Zone NUMBER OF ACCESSORY DWELLINGS AND GARDEN SUITES PER LOT</b>	
<b>Single detached dwelling</b> , Maximum	1, except that up to a maximum of 2 [3 in Zorra] accessory single detached dwellings may be located on a farm subject to the approval of the Committee of Adjustment.
<del>Converted dwelling</del> <b>Additional residential unit</b> , Maximum	1 within the principal dwelling, except that 1 additional residential unit may also be located within an accessory structure on a farm subject to the approval of the Committee of Adjustment and in accordance with the provisions of Section XX.
<b>Garden suites</b> , Maximum	1, in accordance with the provisions of Section XX.





# East Zorra-Tavistock Parks & Recreation Master Plan

Council Presentation | July 6<sup>th</sup>, 2022





# Agenda



🌀 Project Overview

🌀 Engagement Feedback

🌀 Strategic Directions

🌀 Summary of Recommendations





# Purpose & Vision Statements

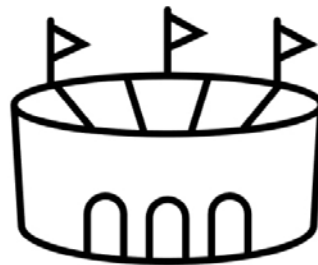
Create a strategic Parks & Recreation Master Plan that will be used to guide Council and staff in the strategic management and decision-making process relative to provision and sustainability of parks and recreation facilities, programming and services for the Township of East Zorra-Tavistock.



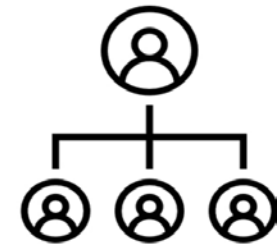
Parks, Trails & Open Space



Recreational Facilities & Services



Financing, Management & Staff



# Project Process

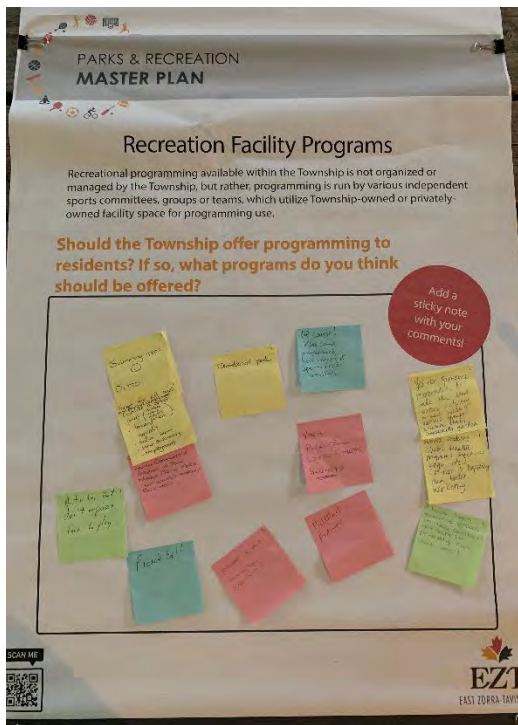






# Engagement

- Online, Publicly-Accessible Platform for Information Sharing
- Comprehensive Communications Plan
- Staff-led Site Visits
- Community Workshops
- Stakeholder Roundtables
- Council Meeting
- Successful Plan Implementation through continued Education





# Guiding Strategies

## Parks, Trails & Open Space

1. Introduction of a park classification system
2. Introduction of a trails classification system
3. Introducing enhancements that align with the new classifications
4. Ongoing coordination with growth management for new lands and enhancements to existing facilities

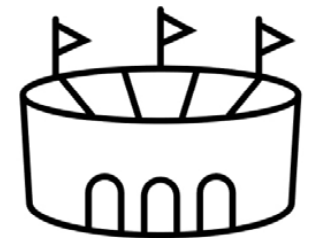




# Guiding Strategies

## Recreational Facilities & Services

1. Establish a rental booking and event permitting systems
2. Add new community member portal on website
3. Consider rental space advertising
4. Incorporate recent trends into municipal programming
5. Introduce un-structured, self-structured, and low-cost activities
6. Encourage joint utilization of space
7. Multi-use space investment
8. Balance operating needs with invest into new indoor facilities/amenities

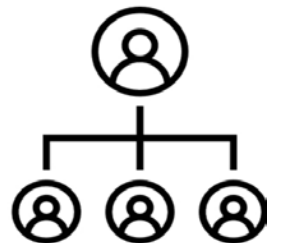




# Guiding Strategies

## Financing, Management & Staff

- Introduce one staff member whose responsibility is parks and recreational services
- Annual evaluation of usage/participation rates
- Improve municipal/community partnerships (organizers and volunteers), max. investment
- Seed funding, where gaps
- Technology uses/improvements:
  - Online transitions – bookings/payments
  - Event guides/calendars
- Establish Priority projects, and capital improvement monitoring
- Formalize community partnership framework
- Introduce standard lease agreements







# Summary of Recommendations

Organized by category, with 93 in total:

- Legislation and Policy
- Parks and Open Space
- Trails
- Outdoor Recreation
- Indoor Recreation
- Recreational Programming
- Strategic/Organization Service Delivery
- Planning Service Delivery
- Policy Service Delivery
- Monitoring

Legend	
	Short Term Priority: 1-3 years
	Mid-Term Priority: 4-6 years
	Long-Term Priority: 7-10+ years







# Supply Surplus/Deficiencies

Overall green space not lacking, but improvements encouraged – wayfinding, paved pathways for access, and comfort amenities to maximize usage.

Ball diamond surplus (5) – multi-use access encouraged

Playground surplus (4) – ensure maintenance

Soccer field & outdoor aquatic (splash pad) deficiency by 1 – consider locating on existing green space

Basketball deficiency by 0.5 – outside horizon of plan

Tennis/pickleball deficiency by 2.5





# Supply Surplus/Deficiencies

Deficiency of one skate/BMX park in plan's lifespan – mobile parks are option for this need

Deficiency in one off-leash dog area/park

Small deficiency in in-door ice pad – augmented with programming and season expansion of outdoor rinks

Multi-use fields encouraged to fill deficiencies in space for rugby/football (outdoor)

Multi-use space encouraged for gymnasium-type uses (pickleball, badminton, etc.)

Indoor pool provision target not met – consider joint partnership with neighbouring municipality



The **recommendations** outlined in this master plan result from

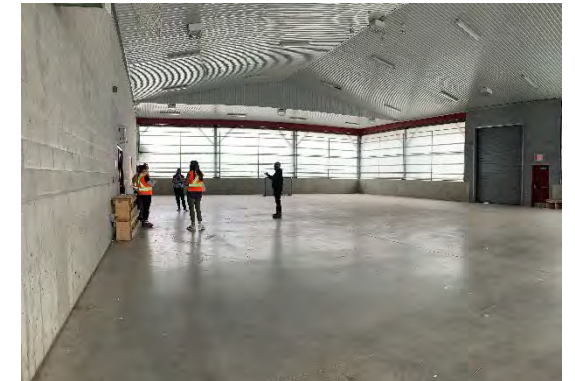
- public and staff feedback,
- municipal comparators,
- parks and recreation trends analysis,
- and the assessment of needs and gaps,
- The vision statements and guiding strategies for each **category**

They cover **actions** related to:

- local parks and recreation governance;
- capacity-building;
- collaboration;
- communications;
- indoor and outdoor sports and recreation facilities and amenities;
- seasonality;
- trails, parks, and open spaces; and
- active transportation.



Parks, Trails & Open Space



Recreational Facilities & Services



Financing, Management & Staff





# Questions?





## #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

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Report #DT2022-01

To: His Worship the Mayor and Members of Council

From: Andrea Rice, Deputy Treasurer Financial Services

Re: Tangible Capital Assets (TCA) Policy Update

Date: June 29, 2022

## Background:

On January 1, 2009, new accounting and financial planning provisions surrounding tangible capital assets (TCAs) came into effect from the Public Sector Accounting Board. It began with simple requirements including taking inventory of capital assets already owned, having appropriate values in the accounting system, and establishing protocols to record acquisitions, disposals and amortization. In those early stages, the Township developed a policy around TCAs to provide consistent direction and expectations for these new activities. In both the 2020 and 2021 audits, our Auditor requested our TCA Policy be formalized and updated to reflect our current practices.

## Discussion:

As asset management expectations, regulations, and processes have expanded over the past decade, municipalities have learned a great deal, altered their accounting and budgeting practices, and integrated asset management into daily operations.

**The Township's** Auditor has identified the need to update our TCA policy to provide better direction and guidance to employees. An updated policy will assist staff with maintaining consistency throughout the organization and provide a solid foundation for recording our assets.

This policy was reviewed and updated in consultation with the Operations Technologist and the CAO/Treasurer.

## Financial Implications:

There are no financial implications arising from this report.



Attachments:

- Appendix 'A' - TCA Policy #GP 3.03

Recommendations:

1. That Council adopt the amended Tangible Capital Asset Policy #GP 3.03, as attached to this report.

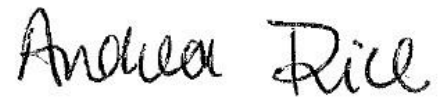
Reviewed by C.A.O:



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Karen DePrest  
Chief Administrative Officer

Report prepared and submitted by:



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Andrea Rice  
Deputy Treasurer  
Financial Services



## Tangible Capital Asset Policy

Policy Number: GP 3.03  
Approval Date: July 6, 2022  
Approval Authority: Council  
Effective Date: July 1, 2022  
Revision Date/s:

### Purpose

The purpose of this policy is to establish guidelines for recording Tangible Capital Assets (TCA) as defined by Section 3150 of the CICA Public Sector Accounting Board (PSAB) Handbook. This policy will identify and define capital asset classifications, capitalization thresholds, and amortization rates for all capital assets. Any capital asset acquired and consumed through the service and programs provided by the Township of East Zorra- Tavistock and its local boards, for the benefit of ratepayers, is covered by this policy.

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## 1.0 Definitions

- Accumulated amortization represents the total to date of the periodic amortization charges relating to the TCA since the assets were placed in use.
- Amortization is the process of allocating the cost of a TCA, net of its residual value, over its estimated useful life. Amortization allocates the cost of a TCA in a systematic manner over the asset's useful life.
- Asset Pool is the grouping of identical, similar, or related tangible capital assets. Individual assets that have a lower value, per unit, than capitalization threshold, may be material when grouped. Such assets are generally recorded as a single asset pool, with one combined value.
- Betterment are costs incurred to improve the functionality or increase the useful life of an asset, such as:
  - (a) an increase in the previously assessed physical output or service capacity;
  - (b) a reduction in associated operating costs;
  - (c) an extension of the estimated useful life; or
  - (d) an improvement in the quality of output of the asset.
- Capital Assets are non-financial assets that are purchased, constructed, developed or otherwise acquired and:
  - (a) are held for use in the production or supply of goods, the delivery of services or to produce program outputs;
  - (b) have a useful life extending beyond one fiscal year and are intended to be used on a continuing basis;
  - (c) are not intended for sale in the ordinary course of operations

and have the following characteristics:

  - (a) beneficial ownership and control clearly rest with the Township;
  - (b) the asset is used to achieve Township objectives.
- Cost includes purchase price and other acquisition costs such as installation costs, design and engineering fees, legal fees, survey costs, site preparation costs, freight charges, non-refundable sales taxes and duties. The cost of a constructed asset would normally include direct construction costs (such as materials, labour, inspection, and design) directly attributable to the construction activity. Interest expense incurred and directly related to construction financing costs

for a specific project will be capitalized.

- Disposals occur when the ownership of a TCA is relinquished and may occur by sale, destruction, loss or abandonment. At this time the cost and accumulated amortization of the asset is reduced to zero.
- Estimated Useful Life is the estimate of the period over which a capital asset is expected to be used or the number of units of production that can be obtained from the asset. It is the period over which an asset will be amortized and is normally the shortest of the physical, technological, commercial or legal life.
- Gain on Disposal is the amount by which the net proceeds realized upon an asset's disposal exceed the asset's net book value.
- Loss on Disposal is the amount by which the net book value of a capital asset exceeds the net proceeds realized upon the asset's disposal.
- Net Book Value is the capital asset cost less accumulated amortization and any write-downs. It represents the asset's unconsumed cost.
- Replacement Cost represents the current cost of replacing an asset in a different physical form but with the same productive capacity.
- Reproduction Cost represents the current cost of reproducing an asset in its same physical form (with substantially the same materials and design)
- Threshold is the minimum cost an individual tangible capital asset must have before it is recorded as a capital asset on the statement of financial position.
- Work in Progress is the accumulation of capital costs for partially constructed or developed projects.

## 2.0 Accountability

### 2.1 Council

- to the public for approving acquisition, control, and disposal of tangible capital assets
- to the public for approving policies, procedures, and guidelines as they relate to the management and financing of TCA

### 2.2 Chief Administrative Officer/Treasurer

- for the development of processes to reflect corporate priorities
- for the development of TCA plan for Council that will provide long-term sustainability of services
- for recommending policies and procedures surrounding the management of TCA and for the preparation of reports to both senior management and Council
- for ensuring adherence to statutory and policy requirements governing use of capital funds
- for recommendations of capital funding decisions for TCA to departments and Council
- for the development and recommendation of a financial plan to support the TCA program and that is sustainable
- for reporting significant budget variances for TCA to Council in a consolidated format

### 2.3 Department Heads

- to ensure TCA management is developed in such a manner as to reflect departmental business plans that follows policies and procedures
- to the CAO/Treasurer and Council to ensure that the management of TCA are carried out within departmental approved budgets
- for reporting capital budget variances as it relates to TCA to the CAO/Treasurer and Council
- as part of the senior management team, for evaluating and prioritizing capital submissions for TCA against competing needs of all departments and within corporate priorities, management and financial planning as established by Council
- Ensure information of capital assets, such as location, condition, maintenance records etc. is reported accurately

### 3.0 Categorization of Assets

#### 3.1 Tangible Capital Assets (TCA)

TCA are a significant economic resource and a key component in the delivery of programs and services. The benefits that are expected through the exercise of capitalizing TCA include:

- Maintain appropriate accountability for government-owned TCA;
- Ensure account consistency across the organization;
- Ensure efficient and effective use of assets; and
- Provide information that will support measuring the cost of the programs and services.

#### 3.2 Elements of Cost

The cost of a tangible capital asset is the gross amount of consideration given up to acquire, construct, develop, or better a tangible capital asset and includes direct construction or development costs (such as materials and labour) and overhead costs directly attributable to the acquisition, construction, or development of the asset.

#### 3.3 Land

Land normally has an indefinite useful life that exceeds the useful lives of the buildings, roads, or structures situated on the land. The cost of acquired land is separated from the other costs of an asset and maintained as a component. The cost of the acquired land is not amortized as land normally maintains its value over time.

#### 3.4 Capital Work-in-Progress

Work-in-progress for assets under development or construction must be recorded on the financial statements for the accounting period. All costs associated with these assets that are in the construction phase are to be capitalized. Work-in-progress is not amortized. WIP balances must be reconciled and the appropriate transfers from WIP made to completed assets or written off to ensure that only active and incomplete work-in-progress is carried forward to the next period.

For major projects, WIP should be transferred to a tangible capital asset once the architect, engineer, or consultant has issued the certificate of substantial completion. The project manager may also indicate the asset has met engineering and safety standards and is ready to be placed into



production/service.

If an incomplete project is terminated or put on hold indefinitely, any costs currently recorded as WIP must be expensed, unless there is an alternative use for the asset. When a project has distinct, multiple, completely self-contained phases that will be brought into production or use at different points of time, the CAO/Treasurer shall use professional judgement and consult with the department to determine the appropriate timing for transfer from WIP to capital asset. A list of all projects in WIP will be kept by the Finance department in order to be provided on the financial statements and to ensure these assets are not amortized until they are put into service.

### 3.5 Asset Categories and Groupings

Asset hierarchies have been created and represent the tangible capital asset categorization to be used in developing and maintaining the inventory listing. The asset hierarchies can be categorized as follows:

- Class – infrastructure or general capital, as per the Financial Information Return (FIR)
- Category – assets that are objectively similar in nature or function in the Township's operations (land, land improvements, equipment, vehicles, facilities, infrastructure)
- Segment – defines sub-category of asset noted above.
- Department – classification of assets by departmental service areas in which an asset is used, using the FIR as a reference for categorization.
- Function – classification of assets by functional service areas in which an asset is used, using the annual Financial Information Return (FIR) as a reference for categorization (General Government, Transportation, Protection, etc.)
- Asset Detail – description of the specific asset being recorded.

The hierarchies represent the applicable TCA groupings and level of asset detail for the Township. In relation to the Facilities hierarchy, a facility or building must meet the definition contained in this policy and Appendix B to be recorded as a facility. Failure to meet the definition requires the asset to be recorded as an asset under another category (i.e. land improvement or equipment).

### 3.6 Single Asset or Component Approach

Certain complex tangible assets consist of a number of significant components. PSAB 3150 provides the option to record complex tangible capital assets as a single asset or to record each major component as a

separate asset.

Under single asset approach, cost includes all components combined, and amortization is based on the average useful life of the entire asset. The replacements of the individual components will be expensed as incurred.

### 3.7 Contributed or Donated Tangible Capital Assets

PSAB 3150 requires the Township to record contributed (or donated) assets as tangible capital assets. Examples of contributed tangible capital assets include:

- A road constructed by a developer (usually as part of a developer agreement) and contributed to the Township;
- Donated playground equipment.

The contribution/donation could be made up of an entire asset, or partial payment of an asset.

Contributed tangible capital assets will be recorded as follows:

- As assets of the Township
- The timing of the recording of the contributed TCA will be at the date when ownership is acquired
- If a development agreement is involved, ownership will be based on the terms and conditions of the development agreement
- The cost is considered to be equal to its fair value at the date of contribution
- When the asset contribution date differs from the asset purchase, construction, or development date by more than one year, the cost of the asset will be discounted using relevant amortization rates in order to determine an accurate value at contribution
- When costing data is not available from the contributor, the Township will use internal costing data to estimate asset value. This internal costing data will be provided by the respective department involved, in conjunction with the finance department.

### 3.8 Leased Tangible Capital Assets

Certain leased assets are capital in nature and therefore must be included in the tangible capital asset listing, due to the specifications in the terms of the lease. All leases that meet one of the following conditions must be included in the TCA inventory in the same manner as owned TCA:

- The Township will own (or will likely own) the leased asset at the end of the term

- The lease term is most (i.e. over 75%) of the estimated useful life of the leased assets
- The current value of lease payments over the term of the lease is substantially all (i.e. over 90%) of the fair value of the leased TCA, or
- Other lease terms suggest that the lease is capital in nature

### 3.9 Heritage Assets

Heritage assets are works of art and historical treasures considered irreplaceable and preserved in trust for future generations. Collections or individual items of significance that are owned and not held for financial gain but rather public exhibition, education, or research in maintenance of public service may be considered heritage assets. Heritage assets owned by the Township will not be recognized as TCA in financial statements, but the existence of such property should be disclosed (PSAB 3150.42 (e)).

Amortization of heritage assets does not apply as the economic benefit or service potential of heritage assets are used up so slowly and the estimated useful lives are extraordinary long. Heritage assets will be treated as follows:

- All assets that are considered works of art or historical treasures will not be recorded as TCA on the Township's asset inventory
- All works of art and historical treasures will be tracked only for financial statement note disclosure on an annual basis. Note disclosure will be based on the nature of the assets, not the quantity and value
- Any future purchases of works of art and/or historical treasures will be expensed to operations at cost.

### 3.10 Tangible Capital Assets of Consolidated Entities

In situations where a Joint Service Board exists (i.e. local service board) and the Township has full or partial control or ownership of the Board:

- Tangible capital assets of the Board will be inventoried and maintained by the Board. The results will be shown in the Board's annual financial statements. It is the Township's preference that the same inventory policies, procedures and database structure as identified in this document be utilized by the respective Boards.
- The Township, through the year-end audit process, will consolidate its share of the Board's financial statements with the Township's activities for the purpose of the Township's year-end consolidated financial statements.

### 3.11 Leasehold Improvements

In lease arrangements where the leased asset does not qualify to be included

in the tangible capital listing, any modification to the leased asset can be considered a “leasehold improvement” and capitalized for PSAB purposes where each of the following four criteria have been met:

- Modifications must have been made to leased assets;
- The Township (as lessee) must pay for improvements, with no reimbursement from the lessor;
- The leasehold improvement should meet the definition of a tangible capital asset; and
- The modification reverts back to the lessor at the end of the lease.

Leasehold improvements are amortized over the useful life of the improvement or the lease term (including any renewal option where extension of the lease is expected) whichever is shorter.

Where the leased asset qualifies to be included in the tangible capital asset listing, the modification is classified as a betterment and capitalized as part of the cost of the capital asset. The betterment is then amortized over the useful life of the asset(s) being improved unless the useful life of the betterment is significantly shorter than that of the asset.

### 3.12 Software

Software can be treated as a tangible capital asset depending on its stage of development and the nature of the cost incurred. There are typically three stages of development:

- Stage 1 – Preliminary – where the need for software is determined and alternatives are analyzed. Costs incurred at this stage are expensed.
- Stage 2 – Development/purchase and implementation – covers activities such as design of software configuration, installation to hardware, training specific to implementation, etc. Costs incurred at this stage can be capitalized to the extent that they are directly related to the project. In instances where the software is included in the purchase price of hardware and thus its cost cannot be easily distinguished, it is capitalized as part of the hardware.
- Stage 3 – Post implementation – covers activities such as end-user training and ongoing maintenance. The costs incurred at this stage are expensed.

Where the Township purchases a license, the term of the license determines the accounting treatment of the cost. If the license is a one-off purchase, the cost is capitalized. On the other hand, if the Township must pay an annual licensing fee, the cost is expensed in the year incurred.

Software upgrades and enhancements that add functionality and/or increase



service potential are considered betterments the cost of which is capitalized.

Changes to the software that maintain its compatibility and/or maintain service potential are considered maintenance activities and are expensed as such.

If the Township acquires a new version of the software that replaces the functionality of the old software and is not simply a repair to a previous version, the cost of the new version is capitalized.

## 4.0 Capitalization

### 4.1 Accounting

All tangible assets and amortization must be identified and valued using an appropriate cost base; namely, historical cost. Departments should consider reasonableness and materiality in their approach. Where practical and cost effective, existing tangible capital assets will be valued using historical costs adjusted for the proportion of the useful life if the asset that has already been consumed through the establishment of a provision for accumulated amortization.

Where it is not practical and cost effective to establish a reasonable estimate of historical cost, departments may use appraised or some appropriate measure of current value and extrapolate back to estimate historical cost using relevant price/cost index (PSAB 3150.47). Replacement cost should not be used unless it is the lower of cost alternatives.

TCA classifications that were historically established on whole asset or pooled asset approaches may be recorded using a component approach on a "go-forward" basis.

### 4.2 Recognition

A TCA shall be recognized when it is probable that future benefits associated with the asset will be obtained, there is an appropriate basis of measurement and a reasonable estimate of the amount can be made. The recognition and valuation of an asset is based on its service potential. The acquisition date of an asset is the earliest of the date on which the asset being constructed is complete and ready for productive use. An asset will be recognized on the first of December for the year in which the acquisition date of the asset occurs.

### 4.3 Pooled Tangible Capital Assets

In circumstances where multiple TCA's are similar in nature and there is little or no benefit in segregating out each individual item into separate assets, they may be grouped into "pooled tangible capital assets." For example, when the value of an individual item is less than the threshold level, but upon acquiring several of the assets in a single purchase or when these costs are aggregated, the asset makes up a significant group that exceeds the threshold level then they must be capitalized.

Common characteristics of pooled TCA are:

- Assets normally bought or owned in quantity that are treated as one single asset for accounting purposes
- Assets do not meet the single asset capitalization threshold individually; however, when pooled together, exceed the pooled capitalization threshold
- Assets will be identical or close to identical in terms of asset type and characteristics

Assets to be pooled are designated in Appendix C of this policy and shall be reviewed on an annual basis.

### 4.4 Useful Life

Useful life (PSAB 3150.28) is the estimate of the period over which the TCA is used and is established in Appendix C of this policy. The economic or physical life of an asset may extend beyond the useful life of an asset. Depending on the nature of the asset, useful life may be expressed in terms of time (years or machine hours) or output (production or service units). Estimating useful lives of assets is a matter of judgement based on experience and should be applied on a consistent basis.

Factors to be considered in estimating the useful life include the following:

- Expected future usage
- Technical obsolescence
- Expected wear and tear through the passage of time
- Maintenance program
- Condition of existing comparable items

The service potential of an asset is normally consumed through usage. Factors such as obsolescence, excessive wear and tear, or other events could significantly diminish the service potential that was originally anticipated from the asset. The estimated useful life of individual assets

should be reviewed on a regular basis and revised when appropriate. The rationale supporting the decision to revise useful life estimates of an asset should be documented.

Significant events that may indicate a need to revise the estimated useful life of an asset may include:

- Completion of a major betterment
- Change in extent that the asset is used
- Change in the manner that the asset is used
- Removal of asset from service for extended period of time
- Physical damage or destruction
- Significant technological developments
- Change in law, environment, or public preference that affects usage and time periods over which the asset is used

A number of factors may trigger the need for a review of the expected useful life of an asset or its components, such as, major investments; including upgrades to critical components:

- Significant changes in the market value
- Pattern of differences in rate of wear and tear compared to that previously expected
- Pattern of differences in levels of maintenance compared to that previously expected
- Results from engineering testing indicating higher than expected rates of structural deterioration
- Major changes in technology increasing the rates of obsolescence for critical components
- Major changes in government programs impacting the expected use of assets
- Major changes in government regulations, policies, or standards impacting expected use of assets
- Major damage to an asset

#### 4.5 Declaring a Tangible Capital Asset Surplus

If a TCA goes from being “in use” to being “for sale”, it must be classified as an inventory item held for resale – not a tangible capital asset. In order for an asset to be reclassified as an asset inventory item held for resale, all of the following criteria must be met:

- Council has committed to selling the asset
- The asset is in a condition to be sold
- The asset is publicly seen to be for sale
- There is an active market for the asset
- There is a plan in place for selling the asset

- It is reasonably anticipated that the sale will be completed within one year of the financial reporting date

The process of declaring an asset surplus and transferring the asset to “inventory held for resale” should only occur (from a PSAB reporting perspective) if the declaration of the asset as surplus occurs in a different fiscal year than the anticipated sale. If the declaration and the sale are anticipated within the same year, then a TCA disposal can be recorded.

## 4.6 Differentiation (Betterment and Maintenance)

### 4.6.1 Betterment

Betterments (PSAB 3150.19) are considered to be capital asset additions for the assets to which they relate and should be recorded as a sub-category to the main asset. The following suggested guideline attempts to strike a balance between the risk of material misstatement and the impact on record keeping. Otherwise, the cost should be recorded as a repair and maintenance expense within the department.

- The minimum materiality threshold limit for the capitalization of betterments is equal to or greater than 30% of the historical cost of the related asset and these costs may or may not meet capitalization threshold for the main asset class
- One of the following criteria is met:
  - The estimated life of the asset, at the time that the betterment is required, is extended by more than 25%; or
  - The cost results in an increase in the capacity of the asset; or
  - The efficiency of the asset is increased by more than 10%

Consider “complex network systems”, such as the following: roads, storm, water, and wastewater systems. The betterments may be more difficult to identify; therefore, PSAB 1350 section 21 purposes a different methodology to identify betterments to the complex network systems:

- Repairs and Maintenance: These costs maintain the predetermined service potential of the asset (i.e. pothole filling)
- Betterments: Increase the service potential of the assets (not necessarily increasing the remaining useful life.

### 4.6.2 Maintenance

Maintenance (PSAB 3150.21 (a)) expenditures are costs to keep the condition of an asset at its expected operating standard. These expenditures are usually incurred on a more or less continuous basis. For example,

regular maintenance activities prescribed by the manufacturer of a new heating, ventilation, and air conditioning system (HVAC) would normally be required to ensure that the asset is able to provide service at a level and quality as originally intended by the manufacturer (i.e. lubrication of a motor and compressors, replacement of filters). Performance of regular maintenance may also be required as part of the product warranty provided by the manufacturer. The costs of regular maintenance of traffic signals and line painting will be expensed. Costs that do not increase the original assessed useful life, service capacity, or quality of output would be expensed as incurred.

## 4.7 Factors Affecting Assets

### 4.7.1 Trade In

A trade in occurs when an asset is disposed and replaced with a new asset through the same supplier in the same transaction. This transaction should be accounted for as two separate entries. The trade in value should be treated as proceeds of disposal and is used in calculating the gain or loss on the disposal of the asset being traded in. The new asset acquired is recorded at its full cost; trade in value for the old asset does not affect cost.

### 4.7.2 Disposal

In the case of legacy-pooled assets acquired prior to January 1, 2007, such as, furniture and equipment, and the pool of assets has been fully amortized, that pool must be written off. This deemed disposition takes place the year following the final year in which amortization is posted for the asset pool. On disposal, the historical cost and accumulated amortization must be removed from the books. The disposal shall be documented in a memorandum, email, or by invoice as appropriate to the Treasurer. The difference between the net proceeds on disposal and the net book value must be recorded in the Statement of Operations as a gain or loss for the accounting period (PSAB 3150.38).

### 4.7.3 Disposal of Non-Pooled Assets

As tangible capital assets are disposed of the historical costs of the assets along with the accumulated amortization of the assets need to be removed from the TCA inventory. Disposal can trigger gains or losses.



#### 4.7.4 Write-Offs/Write-Downs

PSAB 3150.31 states the following:

"When conditions indicate that a tangible capital asset no longer contributes to a government's ability to provide goods and services, or that the value of future economic benefits associated with the tangible capital asset is less than its net book value, the cost of the tangible capital asset should be reduced to reflect the decline in the asset's value."

- Every year during year-end procedures, an evaluation process will be initiated by the Finance department, in conjunction with all departments to identify any tangible capital asset requiring a write-off or write-down.
- During this process the Finance department will provide tangible capital asset listings (showing historical cost, accumulated amortization, and net book value) to each respective department.
- The departments will document (in writing) where write-offs are required to the Finance department (stating the reasoning and amount of write-off), who will assess the need for the write-offs and post the necessary transactions.
- All write-offs will be charged to the applicable operating budget from which the tangible capital asset is used.

#### 4.8 Capitalization Thresholds

Each tangible capital asset type is assigned a capitalization threshold. Capitalization thresholds represent the minimum amounts that capital related costs must exceed before they are considered for capitalization as a tangible capital asset. This threshold will be used to determine if a related cost incurred should be recorded as a tangible capital asset or if the cost is immaterial and should be expensed in operations.

In determining the capitalization thresholds, consideration has been given to:

- Weighing the benefits realized versus the costs incurred in collecting and maintaining the tangible capital asset inventory for the various asset types, as some assets may be impractical or prohibitively costly to maintain in the tangible capital asset inventory;
- Ensuring the total value of assets below the thresholds (and therefore not capitalized) is small enough that it will not exceed the external auditor's materiality level; and
- The impact of changes reporting, which enhances comparability on a year-to-year basis and with other municipalities.

In the case of pooled TCA, the individual assets within the pool will be values

below the threshold level; however, when the total value of the pool is considered, it represents a significant investment and should be recorded as part of the tangible capital asset inventory. Regarding annual purchases of pooled assets, any purchase that falls into one of the pooled asset categories that exceeds the thresholds outlined in Appendix C will automatically be accounted for as an addition to the pooled asset. A purchase that falls below the thresholds in Appendix C will be expensed with the operating budget.

#### 4.9 Capital and Maintenance Expenditures

The following are examples of Capital vs. Maintenance expenses:

Description	Capital	Operation/Maintenance
Roads	<ul style="list-style-type: none"> <li>- New/re-construction of roadways and related environmental studies</li> <li>- Street resurfacing</li> <li>- Alteration of intersections, street capacity/design</li> </ul>	<ul style="list-style-type: none"> <li>- Routine repairs, patching, crack sealing</li> </ul>
Traffic	<ul style="list-style-type: none"> <li>- New or upgraded signal equipment</li> <li>- Other physical improvements enhancing safety/capacity</li> </ul>	<ul style="list-style-type: none"> <li>- Repair/maintenance for system operations</li> </ul>
Vehicle and Equipment	<ul style="list-style-type: none"> <li>- New or replacement vehicles/equipment with useful lives &gt;1yr</li> </ul>	<ul style="list-style-type: none"> <li>- Operation equipment with useful life &lt;1 year</li> </ul>
Facilities	<ul style="list-style-type: none"> <li>- Design/construction of new facilities</li> <li>- Renovations or upgrades or replacement of existing facilities or major components thereof (i.e. roofing, HVAC)</li> </ul>	<ul style="list-style-type: none"> <li>- Preventative maintenance performed on regular basis that does not significantly upgrade structure or increase useful life (i.e. paint)</li> </ul>
Stormwater Facilities	<ul style="list-style-type: none"> <li>- Relining cells prolonging useful life</li> </ul>	<ul style="list-style-type: none"> <li>- Sludge removal on rotating basis for continued use of existing cells</li> </ul>

#### 5.0 Valuation, Collection, Amortization

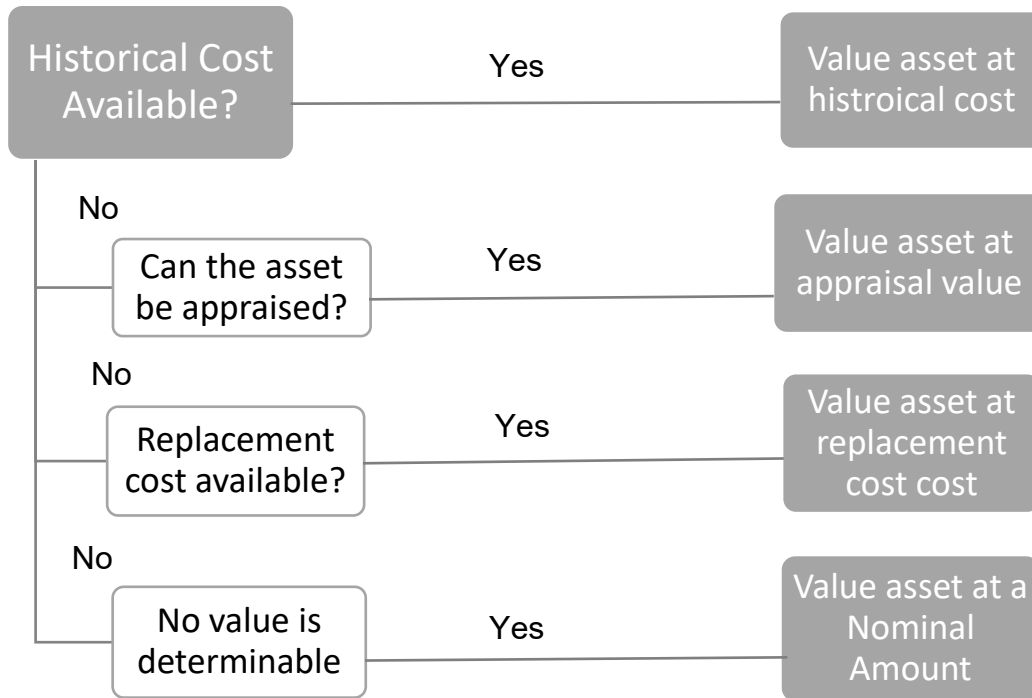
##### 5.1 Valuation and Measurement

Historical cost valuation of tangible assets is required for PSAB 3150

compliance.

Valuation methods used when becoming PSAB 3150 compliant will be documented for review by the auditor during their year-end audit procedures.

#### Valuation Decision Guideline



Actual historical cost will be utilized for valuing tangible capital assets purchased, constructed, or developed up to the current date. For this purpose, if reproduction, replacement, or appraised values are to be used and then discounted to historical cost for some assets, the discount factors used and the information source must be documented. The auditors will be consulted to determine the necessary detail they require to verify the valuations reached.

PSAB 3150 states that costs directly associated with preparing a tangible capital asset for its intended use can be included as part of the historical cost of the asset. Some examples of valid costs to be included are the following:

- Installation and assembly costs (payroll costs of staff directly involved in installation/assembly, contracted services);
- Initial delivery costs (freight, duty, transportation services);
- Site preparation costs (demolition costs, environmental cleanup);
- Initial testing costs to ensure the asset is functioning properly (payroll

- costs of staff directly involved in testing, contracted services);
- Professional fees (engineering, legal, architect, environmental);
- Internal design and inspection costs (payroll costs of staff while working directly on capital asset design/inspection);
- Capitalized interest (borrowing costs) incurred during the period of time the capital asset is actively being prepared for its intended use.

## 5.2 Nominal Assets

PSAB 3150.42 requires municipalities to disclose the nature and use of tangible capital assets that have been recorded at nominal amounts. Assets can be recorded at nominal amounts if estimating the historical cost of the assets is very difficult, and the resulting net book values will be maintained by the Finance department, to ensure the Township will be in a position to disclose the required information each year on the financial statements.

## 5.3 Capitalized Interest

Interest costs attributable to financing up-front costs of the acquisition, construction, or development of tangible capital assets will be expensed in the operating budget, and not capitalized.

## 5.4 Collection Procedures

Staff will complete the collection of required inventory data, using the developed asset trees to ensure completeness of information.

Documentation needed for audit purposes include the following:

- Asset location
- Purchase invoice (if available and recent)
- Asset description
- Year of purchase/construction
- Betterment (year, description, cost if available)
- Other documentation and data sources that are applicable

## 5.5 Amortization

PSAB 3150 requires tangible capital assets to be amortized "in a rational and systematic manner appropriate to its nature and use by the government". To meet these requirements, the Township will utilize the Straight Line amortization method. No amortization will be charged in the year of acquisition. For amortization calculation purposes, residual value will be zero for all tangible capital assets.

## Appendix A – Primary Asset Classes

Asset Sub-Class	General Capital Assets	Infrastructure Assets
	<p>Tangible capital assets that are not part of the Infrastructure Asset class. Includes, but is not limited to Parks, Recreation facilities, Fire, EMS, Police, Waste Collection and Disposal, Landfill.</p>	<p>Tangible capital assets are composed of linear and their associated specific components, generally constructed or arranged in a continuous and connected network. Includes, but is not limited to: Transportation Infrastructure (roads-including cycling lanes, bridges, tunnels, public transit rail line portion only, drainage systems), Utilities (telephone, gas, and electrical), and Environmental Infrastructure (water delivery systems, waste water treatment, storm drainage systems).</p>
Land	<p>Real property in the form of a plot, lot, or area. Includes all expenditures made to acquire land and to ready it for use where the improvements are considered permanent in nature and includes purchase price, closing costs, grading, filling, draining, and clearing, removal of old building (net of salvage), assumption of liens or mortgages, and any additional land improvements that have indefinite life. The costs associated with improvements to land are added to the cost of the land if those improvements can be considered permanent (such as re-grading or filling of the land).</p> <p>Excludes forests, water, and other mineral resources and land held for resale (as separate non-financial asset).</p>	<p>Land as defined in General Capital asset class that is associated with Infrastructure. Includes land under roads and land associated with road allowances, sewage treatment plant sires, pump station properties, etc.</p>



	General Capital – Land includes land for administrative buildings, parks, playgrounds, fields, open space.	
Land Improvements	<p>Land improvements consist of betterments, site preparation and site improvements (other than buildings) that ready land for its intended use, which generally decay or breakdown over time. Land improvements that are removable and can degrade or deplete over the course of time through use or due to the elements, should be separately capitalized and their value amortized over the useful life of the improvement.</p> <p>General capital land improvement examples include, but are not limited to: landfill site development, construction on driveways, parking lots, retaining walls, bike paths in parks, drop off locations, sidewalks, fencing, patios, water fountains, outdoor swimming or wading pools, ball diamonds, soccer fields, irrigation systems, tennis courts, and the like.</p>	<p>Land improvements as defined in the General Capital asset class that are associated with infrastructure.</p> <p>Examples include, but are not limited to: parking lots for water/wastewater sites, driveways through such sites, site improvements such as grading at works yards whose purpose is to serve as a base for maintaining infrastructure.</p>
Buildings	<p>General capital buildings include all structures that provide shelter from the elements which function independent of an infrastructure network. Includes capital and betterments to general capital buildings that are owned by the Township.</p> <p>Examples include, but are not limited to: EMS Stations, bus transit facilities, sport and recreation facilities, office buildings, fire/police stations, libraries, pavilions, change rooms, park washrooms and concession buildings, band shells, ticket kiosks, crematoriums, chapels, mausoleums, waste depots, recycling facilities.</p>	<p>Buildings as defined in the General Capital asset class associated with infrastructure.</p> <p>Examples include, but are not limited to: wastewater treatment control buildings, water supply buildings, building in works yards dedicated to infrastructure maintenance, rail transit facilities.</p>
Machinery & Equipment	An apparatus, tool, device, implement or instrument that likely uses energy (human, electrical, hydraulic fuel, or thermal) to facilitate a process, function	Machinery & Equipment as defined in the General Capital asset class that is associated with

	or completion of a task. Machinery and equipment may also include furniture and fixtures. It may be installed within a building but is generally capable of being moved and reinstalled at a different location, if need be (that is, it is not permanently affixed to or integrated into the building or structure in which it resides).	infrastructure.
Vehicles	A means of transportation, usually having wheels, for transporting persons or things or designed to be towed behind such an apparatus. Includes automobiles, trucks, trailers, motorcycle, boats, etc.	Vehicles as defined in the General Capital asset class that is associated with infrastructure.
Linear Assets		<p>The Linear Assets subclass applies only with respect to the “Infrastructure” class and has no counterpart in the “General Capital” class. Linear assets are assets generally constructed or arranged in a continuous and connected network. “Infrastructure Linear assets” includes connected:</p> <ol style="list-style-type: none"> <li>1. Surface systems, such as roads, sidewalks, bridges, drainage ditches, streetlights, and transit rail lines; and</li> <li>2. Underground systems, such as water distribution pipe systems, manholes, catch basins, and storm drainage collection systems and tunnels.</li> </ol>
Capital Work-in-Progress	The cost of a municipality’s tangible capital assets under construction, constructed, or in an uncompleted process of acquisition and that are not yet in service.	

## Appendix B – Single Asset/Component Approach Values

### B.1 Facility or Building

Definition: All structures that provide shelter from the elements and stands more or less permanently in one place. That provides a particular service or is used for a particular industry.

For the purpose of this policy, the following components will be used for capitalizing buildings and facilities owned by the Township of East Zorra-Tavistock (Uniformat II):

- Sub-Structure (foundation)
- Roof & Floor
- Exteriors (windows, doors)
- Interior (stairs, walls, doors, flooring)
- Conveyance (elevator, lift)
- Plumbing
- HVAC
- Fire Protection
- Electrical

### B.2 Roads

For the purpose of this policy, roads, due to the varying life expectancies of the surface and sub-surface, will be organized in the following manner:

- A paved or surface treated road will be separated into the following components:
  - Road Base – the land the road is built upon
  - Road Subsurface Gravel – the granular base of the roadway
  - Road Surface Hardtop – the asphalt or surface treatment portion of the roadway
  - Road Surface Loosetop – an entirely granular road; which will be considered as a single asset including the land upon which the road is built, the granular roadway, and any substructures.

## Appendix C – Classification, Threshold, and Useful Life

Asset Category	Description	Pool	Estimated Useful Life (yrs)	Capitalization Threshold
Land			non-amortized	\$0
Land Improvements	Baseball Field		20	\$5,000
	Parking, Driveway, Walkway, Sidewalk		25	\$5,000
	Playground Equipment		10	\$5,000
	Pathways & Trails		20	\$5,000
	Fencing		15	\$5,000
	Lighting	X	20	\$5,000
	Signs	X	15	\$10,000
	Outdoor Seating		15	\$5,000
	Landscaping		30	\$5,000
Road Network	Land Under Road		non-amortized	\$0
	Road Subsurface Gravel		50	\$25,000
	Road Surface Hardtop		25	\$10,000
	Road Surface Loose-top		non-amortized	0
	Curb & Gutter		25	\$10,000
	On-street Parking		25	\$10,000
	Streetlights	X	20	\$5,000
	Sidewalks	X	30	\$25,000
	Guiderails	X	30	\$5,000
Bridges & Culverts	Bridges		75	\$25,000
	Plastic Culvert		25	
	Concrete Culvert		40	\$5,000
	Corrugated Steel Culvert		15	
Furniture & Fixtures		X	10	\$5,000
Equipment & Machinery	Computer Hardware	X	4	\$5,000
	Computer Software		4	\$5,000
	Communications Equipment	X	4	\$5,000
	SCBA	X	10	\$5,000
	Bunker Gear	X	10	\$5,000

	Ice Resurfacers		15	\$10,000
	Other Equipment	X	5	\$5,000
Vehicles	Heavy Equipment Vehicles		10	\$5,000
	General Vehicles		5	\$5,000
Buildings	Sub-Structure (foundation)		100	\$20,000
	Roof & Floor		15	\$10,000
	Exteriors (windows, doors)	X	20	\$10,000
	Interior (stairs, walls, doors, flooring)	X	20	\$5,000
	Conveyance (elevator, lift)		75	\$100,000
	Plumbing	X	20	\$10,000
	HVAC		20	\$10,000
	Fire Protection		75	\$10,000
	Electrical	X	20	\$10,000
Stormwater Network	Storm Pipe		50	\$10,000
	Catchbasins	X	50	\$1,000
	Maintenance Holes	X	50	\$2,000
	Stormwater Management Facility		75	\$25,000
	Oil and Grit Separator		50	\$25,000

\*This list is to be used as a guideline



# STAFF REPORT

Report #CBO2022-11

To: His Worship the Mayor and Members of Council

From: John Scherer, Chief Building Official

Re: Building, Development & Drainage – July 2022 Council Report

Date: June 29, 2022

## Departmental Highlights:

- None

## Legislative Updates:

- None

## Monthly Permit Activity:

	No. of Permits	Permit Value	Permit
May 2022	33	\$9,265,800	\$51,241.21
Year to Date – May 31, 2022	100	\$26,062,262	\$123,965.81

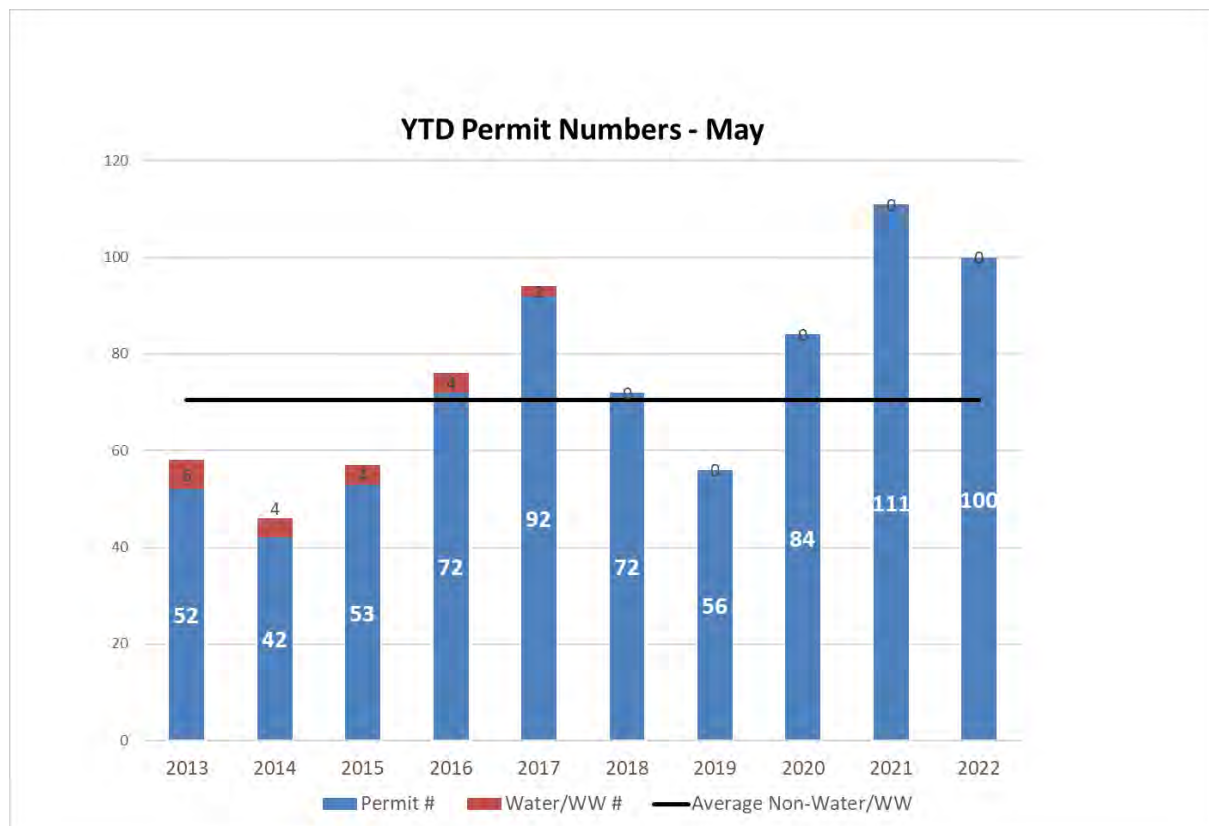
## Number of Permits and Values

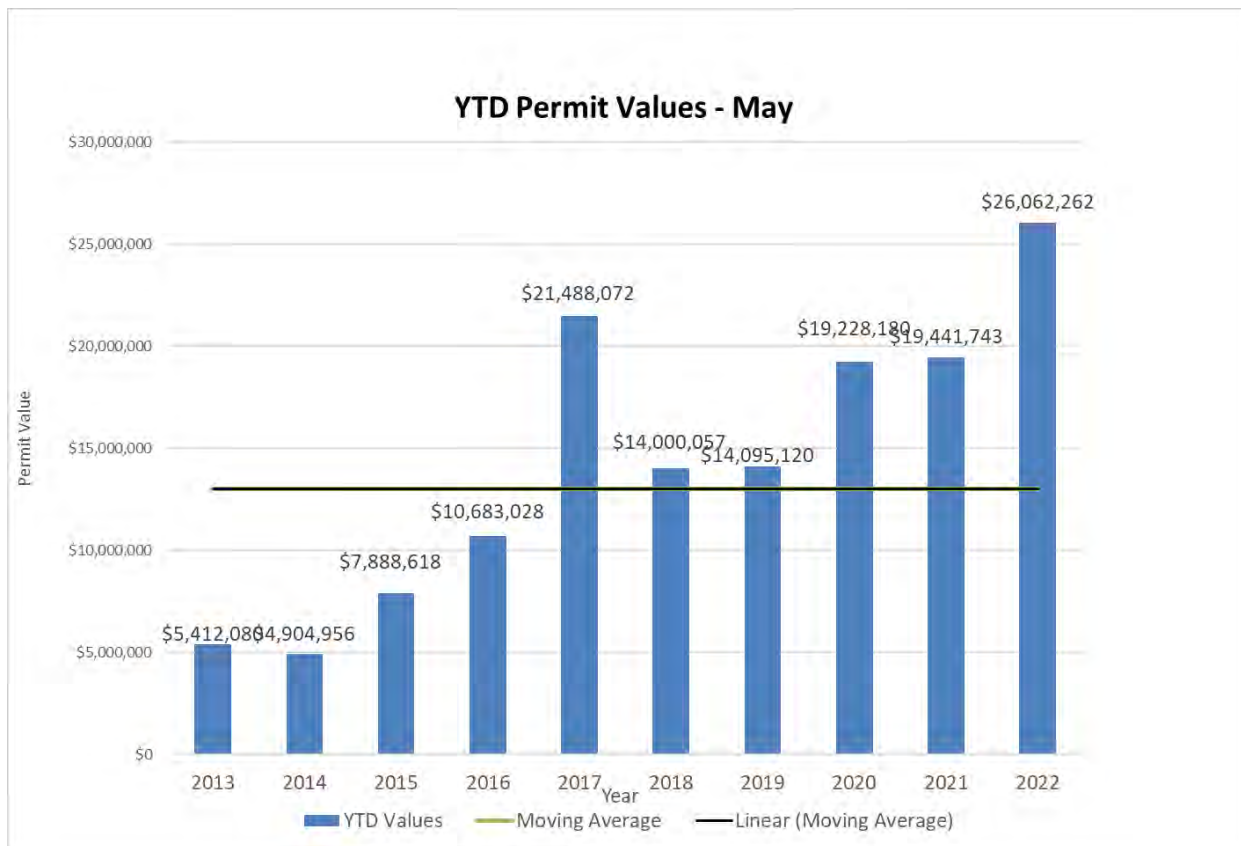
Project	Cost of construction	Building Fees
Maintenance shed	550,000.00	9,775.33
SFD - townhouse	550,000.00	2,196.70
SFD - townhouse	550,000.00	2,196.70
SFD - townhouse	550,000.00	2,196.70
SFD - townhouse	550,000.00	2,196.70
SFD - townhouse	550,000.00	2,196.70
SFD - townhouse	550,000.00	2,196.70
Bathroom renovations	610,500.00	1,646.87
Garage - replace existing	40,000.00	347.00
SFD	650,000.00	2,249.69
Finish basement	75,000.00	347.00
Inground pool	100,000.00	116.00
Dairy barn	1,100,000.00	5,954.01
SFD	500,000.00	3,258.66
Demo attached garage	5,000.00	144.00
Manure storage	164,000.00	866.00
Deck	4,000.00	174.00
Foundation stabilization	6,000.00	520.00
SFD	620,000.00	3,379.41

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Drainage Monthly Report

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Deck	15,000.00	174.00
SFD	650,000.00	2,404.87
Deck	16,000.00	174.00
Septic system	20,000.00	635.00
Deck	10,000.00	174.00
Shed	2,500.00	347.00
Coverall storage	60,000.00	1,009.93
Service connection	23,500.00	0.00
Shed	200,000.00	1,456.88
Finish basement	15,000.00	347.00
Drive shed	400,000.00	1,635.36
Septic system	20,000.00	635.00
Deck	9,300.00	174.00
Inground pool	100,000.00	116.00
<b>Total</b>	<b>9,265,800.00</b>	<b>51,241.21</b>





### Status of Development Matters:

#### Ward 1 - TAVISTOCK

*The Ponds (Phase 3)	33 SFD	Plan 41M-335 Plan 44M-68
The Orchards (Phase 1)	16 SFD 6 Semi Units 39 Condo Towns	Plan 41M-321 Warranty item identified for developer.
The Orchards (Phase 2)	48 SFD 2 Semi Units	Plan 41M-353 Construction started on all lots
The Orchards (Phase 3)	52 SFD 6 Semi Units	Plan 41M-371 Permits Issued.
Gateman Homes (Jacob St E)	13 SFD 10 Semi Units	Plan 41M-363 Permits Issued.
Mill-Gate Homes (Phase 1)	61 SFD 1 Infill Lot	Site Servicing work to start May 30, 2022, with the roadwork to start mid-September, 2022.

Staff Report – Building, Development and  
Drainage Monthly Report

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Ward 3 - INNERKIP

Innerkip Meadows (P3 – Curtis St)	24 SFD + Semi detached units now proposed.	Plan 41M-313 Singles Completed.
Innerkip Meadows (P4– Lock St)	24 SFD	Plan 41M-325
Innerkip Meadows (P5 -Queen/Curtis)	25 SFD	Plan 41M-339
Innerkip Meadows (P6 - Lock)	19 SFD	Plan 41M-355
Innerkip Meadows (P7 - Matheson)	32 Semi detached units 1 SDD Unit	Plan 41M-313 Permits issued.
*Majestic Homes Development (James/Main St)	Condo Block on Main St (25 units)	Plan 41M-322 Unit construction underway.
Oxford Road Developments 5 Inc.	29 SFD + 1 Block for Future Dev.	Plan 41M - 352 Revised Grading Plan approved.

Drain & Streetlight Locate Summary:

Quarterly update, next update August/Sept

Status of Drainage Matters:

Drain Name	Status
McLean Drain	Section 78 received, and Section 40 received. Petition restarted – Section 4 Proposed (New Drain). Report and design work underway.
Tavistock 1974 & 1979 Drains	Relocation of drains proposed for new residential developments. Tavistock 1974 Completed. Tavistock 1979 awaiting approval. – Underway.
Parker Drain	Court of Revision outcome with 1 modification.
Kuntze Drain	Large cleanout, weather pending. Finished by end of year.
Unnamed Drain	Pending. Waiting Report & Design.
Oxford Rd #33	Cleanout completed. Planting still to be completed.

Attachments:

- None

Recommendation:

1. None. For Council information only.

Reviewed by C.A.O.:



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Karen DePrest  
Chief Administrative Officer

Report prepared and  
submitted by:



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



# STAFF REPORT

Report #CBO2022-12

To: His Worship the Mayor and Members of Council

From: John Scherer, Chief Building Official

Re: Pool **Fencing** By-law - **Amendments**

Date: June 29, 2022

## Background

The **Township's** current Pool Fencing By-law (#2008-24) was adopted in May of 2008, and replaced the **Township's** Pool Fencing By-law from 1977. This by-law covers fencing requirements for most pools installed within the Township, as well as Hot Tubs.

Fencing by-laws regarding fences are authorized through section 11(1)(7) of the Ontario Municipal Act.

## Discussion

As a result of the recent increase in pool fencing permit applications, staff are revisiting the Township Pool Fencing By-law as staff and applicants have run into issues that would prevent the installation of a pool.

In addition, new technologies have emerged and are readily available regarding pool safety covers.

Staff recommend that the following new clause be added to the existing Pool Fencing By-law #2008-24:

- 3.7. *Where an existing fence has been in place for a minimum of three (3) years, the requirements set out in sub clauses 3.1. to 3.6 (inclusive) need not be met if:*
- a. *The height of the fence **exceeds 5'11"**;*
  - b. *The fence is in good condition;*
  - c. *The least dimension of any opening through the fence is required to prevent the passage of a spherical object having a diameter of **3.6"**; and,*
  - d. *The pool has a cover meeting ASTM F1346-91, classified as a safety cover.*

Attachments:

1. **Appendix 'A'** – Pool Fencing By-Law #2008-24

Recommendation:

1. The Council approve the proposed amendments to the Pool Fencing By-law (#2008-24).

Reviewed by C.A.O.:



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Karen DePrest  
Chief Administrative Officer

Report prepared and  
submitted by:



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

**THE CORPORATION OF THE  
TOWNSHIP OF EAST ZORRA-TAVISTOCK**

**COUNTY OF OXFORD**

**BY-LAW # 2008-24**

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**BEING** a By-law to provide for the requirements of owners of privately owned swimming pools to erect fences and enclosures within the Township of East Zorra-Tavistock.

**WHEREAS** Section 11 (1) 7 of the Municipal Act, 2001 S.o. 2001, c.25, as amended (hereinafter the "Municipal Act") provides that a municipality may pass by-laws within the sphere of jurisdiction entitled Structures, including fences and signs;

**AND WHEREAS** the Council of the Municipality of the Township of East Zorra-Tavistock deems it necessary to regulate and require owners of privately owned outdoor swimming pools to erect and maintain fences and gates around such pools, and for prescribing the height and description of, and manner of erecting and maintaining such fences and gates;

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

1. Definitions for the purposes of this By-law:

1.1. "swimming pool" shall be defined to mean any body of water, located on private property, having a depth in excess of two (2) feet at any point and contained by either concrete, metallic or vinyl means, which is intended for the use of swimming, diving, or bathing but shall not include a farm pond nor a farm watering trough to be used exclusively for the watering of livestock.

1.2. "Temporary pool" is defined as a swimming pool which is designed to be removed periodically, is for temporary or seasonal use, and which is not erected from October to February.

2. The owners of outdoor swimming pools shall be required to construct and maintain around such pool an approved fence of closed board or chain link design or other design approved by the Building Inspector of the Township of East Zorra-Tavistock, such fence to be at least four (4) feet in height. The wall of a building may be substituted for a fence provided that the swimming pool is fenced on all other sides by an approved fence under the terms of this By-law and provided further that any doors in such building are equipped with self-closing locks or latching devices located at least four (4) feet from the bottom of such door and provided further that

the building is continuously occupied or that all doors in the building are locked when the building is not so occupied.

3. Adequate Fencing:

- 3.1. The fence surrounding such swimming pool may contain a gate provided that the gate provides equivalent protection to the fence, is of the same height, and is equipped with a self-latching device or lock located at least four (4) feet from the ground level and provided further that the gate is maintained in a locked condition unless being used for ingress to or egress from the pool area.
- 3.2. A fence or its equivalent forming part of an enclosure, shall be permitted to have exposed structural or other members or parts thereof that may facilitate climbing the outside of the enclosure provided that minimum clear vertical distance between any such members, or parts thereof, is four (4) feet and, regardless of the location of such members, where this minimum four (4) feet vertical dimension is maintained the least dimension of any opening through such fence may be increased to not more than that required to prevent the passage of a spherical object having a diameter of 3.6 inches.
- 3.3. In the event that the pool is constructed above the level of the ground the walls of the pool shall be at least four (4) feet in height and in the event that they are surrounded by a deck the deck shall be at least four (4) feet in height or walls shall be constructed enclosing the same to at least a height of four (4) feet above the ground level.
- 3.4. In the case of a swimming pool constructed above ground level the stairway or access to the pool or deck thereof shall be enclosed by a fence at least four (4) feet in height and if such fence has a gate for access it shall be constructed in accordance with paragraph 3.1 as set out herein.
- 3.5. Each fence constructed under the terms of this By-law shall be located at least four (4) feet from the swimming pool provided that the fence may be located closer to the pool with the authorization of the Building Inspector of the Township of East Zorra-Tavistock.
- 3.6. In addition to the provisions set out above, the provisions contained in Schedule "A" attached hereto and forming part of this bylaw shall also apply.

4. Indoor Swimming Pools:

- 4.1. Each indoor swimming pool within the Township shall be designed in accordance with Part 4 of the Ontario Building Code to safely withstand all dead and live loads.

- 4.2. All openings to indoor swimming pools shall be protected with doors or other approved closures, approved by the Building Inspector and shall contain self-closing and latching devices and locks located at least four (4) feet, six (6) inches from the bottom of such closure.

5. Building Permit

- 5.1. All persons constructing a swimming pool, except temporary pools, shall be required to obtain a Building Permit. Swimming pools, except temporary pools, may not be erected within the Township of East Zorra-Tavistock until a Building Permit has been obtained. The commencement of excavation for an inground or aboveground swimming pool shall be deemed for the purposes of this by-law to be the erection of a swimming pool within the Township of East Zorra-Tavistock.

- 5.2. Temporary pools do not require a building permit, but are subject to all other provisions of this bylaw.

6. Hot tubs

- 6.1. Hot tubs that are adequately secured by a cover equipped with a locking device and locked when not in use are exempt from Section 2.

7. Any person who contravenes any of the provisions of this by-law is guilty of an offence and upon conviction is liable to a fine or penalty for each offense established pursuant to the Provincial Offences Act, R.S.O. 1990, c. P23.

8. That By-law #14-77, as amended, is hereby repealed.

9. This by-law shall be called the "The Pool Fencing By-law".

**READ A FIRST AND SECOND TIME THIS 21<sup>st</sup> DAY OF MAY 2008**

**READ A THIRD TIME AND FINALLY PASSED THIS 21<sup>st</sup> DAY OF MAY 2008**

*"Original Signed by Don McKay"*

Don McKay, Mayor

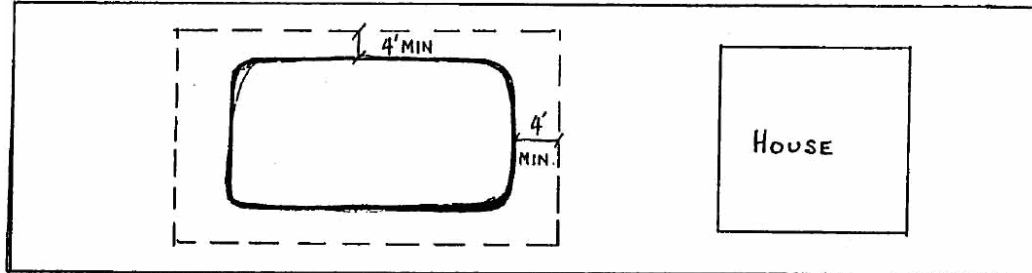
*"Original Signed by Jeff Carswell"*

Jeff Carswell, Clerk



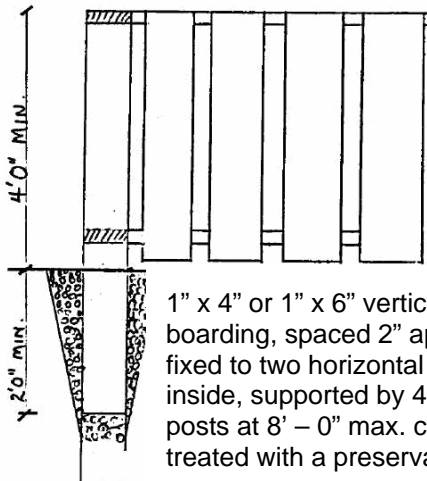
## Schedule "A"

Note: This sheet is intended as a guide to the information required when submitting drawing of a swimming pool enclosure. It shall also form part of this by-law as specification to the type of fencing allowed.



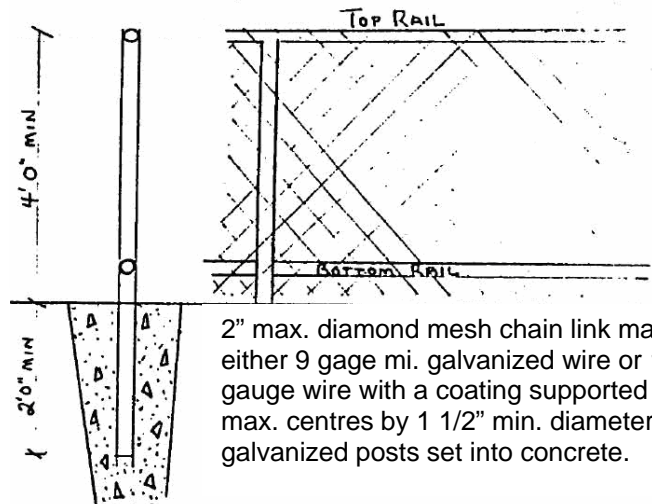
Plot Plan (Example)

## Detail of Fence Construction

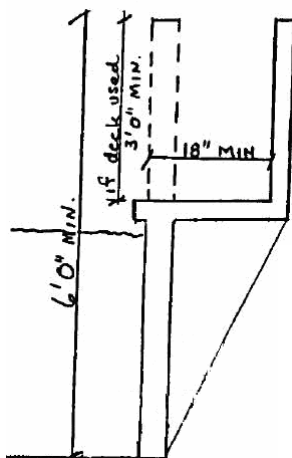


1" x 4" or 1" x 6" vertical boarding, spaced 2" apart and fixed to two horizontal rails on inside, supported by 4" x 4" cedar posts at 8' - 0" max. centres, treated with a preservative.

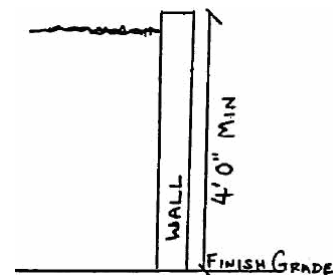
If the difference between climbable parts (horizontal supports) is 48" or more the openings between fence boards can be up to 3.6"



2" max. diamond mesh chain link made of either 9 gage mi. galvanized wire or 12 gauge wire with a coating supported at 10'-0" max. centres by 1 1/2" min. diameter galvanized posts set into concrete.



A 4' high min. non-climbable enclosure to be provided around pool access with a 4' high gate equipped with self-closing and self-latching device.



NOTE: Above ground pools do not require a fence, unless the wall of the pool is less than four (4) feet above finish grade

# STAFF REPORT

Report #PW2022-07

To: His Worship the Mayor and Members of Council

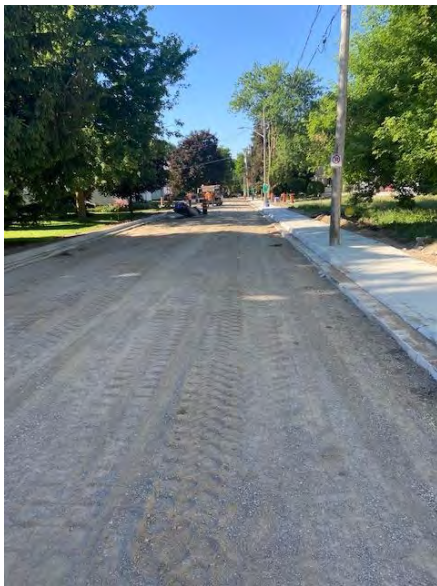
From: Tom Lightfoot, Public Works Manager

Re: Public Works – July 2022 Council Report

Date: June 29, 2022

## Departmental Highlights:

- The John and Henry Streets reconstruction project began on April 11<sup>th</sup> and is progressing well. Currently all underground work has been completed. Concrete work is scheduled to be completed the week of June 27<sup>th</sup> and paving is expected to be completed the week of July 4<sup>th</sup>. Once paving is complete, final driveway repairs from construction activities will be completed, and topsoil and sod will be installed. New stop signs have **been installed at the new "T" intersection of John and Henry Streets**. This location is now a three way stop.



- Public Works staff have been out the past few weeks completing storm cleanup on some of our rural roads. We have had to take a break from cleaning up branches to catch up on other items normally completed at this time of year. Staff hope to get back to finish tree limb cleanup in July.

- As approved is the 2022 capital budget, staff has procured a new utility tractor through the Canoe joint purchasing group. The tractor came in under budget. Premiere Equipment will be supplying the new utility tractor, including attachments sidewalk snow removal and equipment for walking trail maintenance.
- Public Works staff completed some driveway widenings in the last month and currently have 2 more waiting to be installed, once locates are received.
- During the month of June, staff worked on preparing the 89 Loveys St. property for the future construction of the new office building. The area of the new building was dug out to the solid clay base, and then back filled with crushed concrete that the Township had on site. It was then top dressed in **granular "B"** material.
- Public Works staff is continuing with roadside grass mowing and has started string trimming around guiderails and wires.
- Closer to the end of July or beginning of August, Public Works will be out completing the annual bridge washing.
- As part of the 2021 capital projects, Culvert #2012 is scheduled to be removed and a new cast in place culvert is to be built. This project is expected to begin the week of July 11<sup>th</sup>. The 11<sup>th</sup> Line will be closed from the Maplewood Sideroad to the Perth-Oxford Road for approximately 8 weeks for the construction.
- On June 14<sup>th</sup>, Township staff attended a site meeting at the W. Leslie Dickson Arboretum with family members of Leslie Dickson, as well as Upper Thames River Conservation Authority (UTRCA) staff. During the site walk, the UTRCA reviewed their future plans for the property. Township staff will be working with UTRCA staff to complete some brush removal and some maintenance to the driveway and parking area.
- I would like to take the opportunity to welcome Matt Lamers to the Township team. Matt has taken on the role of Parks and Recreation Supervisor. Matt will be focusing on the Tavistock Arena for the first few weeks of his new role. Staff will be preparing the arena and equipment for the upcoming ice season.

- The new accessible swings have now been installed in Hickson Park, and in Stonegate Park in Innerkip. With the addition of the new swings, we now have one accessible swing in each village.



- Our grass cutting crew has been busy over the last month with grass cutting of our parks, Township facility properties and walking trails. Staff has also spent time in the Hickson Park reshaping the practice ball diamond and repairing the buried main water feed line to the park.

### Status of Significant Capital Projects:

Capital Project	Current Status
Box Culvert #2012 replacement	Tender awarded March 2, 2022.
Zorra/EZT Bridge Rehabilitation	Tender awarded
John/Henry Streets re-construction in Tavistock	Construction started
Capital Equipment	Pickup truck plow- received Grader roller-received Utility tractor- ordered Pick up truck-awaiting delivery Retriever (Claw)- received

Recommendation:

1. None. For Council information only.

Reviewed by C.A.O.:



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Karen DePrest  
Chief Administrative Officer

Report prepared and submitted by:



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Tom Lightfoot  
Public Works Manager



# STAFF REPORT



Report #BCO2022-06

To: His Worship the Mayor and Members of Council

From: Melanie Shiell, By-law Compliance Officer

Re: By-law Compliance – July 2022 Council Report

Date: June 29, 2022

## Departmental Highlights:

- None to report

## Legislative Updates:

- None to report

## By-law Compliance Activity for May 2022

OCCURRENCE TYPE	NUMBER OF NEW OCCURRENCES (Commenced this Month)		NUMBER OF ON-GOING OCCURRENCES (Commenced prior to this Month)	YEAR TO DATE OCCURRENCES	
	Open	Closed		Open	Closed
Property Standards	1	1	2	2	4
Clean Yard					
Animal Control	1			3	5
Parking					9
Noise	1	1			2
Zoning			1	1	
Illegal Dumping					
Inquiry	1	1			6
Canine	1	1			4
Other	2	2			3
TOTAL	7	6	3	6	33

Attachments:

- None

Recommendation:

1. None. For Council information only.

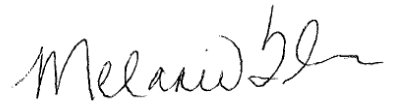
Reviewed by C.A.O.:



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Karen DePrest  
Chief Administrative Officer

Report prepared  
and submitted by:



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Melanie Shiell  
By-law Compliance Officer

Department Approval:



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Will Jaques  
Corporate Services Manager/Clerk

## STAFF REPORT

Report #CSM2022-08

To: His Worship the Mayor and Members of Council

From: Will Jaques, Corporate Services Manager

Re: Corporate Services – July 2022 Council Report

Date: June 29, 2022

Departmental Highlights:

- Continued work on the 2022 election.

Legislative Updates:

- N/A

Status of Land Use Planning Matters:

Applicant	Location	Application Type	Nature of Application	Status of Applications
Musselman	Con. 16, Pt. Lot 30	ZBA	Rezoning to allow development on undersize ag. parcel, on a lot that does not have road frontage.	Application deferred, pending applicant providing further information.
Engberts	21 Burton St., Innerkip	Severance	Severance of an existing parcel of land.	Severance application approved and conditions being fulfilled.
Brenneman	616595 13 <sup>th</sup> Line	Severance ZBA	Severance of an existing parcel of land, and associated rezoning.	Severance application approved and conditions being fulfilled. ZBA approved in principle.

Applicant	Location	Application Type	Nature of Application	Status of Applications
Donron Farms Ltd.	616583 13 <sup>th</sup> Line	Severance ZBA	Severance of an existing parcel of land, and associated rezoning.	Severance application approved and conditions being fulfilled. ZBA approved in principle.
Oxford Road Developments 5 Inc.	Extension of Phase #1 subdivision (Innerkip)	SDA OPA ZBA	OPA and ZBA required as part of the application for subdivision.	Applications received.
Faircrest Farms Ltd.	744772 Oxford Rd. #17	Severance ZBA	Severance of an existing parcel of land, and associated rezoning.	Severance application approved and conditions being fulfilled. ZBA process complete.
Stevenson	201 Stonegate Rd., Innerkip	Severance	Severance of an existing parcel of land.	Severance application approved and conditions being fulfilled.
2825085 Ontario Inc.	32 Jacob St. E. Tavistock	Severance	Severance of an existing parcel of land (2 new lots).	Severance application approved and conditions being fulfilled.
Wettlaufer	516930 11 <sup>th</sup> Line	ZBA	Amendment to allow for second permanent dwelling on property (10 year period).	Approved – appeal period in effect.

Applicant	Location	Application Type	Nature of Application	Status of Applications
Nemeth	177 Coleman St. Innerkip	Severance	Severance of an existing parcel of land.	Severance application approved and conditions being fulfilled.
Major	615411 13 <sup>th</sup> Line	ZBA	Rezoning to allow for the construction of a new residence, with in-law suite (converted dwelling).	Application received.
Collins	39 Lock St., Innerkip	MVA	Relief to permit an accessory structure within an exterior side yard, as well as relief to reduce the minimum interior and rear yard setbacks.	Process complete.
Schurink	122 William St., South Tavistock	MVA	Relief to permit a reduction of the minimum rear yard setback.	Process complete.
Minielly	132 Fred Krug Ave., Tavistock	MVA	Relief to permit an accessory structure within an exterior side yard, as well as relief to reduce the minimum exterior yard setback.	Process complete.



Applicant	Location	Application Type	Nature of Application	Status of Applications
Blum/ McLeod	73 William St. North Tavistock	MVA	Relief to allow for an accessory building with a gross floor area of 1507 sq.ft. (140 m2) in lieu of the maximum permitted of 1076 sq.ft. (100 m2).	Process complete.
Phinney	125 Hope St. East, Tavistock	MVA	Relief to allow for a reduction in the required setback from the centreline of a County Road, and relief to allow a reduction in the maximum projection of deck/steps into the front yard.	Public Hearing to be held July 6, 2022
Witzel	985920 Perth-Oxford Rd.	ZBA	Re-zoning to allow for a <b>contractor's</b> shop on the property.	Application received.

Attachments:

- None.

Recommendation:

1. None. For Council Information.

Reviewed by C.A.O:



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Karen DePrest  
Chief Administrative Officer

Report prepared and submitted by:



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Will Jaques  
Corporate Services Manager

# STAFF REPORT

Report #CSM2022-09

To: His Worship the Mayor and Members of Council

From: Will Jaques, Corporate Services Manager

Subject: Lame Duck Period – Delegated Authority

Date: June 29, 2022

## Background:

Lame Duck status is determined when it is known, with certainty, that less than 75% of the existing Council members will comprise the new Council. Another way to describe it is that Council becomes Lame Duck when it has become mathematically impossible for 75% of the members of the outgoing Council to be on the incoming Council. East Zorra-Tavistock Council is comprised of 7 members. As such, 75% of 7 members is 5.25 (which is rounded up to 6).

The determination of whether a Municipal Council is in a Lame Duck position occurs twice during the Municipal Election process:

1. Between August 19, 2022 (Nomination Day) and October 24, 2022 (Voting Day) - The determination shall be based on the 2022 Candidates election nominations that have been certified by the Municipal Clerk on August 22, 2022. If less than three-quarters of the existing Council Members are not running for Municipal Council, the Lame Duck restrictions set out in the Municipal Act will apply; and,
2. Between October 24, 2022 (Voting Day) and November 15, 2022 (the date which the new Council takes office) – Once the election results are declared by the Municipal Clerk shortly after the municipal election, if the result is less than 75% of the incumbent Council Members returning to Council, the Lame Duck restrictions set out in the Municipal Act will apply.

If a Council is in a Lame Duck position, Council shall not take on the following restricted actions, as per section 275 the Municipal Act:

- a) Appoint or remove from office any officer of the municipality;
- b) Hire or dismiss any employee of the municipality;
- c) Carry out the disposition of any real or personal property of the municipality which has a value exceeding \$50,000 at the time of disposal; and,
- d) Make any expenditures or incur any other liability which exceeds \$50,000.

**The only exceptions to the above restrictions relate to clauses 'c' and 'd',** whereby these actions may be completed if the disposition or liability was included in the most recent budget adopted by the Council before Nomination Day for the 2022 Municipal Election.

Additionally, in the case of emergencies, section 275(4)(4.1) of the Municipal Act provides that that nothing under section 275 prevents a municipality from taking any action in the event of an emergency within the Municipality. Further, regarding delegation of authority, section 275(6) provides that the authority of a municipality can be delegated to a person or body prior to Nomination Day for the election of the new Council.

### Discussion:

In order to ensure continuity of business for the Township, staff would recommend that the Chief Administrative Officer, by By-law, be delegated authority during the potential Lame Duck Period to certain restricted acts under section 275 of the Municipal Act. The By-law would be worded so that it would come into force only in the case of a Lame Duck situation, and would explicitly state the restricted acts that have been delegated. Additionally, at the Inaugural Council Meeting of Council following November 15, 2022, the By-law delegating authority to the Chief Administrative Officer would expire, given the newly elected Council would at that point be sworn in.

In order to determine if Council is in a Lame Duck position, Staff will follow Section 275 of the Municipal Act and advise Council at their first Meeting after Nomination Day if Council is in a Lame Duck position. As well, the Clerk will report to Council at their first Meeting after Election Day if Council is in a Lame Duck position.

Recommendations:

1. THAT Council consider a by-law delegating authority to the Chief Administrative Officer from August 22, 2022 to November 15, 2022 to:
  - a) Be the financial signing authority for expenditures, outside of the current budget, exceeding \$50,000
  - b) To dispose of any real or personal property of the municipality which has a value exceeding \$50,000 at the time of disposal; and,
  - c) Be the authority to hire or remove any officer or employee to/from employment with the Township of East Zorra-Tavistock.
2. THAT the by-law shall come into force and effect only in the event that less than 75% percent of the current Members of Council will be returning to sit on the new Council after Nomination Day and/or after Election Day of the 2022 Municipal Election, as determined by the Township Clerk.

Reviewed by C.A.O:



Karen DePrest  
Chief Administrative Officer

Report prepared and submitted by:



Will Jaques  
Corporate Services Manager



# STAFF REPORT

Report #CAO2022-11

To: His Worship the Mayor and Members of Council

From: Karen DePrest, CAO/Treasurer

Re: CAO/Treasury – July 2022 Council Report

Date: June 29, 2022

## Departmental Highlights:

- The Township auditor has requested an additional on-site visit for Thursday, July 14<sup>th</sup>, to complete their subsequent event testing. The intent is that the final 2021 Draft Consolidated Financial Statements will be presented to Council at the August 3<sup>rd</sup> meeting.
- Attached to this month's report is a background information flyer on the 2022 Ontario Trillium Foundation Grant Program. Staff will be attending an information webinar on Tuesday, July 12<sup>th</sup> detailing the application process. As a result, staff are seeking Council's authorization to make application on behalf of the Tavistock Spray Pad Project before the August 3<sup>rd</sup> deadline.
- Final tax bills will be going out on or before July 15<sup>th</sup> for 2022. Those ratepayers who are on a monthly pre-authorized payment plan will not see their new withdrawal amount until their payment in the month of August.
- The tender package for the new Township administration building should be posted to Bids and Tenders through our municipal website on Thursday, June 30<sup>th</sup>, with a closing date of Thursday, July 21<sup>st</sup>. A non-mandatory site visit will be offered to interested bidders on Friday, July 8<sup>th</sup> at the 89 Loveys Street property.

## Parks and Recreation Master Plan:

- Stantec will be presenting the Parks and Recreation Master Plan to Council at the meeting of July 6<sup>th</sup>, for Council's consideration.

Legislative Updates:

- None

Financial Highlights:

Township of East Zorra-Tavistock

as at 2022-06-29 49.32%

**SUMMARY OF NET DEPARTMENTAL BUDGETARY TAX IMPACTS**

2022-06-29

**2022 Approved Operating and Capital Budgets Monitoring**

Net Budgets by Department	2021 Approved Budget	2021 Unaudited Actuals	2022 Approved Budget	2022 Actuals to Date	% of Actuals / Budget
Building, Locates and Drainage	388,320	414,757	428,355	1,096	0.26% <i>includes acquisition of vehicle for CBO to date</i>
Corporate Services	2,128,388	1,983,822	2,202,771	1,134,948	51.52% <i>includes capital spending on 89 Loveys site to date</i>
Fire and Protective Services	1,223,272	978,385	1,292,950	201,558	15.59% <i>Firefighter payroll not recorded until December annually</i>
Parks and Recreation	489,751	512,521	515,182	162,382	31.52% <i>transition of P&amp;R to Township support</i>
Public Works	3,078,267	3,178,505	3,158,117	1,325,623	41.98% <i>higher than anticipated weather related activities for 2022</i>
Treasury Services	(881,253)	(956,227)	(945,304)	(810,674)	85.76% <i>includes supplementals and tax write offs to date</i>
<b>x-Supported Budget Summary</b>	<b>6,426,746</b>	<b>6,111,763</b>	<b>6,652,071</b>	<b>2,014,932</b>	<b>30.29%</b>

Attachments:**1. Appendix 'A' – Ontario Trillium Foundation Grant Information**Recommendation:

1. That staff be authorized to apply for the Ontario Trillium Foundation Grant Intake of August 3<sup>rd</sup>, 2022, on behalf of the Tavistock Spray Pad Project.

Respectfully submitted by:



Karen DePrest

Chief Administrative Officer/Treasurer



## OTF's Capital Grant

### Improve community facilities and spaces

Starting July 6, 2022, apply for a [Capital grant](#) to help your non-profit organization address a community need by improving the infrastructure Ontarians need to thrive.

Whether it's purchasing equipment, building a new space, or completing renovations, retrofits or repairs, Capital grants support projects that will have a positive impact in your community.

Grant application deadline is August 3, 2022 at 5:00 PM ET.

### Plan your application

Before your organization prepares its grant application, review the following information:

- [Capital grant overview page](#)
- [Capital grant resources](#)



### Grant details

- Application period is from July 6 to August 3, 2022 at 5 PM ET.
- Grants can be up to 12 months in length
- Request between \$10,000 and \$150,000



### Application supports

- [Attend a webinar](#) to learn more about this grant and OTF's eligibility requirements.
- [Book a 15-minute coaching call](#) to discuss your project.
- Contact OTF's Support Centre for general inquiries at [otf@otf.ca](mailto:otf@otf.ca) or 1 800 263-2887.

**THE CORPORATION OF THE  
TOWNSHIP OF EAST ZORRA-TAVISTOCK  
COUNTY OF OXFORD  
WITZEL DRAIN 2022  
BY-LAW #2022 - 24**

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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:

Lots 34-36, Concession 18 (Township of East Zorra-Tavistock)  
Lots 3-5, Concession 2 & 3 (Township of Perth East)

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 \$510,000.00;

AND WHEREAS \$87,032.00 is the amount to be contributed by the Township of Perth East for construction of the drainage works;

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 May 30, 2022, 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 \$510,000.00 being the amount necessary for construction 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 \$383,686.00 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 \$39,282.00 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 WITZEL DRAIN 2022.

**READ A FIRST AND SECOND TIME THIS 6<sup>th</sup> DAY OF JULY, 2022.**

\_\_\_\_\_  
Will Jaques, Clerk

\_\_\_\_\_  
Don McKay, Mayor

**READ A THIRD TIME AND FINALLY PASSED THIS \_\_\_\_ DAY OF \_\_\_\_\_,  
2022.**

\_\_\_\_\_  
Clerk

\_\_\_\_\_  
Mayor

## **NOTICE OF COURT OF REVISION WITZEL DRAIN 2022**

You are hereby advised that the Drainage Court of Revision for the WITZEL DRAIN 2022 will be held on Wednesday, August 3, 2022, at the Innerkip Community Centre, 695566 17<sup>th</sup> 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 July 25, 2022, 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: July 6, 2022**

**THE CORPORATION OF THE  
TOWNSHIP OF EAST ZORRA-TAVISTOCK  
COUNTY OF OXFORD  
BY-LAW #2022-25**

A By-Law to amend Zoning By-Law Number 2003-18, as amended.

WHEREAS the Municipal Council of the Corporation of the Township of East Zorra-Tavistock deems it advisable to amend By-Law Number 2003-18, as amended.

THEREFORE, the Municipal Council of the Corporation of the Township East Zorra-Tavistock, enacts as follows:

1. That Schedule "A" to By-Law Number 2003-18, as amended, is hereby amended by changing to "A2" the zone symbol of the lands so designated "A2" on Schedule "A" attached hereto.
2. That Schedule "A" to By-Law Number 2003-18, as amended, is hereby amended by changing to "RR" the zone symbol of the lands so designated "RR" on Schedule "A" attached hereto.
3. This By-Law comes into force in accordance with Sections 34(21) and (30) of the *Planning Act*, R.S.O. 1990, as amended.

READ a first and second time this 6<sup>th</sup> day of July, 2022.

READ a third time and finally passed this 6<sup>th</sup> day of July, 2022.

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Don McKay - Mayor

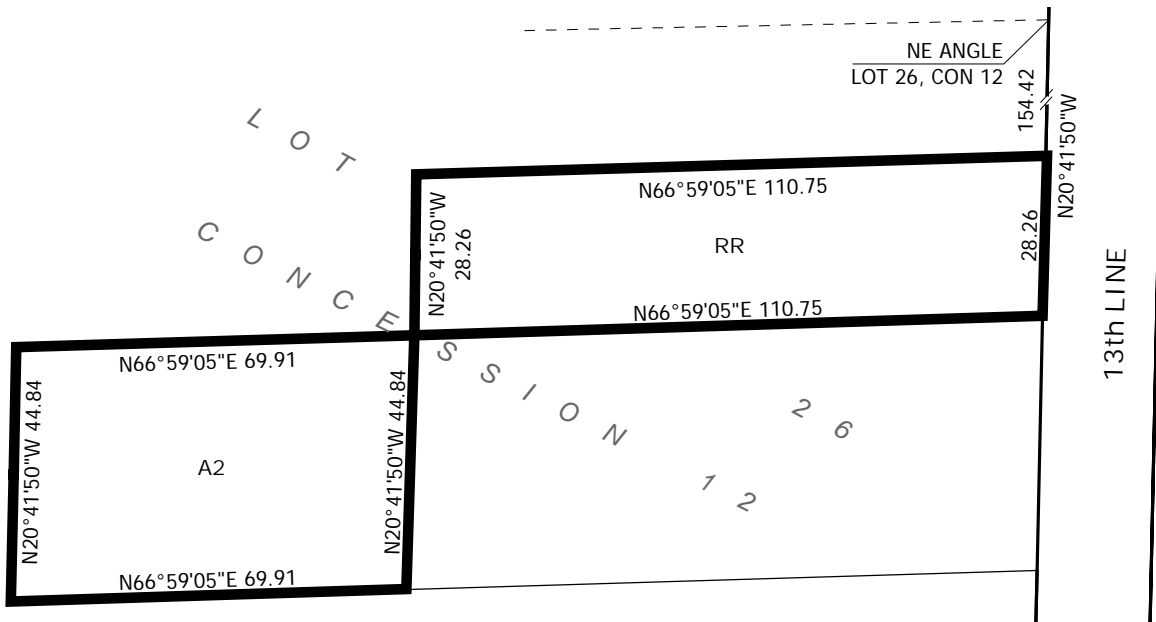
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Will Jaques – Clerk

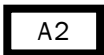
# SCHEDULE "A"

TO BY-LAW No. 2022-25

PT OF LOT 26, CONCESSION 12 (EAST-ZORRA)  
TOWNSHIP OF EAST ZORRA-TAVISTOCK



AREA OF ZONE CHANGE TO RR



AREA OF ZONE CHANGE TO A2

NOTE: ALL DIMENSIONS IN METRES

THIS IS SCHEDULE "A"

TO BY-LAW No. 2022-25, PASSED

THE 6 DAY OF July, 2022

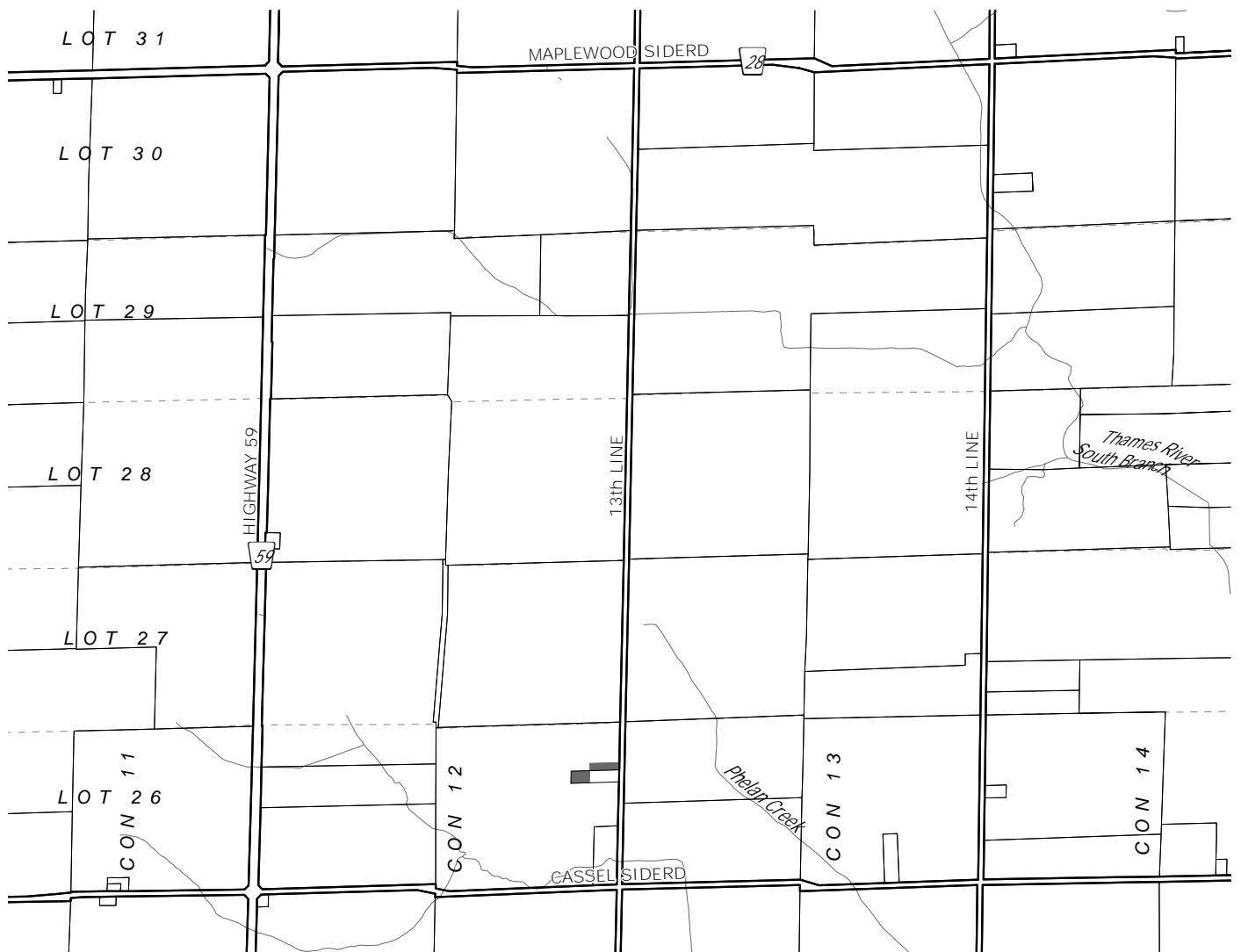
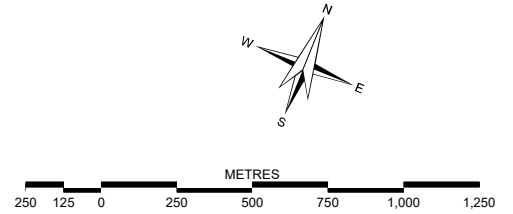


Produced By The Department of Corporate Services  
Information Services ©2022

MAYOR

CLERK/ADMINISTRATOR

# KEY MAP



 LANDS TO WHICH BYLAW #2022-25 APPLIES



ZN 2-21-05 & ZN 2-21-06

## **TOWNSHIP OF EAST ZORRA-TAVISTOCK**

### **BY-LAW #2022-25**

### **EXPLANATORY NOTE**

There are two purposes of By-law #2022-25. The first purpose is to rezone the lot to be severed by B21-37-2 from 'Rural Residential Zone (RR)' to 'General Agricultural Zone (A2).' The second purpose is to rezone the lot to be severed by B21-38-2 from 'General Agricultural Zone (A2)' to 'Rural Residential Zone (RR).'

The subject lands are described as Part Lot 26, Concession 12 (East Zorra), Parts 1 & 2, Reference Plan 41R-9430. The lands are located on the west side of 13<sup>th</sup> Line, between Cassel Sideroad and Maplewood Sideroad. The smaller, residentially-zoned lot is municipally known as 616595 13<sup>th</sup> Line while the agricultural parcel does not currently have a civic address.

The Township of East Zorra-Tavistock, after conducting the public hearing necessary to consider the application, adopted the amending By-Law #2022-25. The public hearing was held on October 20, 2021. No comments or concern were received from the public.

Any person wishing further information regarding Zoning By-Law #2022-25 may contact the undersigned.

Mr. Will Jaques  
Corporate Services Manager/Clerk  
Township of East Zorra-Tavistock  
90 Loveys Street  
Hickson, Ontario  
NOJ 1L0

Telephone: 519 462-2697

File: ZN2-21-05 (Paul & Katherine Brenneman) &  
ZN 2-21-06 (DonRon Farms Ltd.)

Report No: 2021-319

**THE CORPORATION OF THE  
TOWNSHIP OF EAST ZORRA-TAVISTOCK  
COUNTY OF OXFORD  
BY-LAW # 2022 - 26**

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**Being a By-Law to Delegate Certain Authorities during the  
“Lame Duck Period” of Council**

**WHEREAS** Section 275 of the *Municipal Act*, 2001, as amended, sets out restricted acts after Nomination Day;

**AND WHEREAS** Section 23.1 of the *Municipal Act*, 2001, as amended, authorizes a municipality to delegate its powers and duties;

**AND WHEREAS** Council deems it appropriate to delegate to the Chief Administrative Officer the authority to be the financial signing authority for expenditures, outside the current budget, exceeding \$50,000; and/or for the disposition of any real or personal property of the Township which has a value exceeding \$50,000 at the time of disposal; and/or to be the authority to hire or remove any officer or employee to/from employment with the Township of East Zorra-Tavistock;

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

1. That the Chief Administrative be delegated the following authority:
  - a. To be the financial signing authority for expenditures, outside the current budget, exceeding \$50,000;
  - b. For the disposition of any real or personal property of the Township which has a value exceeding \$50,000 at the time of disposal;
  - c. To hire or remove any officer or employee to/from employment with the Township of East Zorra-Tavistock.
2. That the delegation of authority in this by-law shall only take effect and be limited to the “Lame Duck Period” of Council after Nomination Day and/or after Election Day for the 2022 Municipal Election, and shall expire upon the new Council taking office after November 15, 2022.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 6<sup>th</sup> DAY OF JULY, 2022.**

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Don McKay, Mayor

Seal

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Will Jaques, Clerk

**THE CORPORATION OF THE  
TOWNSHIP OF EAST ZORRA-TAVISTOCK**

**COUNTY OF OXFORD**

**BY-LAW #2022 - 27**

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**BEING A BY-LAW TO AMEND BY-LAW #2008-24  
(POOL FENCING)**

**WHEREAS** Section 11 (1)(7) of the Municipal Act, 2001 S.O. 2001, c.25, as amended (hereinafter the "Municipal Act") provides that a municipality may pass by-laws within the sphere of jurisdiction entitled Structures, including fences and signs;

**AND WHEREAS** the Council of the Township of East Zorra-Tavistock enacted By-law #2008-24 on May 21<sup>st</sup>, 2008, to provide for the requirements of owners of privately owned swimming pools to erect fences and enclosures within the Township of East Zorra-Tavistock.

**AND WHEREAS** the Council of the Township of East Zorra-Tavistock deems it necessary and expedient to amend By-law #2008-24.

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

1. THAT Section 3 of By-law #2008-24 be amended by adding subsection 3.7, which shall read:
  - 3.7. Where an existing fence has been in place for a minimum of three (3) years, the requirements set out in sub clauses 3.1. to 3.6 (inclusive) need not be met if:
    - a. The height of the fence exceeds 5'11";
    - b. The fence is in good condition;
    - c. The least dimension of any opening through the fence is required to prevent the passage of a spherical object having a diameter of 3.6"; and,
    - d. The pool has a cover meeting ASTM F1346-91, classified as a safety cover.
2. THAT this amendment to By-law #2008-24 is hereby declared to be part of that By-law as though written therein.

3. THAT this By-law shall come into force and effect upon passing.

**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 6<sup>th</sup> DAY OF JULY, 2022.**

\_\_\_\_\_  
Don McKay, Mayor

seal

\_\_\_\_\_  
Will Jaques, Clerk

**THE CORPORATION OF THE  
TOWNSHIP OF EAST ZORRA-TAVISTOCK  
COUNTY OF OXFORD  
BY-LAW # 2022 - 28**

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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 6<sup>th</sup> day of July, 2022 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 6<sup>th</sup> DAY OF JULY, 2022.**

\_\_\_\_\_  
Don McKay, Mayor

seal

\_\_\_\_\_  
Will Jaques, Clerk